



PROCEEDINGS OF APICULTURE SYMPOSIUM:

BEEKEEPING COMMERCIALISATION STRATEGY

Theme: “: Apiculture for Forest Ecosystems Conservation, Restoration and Sustainable Livelihoods”

21-23 October 2011

Hotel Selibe

Selibe Phikwe

Supported by: Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA).

Day 1

1. Participants

The first Apiculture Symposium supported by CCARDESA convened at Hotel Selibe in Selibe Phikwe on the 21st to 23rd May 2024. About 100 participants from government departments, Non-Governmental Organisations, Trusts, Farmers (Beekeepers, Forestry, horticulture and arable), suppliers of beekeeping equipment, academia (Botswana University of Agriculture and Natural Resources), Dikgosi, District Commissioner, Deputy Mayor of Selibe Phikwe town, FAO representatives, SPEDU, APIMONDIA and representative from SADC region; Zambia, Zimbabwe, Tanzania, Lesotho, South Africa and Eswatini attended. **please see *annex I: List of participants*.**

2. Prayer

Prayer was offered by a volunteer.

3. Introduction of guests by Deputy District Commissioner -Mr Letshwao Mogorosi.

In observation of the laid protocols he started by introducing senior government officials who included amongst others Kgosi Pilane, Deputy Permanent Secretary Department of Aquaculture and Apiculture, Ag Director Aquaculture and Apiculture, Deputy Mayor, international guests from Eswatini, Kenya, Tanzania, Lesotho, Zambia, Zimbabwe and South Africa, Heads of Institutions like Botswana University of Agriculture and Natural Resources(BUAN), FAO, CARRDESSA, SPEDU, suppliers of Bee keeping equipment. Thereafter, the Director of proceedings requested for self-introductions of all participants to appreciate the diversity of attendees.

4. Welcome Remarks by His Worship Deputy Mayor

In his opening the Deputy Mayor first tendered an apology on behalf of the Mayor His Worship Lucas Modemane whom he said will join us during the week as he is held up by other official assignments. He said that there are opportunities in Selibe Phikwe in the apiculture and aquaculture sector. He said that the area is surrounded by big dams and the biggest citrus project which has the potential to produce nectar for honey production to meet the national target in one season. He said it was critical for all participants to highly consider the sector as one of those that can improve the livelihoods also considering that it is not labour intensive.

He assured them of the commitment by the leadership of the town to host most events in an effort to boost the economy of every sector especially the hospitality and informal sector which were the

hardest hit following closure of the mine. He said they have also committed to making it a centre of excellence for all forms of business opportunities.

5. Objectives of the Symposium – Acting Director, Department of Aquaculture and Apiculture; Mr. Kagisanyo Bedi.

He outlined that the objectives of the symposium are;

- To outline the operational structure, framework and standard operating procedures for apiculture programs and activities
- To understand the role of apiculture to crop production and as a forest based enterprise livelihood improvement will be promoted
- To promote market networks through value chains and value editions establishment and promotion
- To establish policy and review of legislation framework, enactment of apiculture regulations and ensure their enforcement. 6)

6. Sponsors Remarks by coordinator- Dr. Baitse Podisi

On behalf of the Executive Director Prof Dlamini who could not make due to official assignment he said the mandate of the entity is to promote collaboration of member state so that they learn from one another. He said the Botswana symposium comes immediately after the Eswatini one. He said the objectives of the entity is

- To address the plight of the marginalised group being women and youth
- To promote bee-keeping and forestry in an effort to combat desertification and reduce the impact of global warming
- Improve food security and bio diversity to reduce and control excessive use of pesticides that can reduce bee population in the end affecting pollination services,
- Embark on measures that can reduce the effects of global warming,
- Promote proper utilisation of land in order to avoid land degradation and use of techniques which negatively affect ecosystem and.
- Address the problem of bush encroachment which is gradually reducing the suitable land for cultivation and grazing.

He said that CCARDESSA has committed to capacitating women and youth to help reduce these adverse effects. He said the two sectors being apiculture and aquaculture has the potential to create business opportunities that can improve their economic livelihood. Further mentioning that CCARDESSA also partners with European Union to come up with strategies that can address the adverse effects of climate change. In conclusion he said their other role is to mobilise resources to enable financiers to assist with resources for financing of projects and activities. He finally appreciated the Ministry of Agriculture for providing them with office space which does not serve only Botswana but the entire SADC Region.

7. Official Opening by Deputy Permanent Secretary-Aquaculture and Apiculture Mr. MD. Ghulam Kibria

The Deputy Permanent Secretary Mr. Ghulam Kibria performed the official opening on behalf of the Honourable Assistant Minister of Trade Ms. Beauty Manake. In his remarks he said Beekeeping though having been practiced for over three decades now in the country the majority of those who are advanced in the sector are males. He also said that most bee keepers are located along the railway line or on the eastern part of the country. These areas are mainly dominated by savannah vegetation. However, Chobe and Okavango areas is characterised by the Miombo woodlands. Whilst areas in the Kgalagadi and North West dominated are dominated by acacia, aloes, combretum spp and exotic plants like bottle brush, golden shower, eucalyptus spp etc. He said that farmers are using both types of hives and have adopted them well. He further said that production trends from 2007 to 2024 have shown a significant growth though there was a decline this year mainly due to the weather conditions in the country. The country experienced severe drought during in the current year.

As earlier said he said the increase in the previous years was necessitated by the introduction of programme like poverty eradication which enabled some farmers to venture into the industry through procurement of equipment. Prices of honey also increased thus making the industry to be more attractive. He however lamented that despite the availability of market and good market prices there is still a huge shortage of honey leading to huge importation of honey from all our neighbouring countries especially in winter periods when its demand is exceptionally high.

8. Overview of The Apiculture Sector in Botswana by Acting Deputy Director of Aquaculture and Apiculture-Ms. Margaret Peggy Mutakela

In her opening Ms. Mutakela outlined that currently the sector is male dominated and called upon women to consider embarking on this sector as it is less labour intensive. As regards production she said that it is mainly along the railway line that is on the eastern side of the country. These areas are mainly dominated by savannah vegetation. However, Chobe and Okavango areas which are records better yields and these are mainly characterised by the Miombo woodlands. Areas in Kgalagadi and North east have less production. The main vegetation that bees rely on in the country are *acacia spp*, *aloes*, *combretum spp* and exotic plants like bottle brush, eucalyptus, golden shower and fruit trees.

As regards to bee hives she said that beekeepers are using Tanzania Top bar hives (TTBH) and Langstroth Bee Hives (LBH) which our farmers have adopted well.

She further said the production trends from 2007-2024 has shown a significant growth though there are some areas which experienced a drop in production mainly due to weather conditions. Bees like any other animal are affected by drought and to address the decline government introduced programmes like poverty eradication which were meant to empower the marginalised poor with resources and knowledge to embark on production. On a positive note the prices of honey and bee products have increased quite significantly making it more lucrative enterprise to venture into. She however lamented that the prices of same is relatively low in our neighbouring

countries which tends to reverse the gains our farmers were gaining especially that some of the honey that is being imported is of inferior quality. She said we can only address this by improving our production levels.

She further said in view of all that she has outlined the ministry found a need to host a symposium which aims at identifying priority issues in the region that are to be considered in the regional research agenda for apiculture and forestry. This she said can be attained if we are to outline the operational structure, frame work and standard operating procedures for the sector and come up with programs and activities that can make us achieve these objectives. She said it's important as bee keepers to know the role of apiculture in crop production and the forest further understanding the economic value of bees in agroforestry. Development of legislatures and policies are therefore critical to guide and protect bees against destruction and elimination. She further said communities living in forests have a potential to benefit from this sector as it has proved in other SADC countries like Zambia and Tanzania who are amongst the chief exporters of bee products. she concluded by saying that one of the objectives of this symposium is to share best practices, innovative technologies and success stories in apiculture and forest conservation from various countries.

9. Overview, Challenges and Interventions of Apiculture by Countries Representatives

I. APIMONDIA/Zimbabwe by Dr. Robert Mutisi-

In his presentation the chairperson of APIMODIA representing Africa countries outlined that the bee keeping industry has not been exploited to its fullest and that it has a high potential to improve the economy as it generates high income from rural to urban areas. He mentioned that as it is not labour intensive and does not demand expensive resources like land it is critically important that countries join forces to ensure that there is sustenance of bees in order to have a balanced ecosystem. He said bees are the best pollinators and attaining food security is mostly achieved through the protection of bees by ensuring that their role of pollination services is not disrupted. He called upon participants to protect bees for the prosperity of the sector.

II. LESOTHO- by Ms. Makhosi Leteane

She mentioned that they do keep bees in Lesotho despite the terrain of the country. She however said the production levels are relatively low and are facing a lot of challenges which amongst others include lack of collection centers, lack of access to critical information that could aide production, lack of research on the bee species available in the country and lack of technical expertise. But despite these challenges she said the sector penetrating the market and contribute to the economy of the country.

III. South Africa- by Ms. Boitumelo. C. Mobu

In her opening statement she said that South Africa is progressing quite well and that she has been in the sector for more than ten years now. She said the major threat to the industry is the presence of the Cape bee (*Apis mellifera capensis*) which is threatening the industry largely because it's an invasive species. She said the beekeepers in the country are united in the control of this bee through ensuring that it does not encroach in areas where there is *Apis mellifera scutellata*. She further said that they are yearly celebrating World Bee Day across the country in various provinces and further said they reward beekeepers who did well during the year. She said production levels have improved from 2000 tons to 2500tons despite having declined during the COVID 19 period. On a positive note she said the pandemic led to a boost in the demand of honey hence increasing the market prices. Furthermore, there was an increase of demand for pollination services especially in farmers who grow apples, grapes, citrus whose demand is very high. She said South Africa has a total of 6439 registered beekeepers but still have many who are not registered who are in production. This she said affects the weight of their voice as they are now operating in silos.

IV. ESWATINI by Mr. Phefani Victor Vilakati

He appreciated the opportunity of being part of the inaugural symposium of APIMONDIA in Botswana and said that they recently hosted it in Eswatini. He wished Botswana the best and encouraged them to have it as an annual event as this is the platform where beekeepers gather to exchange knowledge, challenges and ideas on the sector which collectively can improve the sector. He said as Botswana and Eswatini are in the same region their challenges are almost similar. He however mentioned that production is relatively high as there are many plantations and farms which provide pastures to the bees. He requested participants to develop a habit of exchanging ideas so that we address challenges, share opportunities that can improve the sector.

V. TANZANIA by Ms. Freda Kundi-

Similarly, like other representatives from other countries outlined that bee keeping is one of the high income generating enterprise in the country. She mentioned that to date Tanzania is the chief exporter of both honey and beeswax in Africa. She said that the sector has created job opportunities to thousands of people with the highest population being those in the rural areas and living along the dense Miobo woodlands. Further she said that bee keeping is practiced mainly by women and old people thus requesting participants to encourage youth to join this sector in large numbers also refereeing to the international theme of 2024 which says "BEE ENGAGED WITH YOUTH" saying this is a calling to youth to participate actively in the sector. This phenomenon cuts across the world hence it was upon us who are in this sector to stand up and lure youth to participate especially that youth unemployment is a cross cutting issue across the whole world.

VI. ZAMBIA- Ms. SITALE PHIRI and Ms. Laura Chipi Museni

She said that Zambia is one of the high producers of honey in SADC Region and is happy to announce that they also export honey and other products to Botswana. He said as we are in the same region we experience the same weather hardships. He however said that the bigger stretch of the Miombo woodlands in the country benefits the sector well as it provides both pastures and raw

materials for construction of bee hives. He said it was important that countries collaborate and come up with strategies that can help improve production levels and promote the sector. He said as neighbouring countries collaboration and networking can help a lot as even issues of disease and pests' management can be done collectively.

10. Presentation on Live Fences

On this the presenter said that following the numerous cases of vandalism of ploughing fields by elephants they came up with a strategy of using bees to protect the farms. Introduction of live fences has proved to be effective as all animals cannot resist the pains of bee sting, he mentioned that colonies are sited along the perimeter fences hanging and once the animals knock the bee hives the bees come out in large numbers attacking the animals forcing them to flee the area. The continuous sting of the bees forces the animals to relocate from the area and thus protection of the farm and the bees.

11. Presentation on Achievements and Challenges on Bee Keeping Apiculture Farmers Association—Boitumelo Tshotlego

In his presentation he narrated that the state of associations in this sector is still not rosy and pleaded with the participants to join forces in strengthening the association through active participation. He elaborated that most donor agencies are always willing to support groups more than individuals hence the need to revive and or establish association. He said it is through these associations that they can voice their challenges to authorities and get better audience.

In response counter parts from neighbouring countries reiterated the importance of working as association confirming that lone voices are not always heard and that government and donor agencies develops an appetite to assist groups hence a need to strive for forming association where they don't exist and strengthening those that are in existence to ensure their activeness.

12. Presentation by Farmer Field School on Lessons Learnt- John Langeveldt

In his presentation he appreciated the government's effort in collaboration with FAO in coming up with this noble idea of a farmer field school. He said it does not only empower the farmer technically but empowers more economically as most farmers cannot afford to have all the modern equipment due to their high costs. He said he is utilising the programme well and that with the equipment he has he is able to do migratory beekeeping. He said that the vegetation in the area is mainly *mopane spp* which is not a good source of nectar but the citrus project in the area has brought hope to the sector.

He further appreciated the bringing of the symposium to their area as they will learn a lot from participants from both local and international and requested that it be an annual event.

13. Human Wildlife Conflict Intervention Using Live Fences- Eco Exist Trust

A non-profit making NGO which was founded in 2013 meant to support the livelihoods of the community that share their habitat with elephants. The NGO has realised the importance of bees in the ecosystem and further that bees can be used as live fences to protect farmers' crops against elephant destruction. With this initiatives farmer's crops have been protected against elephant's damage resulting in farmers realising expected harvests and equally beekeepers harvesting. Bees deter elephants with their stings to enter farming fields and therefore the introduction of bees around ploughing fields has proved to be both reliable and effective. This also helps to keep elephants away from human settlements thus in a way help reduce casualties associated with elephant attacks. Farmers in areas prone to elephants were thus advised to introduce these live fences in around their fields. The presenter mentioned that this method has yielded good results in East Africa.

DAY TWO

Presentation on Technical Papers

1. Welcome Remarks by Acting Director Mr Kagisanyo Bedi

In his opening remarks all to the symposium citing that this was a continuation of the previous day events. He requested participants to continue deliberating on issues objectively to eventually come up with resolutions that can help improve the sector. He said with the introduction of government initiatives of proving meaningful financial support at is imperative that the bee keepers and all stakeholders here present intensify and cease the opportune moment to work hard in attaining high levels of production. He further mentioned that the next day two days will be other events in an effort to ensure that the sector grows. There will be launch of the five-year strategic plan and finally the commemoration of the world bee day. He wished all participants fruitful deliberations.

2. Presentation on Potential of Beekeeping in Community Based Forests Management Case Study of Botswana-By Joyce Lepetu

She indicated that there is a serious decline in our forest resources due to various conditions which include demand of land for agriculture, infrastructure development and residence citing that this demand increase encroaching in the forest reserves and in the process the forest resources are affected. Reduction of the forest reserves affects the natural habitat of bees which lead to decline in the population of bees and their pastures. The decline in the population of bees' results is shortage of pollinators.

She said statistics shows that there is an annual de-gazetting of land to cater for this demand. She said the country is facing a serious challenge of annual veld fires which ravage large area of forest lands thus affecting the forests including the seeds which could otherwise regenerate the forests. These catastrophes have a huge negative impact in the apiculture sector.

Further she said that the law has not included bees under Livestock Act and therefore vandalism or stealing of colonies affect the bee keeping industry as farmers have got no sound remedial

measures. She lamented that the industry is mainly dominated by adults who are now not willing to change from their old practices to the modern methods which improves production and multiplication of bees which affects production. On the other hand, she said youth are also affected by lack of access to financial institutions and lack of land as they don't have security to secure loans and equally financial institutions are reluctant to offer loans to adults who no longer have regular source of income.

In conclusion she said it's critical that in future we consider intensify mentoring of youth and new entrants, promoting and ensuring compliance to international protocols, advocating for market availability and access by farmers to these markets and finally ensuring support of local beekeeping to improve economic growth.

3. **Climate Change and Beekeeping by Prof Melusi Rampart**

In his opening he reminded participants that climate change is one of the ostentatious challenges facing humanity in the 21st century which calls for all to actively partake in reduction of global warming. He said that climate change has both direct and indirect implications on the physiological development and daily performance of animals and plant species citing that beekeeping is no exception.

He outlined that climate change affects production of bees, influence their behaviour and physiology and this he said have a direct impact on the quality of floral environment as pollination services is affected the end result being less production of fruits and seeds. Prof Rampart said the negative impact of climate change affects beekeeping (forests and fruit production) as bees are known to be the best pollinators in the world. With the recurrent climate change the ecosystem is gradually affected, rainfall patterns changes, blooming patterns of plants affected. The changes in the raining patterns directly affect honey production as bees are dependent on the forage from flowering plants.

He therefore called upon all stakeholders to ensure our contributions in ensuring that we have save environment and avoid engaging in activities that have a negative impact in climate change as these costs nations' huge sums of money trying to address the effects for global warming.

He said as beekeepers we must ensure that we avoid indiscriminate cutting of trees but instead protect forests and trees, embark on planting trees, train and educate others on the importance of trees to the environment. This he said if there is commitment by all will reduce the effects of global warming and improve production levels of the sector.

Other speakers included; Mr. Serefete Ramantsima on Value Added Products and Chain Enhancement, Wildlife, Forest Ecosystems and Beekeeping by Dr Sianga and Agro Ecology (Agroforestry) And The Significance of Integrating Beekeeping by Prof Lepetu

4. **Closing Remarks- Acting Vice Chancellor, Botswana University of Agriculture and Natural Resources (BUAN)-Prof Chepete**

In his closing remarks he said it was his strongest belief that the expectations of the participants have been fulfilled. He further appreciated the diversity of participants who comprised of both local and international individuals, groups, officers, facilitators, organisations. He said the diversity of the attendance shows the importance and value of the symposium. He said participants who travelled from mostly SADC region proves the value and importance of the symposium hence requested locals to ensure that they equally participate in such forums in the region to learn from them.

He advised the participants to go and implement all the lessons learnt into practice to elevate the status of the apiculture sector in the country. He further applauded the associations for attending and encouraged them to continue working together as it is through their unity that they can attain better results as they will air their challenges solid, speak with one loud voice. He advised that there is a need to develop a rapport between government and associations so that they work together as the parties aims is to improve economic livelihood.

As regards conservation he said participants must commit to contribute to the sustainable development goals and critically try to reduce global warming. He said aligning with the SDGs and commitment to conservation of natural resources with both integrated and single methods can help us achieve the conservation of natural resources bees included.

He said the past two days we talked a lot about challenges in the sector but it is us the participants who can change these challenges into opportunities citing an example of continuous outbreak of veld fires where these associations can also establish a fire brigade company that operates in the remote areas where veld fires are common. To the sponsor he appreciated the immense contribution by sponsoring an event of this magnitude and wished them prosperity.

Day Three

Launch of The National Apiculture Strategy (2022-2027)

1. The event started with the arrival of dignitaries who included the Assistant Minister of Agriculture Hon Molebatsi Molebatsi, Permanent Secretary Moa Ms Nancy Chengeta, DPS Aquaculture and Apiculture, Acting Director Aquaculture and Apiculture His Worship the Mayor SELEBI Phikwe Town Council Lucas Modemane, Deputy Mayor, Kgosi Pilane, District Commissioner Ms Matenge, DDC Mr Letshwao Mogorosi, CARDESSA, Dr Podisi, FAO Country Representative Ms. Mucavi and Assistant FAO Representative, Ms. Lesedi Modo Mopelwa.
2. Introduction of guests was done by the Deputy District Commissioner Mr Mogorosi Letshwao.
3. **Welcome Remarks by the Permanent Secretary of Ministry of Agriculture; Ms Nancy Neo Chengeta**

The Permanent Secretary in MoA Ms Nancy Chengeta welcomed all participants to the august event and appreciated the sponsors and the technical committee for making the event a success. She said apiculture embodies a bigger picture in the newly launched programme of Thuo Letlotlo.

She thanked profusely the sponsors who did not make only the event successful but ensuring the intended goals are achieving through providing the technical support in ensuring that the strategy is put together to finally come up with the document that will be launched today. She said the department is relatively new and for it to have been able to formulate a five-year strategy shows commitment on the leadership of the department. She further said we must collectively work towards a thriving agriculture for conservation of the environment and increase production levels for income generation. In conclusion she said we must all make this event memorable as its history in making in our country.

4. Objectives of The Launch by Deputy Permanent Secretary, Department of Aquaculture and Apiculture; Mr. MD. Ghulam Kibria.

In presenting the objectives of launching the strategy he said it was critical to sensitize the community and all stakeholders on the importance of the sector and the benefits to the ecosystem, to appreciate the contribution and assistance from FAO in making this a success. He said developing the strategy will help develop the policy and governance structures that will ensure the development of the sector. Further he said the strategy will enhance access and affordability to financing of the projects to eventually come up with productive and sustainable projects. The launch has therefore brought all stakeholders in this sector together to collaborate and share ideas for improving the sector.

5. Sponsors Remarks by FAO Representative Ms Lesedi Modo Mmopelwa

She outlined the functions of FAO in the countries and elaborated that the financial and technical support they offered to the ministry. She appreciated all efforts taken into coming up finally with the product which is the strategy document. She thanked the team that worked tirelessly in ensuring that the dreams of developing a five-year strategy for the new department are realised and that today we are gathered here to finally launch it for implementation by personnel across the breadth and width of the country. She commended the ministry for living with their promise and commitment by ensuring that what they requested funds for is attained within the set time lines.

She said most of the time they receive good project proposal which they finance and the proposer fail to achieve what they came in presenting to be an attainable project yet funds having been disbursed. She commended the Ministry of Agriculture and the entire technical team which worked tirelessly in ensuring that the proposals that they presented are realised hence the gathering today which is highly commendable.

Ms Mmopelwa said beekeeping embraces conservation hence supporting achieving of the sustainable development goals of sustainable environment. She said FAO prides in supporting countries like Botswana in an effort to attain food security. She outlined that some of their responsibilities are to provide financial support and technical expertise which they provided in this project. She said that they are also working on developing the Aquaculture policy which upon completion they will also accord it the equal publicity by launching it. In conclusion she thanked the team that worked tirelessly in ensuring that the project is completed and all those who contributed in making the strategy and the launch a success.

6. Official Launch by Assistant Minister of Agriculture; Honourable Molebatsi

In his remarks he thanked the ministry personnel for ensuring that the strategy is completed despite the challenges that they encountered in the development, thanked profusely FAO the main sponsor for making both the strategy and the launch a success. He said the sector though being one of the most productive and producing products of high value both in economic and medicinal terms is not fully ventured into. This he said is attributed to the myths disregarding the high benefits associated with the sector. He said the ministry has developed the strategy in order to ensure that the sector gets all the support from authorities and that Botswana venture in the enterprise in large numbers. He further said that as a sign of commitment in promoting the sector it has been included to benefit in Thuo Letlotlo programme.

In conclusion he declared the National Apiculture Strategy of Botswana (2022-2027) which was supported FOOD AGRICULTURE ORGANISATION OF THE UNITED NATIONS officially launched on the 23rd May 2024. After the declaration there was a signing ceremony done by Assistant Minister Honourable Molebatsi Molebatsi, Permanent Secretary Ms Nancy Chengeta, as witnessed by FAO representative Ms Lesedi Mmopelwa and BUAN Representative Prof Melusi Rampart.

6. Vote of Thanks by Acting Director Department of Aquaculture and Apiculture Mr Kagisanyo Bedi

He appreciated the presence of the Assistant Minister, Permanent SECRETARY, FAO, BUAN and all important stakeholders including the beekeepers. He said the day marked a memorable event in the history of apiculture sector which will remain with an indelible mark in the history of the sector. He appreciated all stakeholders for their immense contribution in ensuring that the event is highly successful. He said he want to thank the partners profusely and in a particular fashion as it is their contribution that led to attaining their dream as the department. Finally, he thanked all participants in attendance in particular those who came across the borders to ensure the event is a success.

In conclusion a group photo was taken to include in the history books.

