A Membership & Apex Body for Coordinating Apiculture Sector in Uganda



If you are interested in receiving this Newsletter, please contact

TUNADO

Plot 9, Canon Road, Ntinda. P.O. Box 8680, Kampala - Uganda. Tel: +256 414 258 070 Email: info@tunadobees.org Website: www.tunadobees.org Twitter: tunado_bees Facebook: https://www.facebook.com/TunadoBees/?ref=hl

To support the beekeeping communities in Uganda; contact info@tunadobees.org



Kira house on pilkington road room 26, Kingdom Kampala on Nile avenue room G22 and G24, Akamwesi shopping mall on kyebando-Gayaza road room WW14 and Sun city plaza-kikubo room SP2/04. P.O. Box 8680, Kampala, Uganda. Tel: +256-756071654 E-mail: worldofbees2016@gmail.com Website: www.worldofbees.shop

In this Issue

- 1 Chairman's Message
- **2** Executive Director's Message -Sector position and investment directions
- 3 Introducing Nature Based Beekeeping
- 5 THE HONEY WEEK 2022 IS BACK WITH A BANG
- 7 Quality Supplies and Traceability Systems - What Is It All About?
- 8 Colony multiplication When and How to do it.
- **10** Inclusion and Innovation: TUNADO's Work with Women. Youth and Persons With Disability in Karamoja Region.
- 11 Bee A Champion 2 (BAC2) 'Establishing a competitive and inclusive honey sector in Uganda'. REGION.
- 12 Women and youth in beekeeping; the Success Stories of Moreen and Christine in kigezi sub region south western Uganda.
- **13** API Price Watch

Editorial Message

intriguing issue of the Api newsletter, the first issue in this year of our lord 2022. We are glad and thankful to the almighty God for the gift of life and protection through the Covid-19 Pandemic. We admit, the pandemic has crippled so many businesses and this has therefore opened a new wave of creative thinking to us as an organization on how we can render the necessary support to such businesses and also prepare ourselves for future pandemics.

We thank all Members /readers that have received the previous Api News issues, it's because of you that we continue writing and fulfilling on our mandate. Once again, I want to stress it out clearly that the Api News is meant for you, therefore you have all rights to request for the latest issue of the Api News from any of our staff that comes to visit you not forgetting that its entirely free of charge.

We call upon all our members who can write to be part of the development process of the Api news, How? send us an article about anything in the sector that you think will be of great benefit to the rest of the members on i tunadobees.org. Your article will be subject to editing by our editorial team to make sure that it meets with our set communication Policy.

This particular issue has quite interesting stories that you should watch out for. We are introducing the Nature based beekeeping concept that is well thought of and strategically designed to fit everybody who would want to join beekeeping without spending Huge incomes. The concept will use low cost local hives and This is because with low-cost hives the barrier to becoming a beekeeper is removed and almost anyone can participate. We have also written about the expectations in this year's honey week. The honey week has been on hold for two years because of covid-19 and now that its back, a lot has



Stephen Muwanguzi, Knowledge Mgt and Communication Officer TUNADO

been shared here of what every stakeholder should expect. With the growing concerns of fake and adulterated bee products on the market, Traceability of bee products becomes fundamental in the honey supply chain, we therefore have a full designated article on the importance of proper supplies and traceability systems.

More and more stories are part of this issue including inspiring stories of women and youth in beekeeping, colony multiplication and how it should be done as well as Inclusion. I wish you all the best as you read this Api newsletter and hope that you will give us the best feedback for the betterment of our sector. I thank you all.

Stephen Muwanguzi Communications Officer – TUNADO

NOTE: TUNADO welcomes articles for this Newsletter from all sector players at no cost.

For more information and contributions, please contact the editor on

info@tunadobees.org bphionah@tunadobees.org

Message from

CHAIRMANBoard of Directors

t gives me great pleasure to communicate to all TUNADO members and stakeholders. As you all know, this year 2022 is an elective year for TUNADO. The current board was elected in April 2017. I therefore call upon all members to pay their subscription fees to enable them fully participate in the elections.

Over the last two years, the Covid 19 pandemic crippled so many businesses in the country. Our honey week could not be held over the two years. I am glad the honey week is back this year. Though our apiculture sector was not spared by the pandemic, many of our members came up with creative ways of doing businesses and some even expanded their business operations. We thank the almighty God for the gift of life and protection through the pandemic period.

Despite the two years of the pandemic, we made a lot of achievements in the apiculture sector. As a result of tireless campaigns by TUNADO there has generally been increased awareness about apiculture industry in Uganda. The general public has increasingly become aware about the value of bees and their products. TUNADO has engaged several communication channels to promote the apiculture sector in the country. The mainstream media, print media and social media platforms have been used in this regard. This promotion has enabled TUNADO to become a good brand.

As a result of its good work TUNADO is collaborating with a lot of partners.

These include local and national NGOs, international NGOs, UN agencies, local private sector, international companies, Schools, Tertiary institutions and Universities, Government Ministries, Departments and Agencies, Farmer organisations etc.

To build a self-sustaining TUNADO, the Board of Directors with technical support from management, intensified resource mobilisation over the five years through exploring different avenues for financial support. Over this period the budget of TUNADO increased drastically as indicated in the various annual reports.

In order to increase apiculture production and productivity to meet the growing demand for bee products (honey, beeswax, propolis, bee venom etc.), TUNADO in collaboration with Woord en Daad co-created an innovative model call the Rural Transformation Centre (RTC). The RTCs are rural/regional based enterprises which can be beekeeper cooperatives, private companies, solely being run as profit making ventures but sourcing raw materials from beekeepers. They provide bulking services for beekeepers' products at regional level for onward marketing to national buyers. The extension personnel based at the RTC are called an Apiary Masters. This innovation has resulted in increased production and productivity in the sector.

Five years ago, TUNADO had skeletal staff, all based at the secretariat in Kampala. Currently, TUNADO has a total of 30 staff



Prof. Robert Kajobe – Chairman Board of Directors, TUNADO

(11 women, 19 men) of which 25 are youth). The deployment of 18 TUNADO extension staff (Apiary Masters) and 7 field support staff at different RTCs across the country enabled TUNADO to continue providing the much-needed extension services to beekeepers. They also became a channel for information dissemination to beekeepers and vice versa.

The trainings by the Apiary Masters have also led to increased awareness about bee forage. Farmers can benefit from sale of forage (Cashew Nut seedlings, Macadamia nut seedlings, Bottle brush seedlings, *Calliandra callothysus* seedlings, bee purspalaum, Tangerines & oranges). Beekeepers should particularly note that Cashew and Macadamia nuts are extremely high value nuts and give a high return to the beekeepers in addition to hive products.

As a result of the continuous promotion

66

Currently, TUNADO has a total of 30 staff (11 women, 19 men) of which 25 are youth). The deployment of 18 TUNADO extension staff (Apiary Masters) and 7 field support staff at different RTCs across the country enabled TUNADO to continue providing the much-needed extension services to beekeepers.



World of Bees Advert that recently ran on Bukedde Tv created awareness for bee products countrywide



One of the trainings conducted by TUNADO with Apiary Masters

and trainings there has been increased production and productivity in the apiculture sector in Uganda. There has also been increased product diversification. These products include Honey (Cream Honey, Coffee Honey, Hibiscus honey), Propolis tincture, Propolis infused teas, Beeswax, Bee venom etc. TUNADO has played a big role in the development of these products.

During the first Covid 19 pandemic lockdown (2020), we started the construction of TUNADO multipurpose complex. We are currently finalising with its roofing. The construction is located at Dundu along Gayaza-Mukono high way. When complete, the building will house TUNADO secretariat, conference halls, laboratory, training centre, video conference, exhibition rooms, beekeeping museum, export storage facilities and a demonstration center.

During the last five years, TUNADO operationalised The World of Bees. This is the TUNADO shop that operates as outlet to bee products of TUNADO members. Currently we have 4 outlets. In addition, we have an online shop www.worldofbees.shop

Recently TUNADO in partnership with Woord en Daad established the Apiculture Business Fund (ABF). The ABF will help all beekeeping stakeholders access affordable credit to facilitate their businesses.

Following TUNADO's resolution to become more inclusive at all levels, the organisation increased the participation of women, youth, Batwa and people living with disabilities. Persons with visual impairment and persons with hearing impairment participated in TUNADO activities.

Despite these highlighted successes we faced a number of challenges. The challenge of securing and maintaining strong core funding remains a priority. There is also inadequate reliable data for investors to enable them make informed decision on how to best invest in the sector. There is also unguided sector support, where by some development partners provide, duplicate services to beekeepers and promote nonsuitable and affordable technologies and practices. Poor policy implementation on quality and product standards has led to an influx of sub-standard bee products on the market. Climate change due to environmental degradation has affected bee populations and honey yields. Beekeepers reported reducing foraging plants which affected bee colonization and therefore honey production. The Ministry of Agriculture has not included apiculture as one of key strategic enterprises in DSIP agriculture. Therefore, the subsector cannot attract substantial budget. Increasing misuse of agro-chemicals has affected the bee population.

Message from the

EXECUTIVE DIRECTOR

TUNADO

t's a greater honour working for the apiculture sector for over a decade. It has given me opportunity to see the apiculture sector grow. Apparently, apiculture sub sector is competing favourably with other agriculture sub sectors. I can talk with confidence that apiculture that used to be men's active, has demonstrated high absorptive potential for youth, women PWDs and indigenous people employment than other sectors. We now have many PWDs, IP, women and youth owned apiculture businesses. More than 60% of bee products value addition and trade are occupied by women and youth. Furthermore, apiculture bee products market and prices have remained stable and high making it possible for participating vouth and women to secure decent income. With opening of World bees stores in different locations (Akamwesi mall on Gayaza rd shop ww14, Kingdom Kampala Mall shop no. G22, Suncity Plaza Kikuubo shop no. SP2-04, Kira House Shop No. 26). Market for bee products has been made possible. Although access to credit is still an issue for actors in beekeeping, again the Apiculture Business Fund resident at World of Bees is a good step towards solving this challenge (look out in the next issue details on the fund). When it comes to climate change mitigation,



Dickson Biryomumaisho Executive Director, TUNADO

beekeeping provides solid reason for conservation. It is a common sense and a known concept to every beekeeper, that bees need trees and ecologically friendly environment to survive. Beekeepers work hard to ensure deliberate effort to plant or conserve trees. No wonder beekeepers in an end of year apiculture MSP 2021, beekeepers prioritised agroforestry (agroforestry means to plant or conserve a tree on the same plot of land with a crop or livestock production). Beekeepers have not stopped at agroforestry but rather advocating for high value tree crops such as Macadamia, cashew nuts, shea, and fruit trees. This is a very big step towards greening Uganda. TUNADO will therefore work very hard together with partners, government and actors towards promoting beekeeping alongside high value tree in effort to diversify beekeepers' sources of income and conserving bee habitant. We therefore call upon everyone to join our greening effort. Stay blessed.

Dickson Biryomumaisho E.D TUNADO

More than 60% of bee products value addition and trade are occupied by women and youth. Apiculture bee products market and prices have remained stable and high making it possible for participating youth and women to secure decent income.





Article by Janet Lowore, Bees for Development - UK

Introducing **Nature Based** Beekeeping

ature Based Beekeeping is a practical approach to keeping bees that combines knowledge of bees in nature with local techniques and low-cost hives. It enables millions of farmers in rural communities to increase their quality of life. Nature Based Beekeeping is currently practiced in over 100 countries, and in Africa is the approach which delivers the highest volumes of honey.

So, what is Nature Based Beekeeping? In short it is any approach to keeping bees sustainably that uses nature, rather than cash, to get started and expand. It is an excellent approach for ordinary people with limited financial means, because most rural people have access to nature and nature is free.

Uganda, like many other African nations, is blessed with a natural abundance of apicultural resources, namely, honey bees, nectar and pollen. To derive a sustainable harvest from these resources, beekeepers need beehives. And for people to harvest good volumes of honey, low-cost hives are best, because with affordable hives more people can keep more bees. All the evidence from honey producing regions in developing countries points to the fact that where beehives are cheapest, total honey harvests are highest. This is because with low-cost hives the barrier to becoming a beekeeper is removed and almost anyone can participate, as explained by a Joshua Ngorok, a beekeeper from Karamoja, "It is so beneficial in the way that it is accessed by everybody in the community. This approach doesn't discriminate whether you are a child or an adult, as long as you are creative enough you can make it work for you".

Over the years significant effort and money has been invested in Uganda in introducing so-called 'modern' beekeeping. This trend began in the 1960s and has continued to the present day. Sadly, there is very little evidence that this effort has made a substantial and lasting contribution to raising the welfare of ordinary farmers. Much of the problem lies with the promotion of

It is so
beneficial in the
way that it is accessed
by everybody in the
community. This
approach doesn't
discriminate whether
you are a child or an
adult, as long as you
are creative enough
you can make it
work for you.



Joshua Ngorok – Nature based beekeeper from Kotido - Karamojja

technology, which looks good 'on paper' but in practice offers no real advantage. In fact, contrary to helping people, the emphasis on expensive technology has in effect make beekeeping accessible only to better-off people or those who are lucky enough to be given free donations. And even then, the results are disappointing. Expert beekeeper Patrick Ayebazibwe draws attention to the advantages of local-style hives, "You can start beekeeping with zero cost, because you can pick hive-making materials from nature. Even if you can't make your own, a local hive can cost just UGX 5,000 compared to UGX 200,000 for a so-called 'modern' hive. Not only that but it is easier to harvest honey from a local style hive". For beekeeping to support people's livelihoods it should be practical, achievable and accessible - regardless of a person's

financial status or access to donor funds. There are countless examples of conventional beehive donation projects which have failed to meet expectations. It is time to re-consider.

Nature, not cash, is the key ingredient

The Nature Based Beekeeping approach places natural resources, skills and knowledge at the heart of successful beekeeping – not expensive hives. It requires a very good understanding of the local context. Beekeepers need skills in making beehives using natural materials and they need knowledge about the local beekeeping season, when bees swarm and when flowers produce nectar and pollen and the optimal time for harvesting honey.

At this point in the article the reader might be asking, is Nature Based Beekeeping anything new? The beekeeping skills are not new, indeed Ugandan beekeepers are accomplished Nature Based Beekeepers. The difference lies in perspective – it means taking a fresh look at something that we see every day. Every day we see people make their own hives using natural, free materials, but we have been led to think that just because people have been keeping bees this way for a long time it must be old-fashioned. Not so!

Taking a fresh perspective and looking at beekeeping anew we can begin to see that conventional beehive donation projects are old-fashioned, because they rely on the out-dated idea than people need imported technology to succeed. On the contrary Nature Based Beekeeping builds on local expertise and knowledge and empowers people to connect with their traditions and cultures. Nature Based Beekeeping offers these benefits;

Affordable

- Wise use of natural resources
- Sustainable
- Accessible to almost anyone 'who is creative enough'
- Non-discriminatory
- Profitable because income exceeds cash outlay
- Yields good honey harvests
- In tune with local bee behaviour and ecology
- Natural, and chemical-free

So yes, Nature Based Beekeeping is what most Ugandans have been doing all along. It is good beekeeping that works and uses nature as the key ingredient. In generating income Nature Based Beekeeping is essentially a cash transfer from nature to beekeepers' pockets – with a little help from a little insect.

Evidence of the success of Nature Based Beekeeping

Across Africa the regions which harvest the largest volumes of honey are those where Nature Based Beekeeping is practised, for example, Tabora in Tanzania, the North-Western Province of Zambia and south west Ethiopia. The high volumes of honey harvested in these locations have given rise to honey export. In Uganda, large volumes of honey are harvested in West Nile and around Kisoro, by beekeepers who own many, lowcost hives. Achini Kamilus, for example, uses hives which he makes himself allowing him to keep 230 colonies of bees. Skills, knowledge and nature - the essential elements of Nature Based Beekeeping - allow him to earn good income from bees. Meanwhile Ethiopian beekeeper Anduamlak Asmare explains why he too prefers local style hives to frame hives, "with frame hives the scaling-up is not promising as it is capital intensive and it is not preferable for catching swarms". Last year, using local hives placed in a natural setting, Anduamlak made in excess of USD 1000 from beekeeping.

Describing Nature Based Beekeeping

There is no fixed definition of Nature Based Beekeeping, instead the approach is recognised by a set of features as follows:

- Beekeepers can make or buy their own hives at low-cost
- Beekeepers are not dependent on donors for repeat handouts, they are quickly selfsufficient
- Non-project beneficiaries can copy others, if they so wish
- Beekeepers can scale-up provided the market demand is there, and they are not constrained by the 'beehive barrier'
- Local expertise, skills and knowledge are just as important as formal training – sometimes more important
- Provided that there is a good market, beekeeping thrives after the end of donor support
- Nature Based Beekeeping is adapted to mobile tropical bees and temporarily empty hives are not a problem
- Nature is the key ingredient to success, not expensive hives.

Conclusion

In conclusion let's return to the words of Patrick Ayebazibwe who explains, "Local hives have not been given a chance by promoters in Uganda, instead they all look to the other side at so-called 'modern hives' Yet local hives are affordable and easy to use and you can even harvest honey without using protection. The difference in yield between local hives and Langstroths is minimal, in fact even you can sometimes harvest more from local hives. And the quality of the honey is the same". The only down-side with local style hives is that people have been led to believe that they are oldfashioned. This is the wrong way of thinking. It is time we re-evaluated what we know. Local hives, local skills and expert knowledge and of course plenty of bees and flowers - are needed to make a good income from bees. Nature provides and we all have access to nature. Let us instead look at beekeeping from a new perspective and embrace Nature Based Beekeeping, an approach that places nature centre-stage.



Achini Kamilus – Nature Based Beekeeper from Terego, West Nile Uganda

Sources:

- Patrick Ayebazibwe, Achini Kamilus and Joshua Ngorok were interviewed by TUNADO in 2021.
- Anduamlak Asmare was interviewed by Bees for Development Ethiopia in 2021.

THE **HONEY WEEK 2022** IS BACK WITH A BANG



Exec. Dir. TUNADO, Dickson Biryomumaisho Tours members stalls during the 2019 Honey week

t is now two years since we last experienced the togetherness and fun as people in the apiculture sector! This happened in August, 2019 when the last honey week was held. Throw in the ugly head of Covid-19 that turned everything upside down; ultimately making it impossible to hold the 11th edition of the honey week. To avoid dwelling on the ugly past and crying after spilled milk, we have good news in this 2022 because the honey week is back, and this time with a bang!

After a two year hiatus, we will be all heading to Forest Mall parking where we will have 4 good days of exhibiting developments in the apiculture sub-sector and I now invite you to have a sneak-peak into what is expected at this year's 11th edition of the national honey week:

1. Apiculture Congress:

A lot of research work (both scientific, academic and experiential) has been

taking place in the beekeeping world and it is befitting that an appropriate platform is organized to have these works shared with the whole world. There is no better place for this to happen other than at the Apiculture Congress.

What to Expect: This will be held at Kati-Kati hall, Lugogo and members are encouraged to come in with an open mind so that they take in the loads of information and innovations arrived at over the past 2 years. There will be scientific research presented by academic scholars in the apiculture sector, experience sharing on performance and productivity of hives basing on type; innovation sharing in the world of infusion (infused propolis, infused honey and infused hibiscus tea among others). The ED will also give an overview of where we are as a sector and how we can bounce back amidst challenges of the lockdown.

2. New Products Wave:

Many Ugandans have been forced into pushing their mental faculties to the extremes and this has resulted in a number of new products on the market. At almost every stall, come expecting to find a product that is related to beekeeping either directly (Cream Honey, Coffee Honey, Hibiscus honey and so on) or indirectly (such as *enturire*, propolis infused teas, e.t.c).

What to expect: Many of the new bee products and equipment will be displayed by exhibitors on their stalls and as such, expect to get that touch-itchy feeling of spending whatever money you have in your purse to buy some of these products. Warning & tip: It is very difficult to go to a stall and walk past it without buying anything, especially new products. I strongly advise us to start saving right away so that we arm our purchasing power to acquire some of these products.

3. Well laid out Stalls:

The stalls will be well laid out to enable exhibitors display their products well, effectively and with easy visibility to all members of the public visiting each stall. It is therefore advised that members who want to exhibit should get in touch with the management and book their stalls at the earliest opportunity. To add colour and visibility to your stall, exhibitors are advised to print out nice banners, tear drops and pull up-posters of their companies and products for display purposes.

What to expect: Depending on location of the stalls, the prices will have a slight difference. Also important to note is that there will be ample parking space for all vehicles of our members and exhibitors at no extra cost.

4. People of all Categories:

Inclusion is one of our core-values of TUNADO and as such, people from across the social divide are expected to participate in the honey week. TUNADO, being an all-inclusive organisation, will see to it within its means to ensure participation of PwDs, Marginalized tribes such as the IK and Batwa,women, children, elderly and Youth among others.

What to expect: Unique products from the different marginalized groups highlighted above on display and on market so that stall visitors can buy for their consumption and enjoyment.

Dear reader, remember that I referred to the above as a 'sneak peek' into what is expected to happen at the honey week and as such, it is important for EVERYONE and EVERYBODY to mark off their calendar and block off the dates of 23rd -27th August 2022. Reason: The honey week is getting back with BANG during that week.

Event arrangement

- ✓ Apiculture congress 24th August 2022
- ✓ Main exhibition 24th – 27th August 2022
- ✓ Judging exercise. 25th August 2022
- ✓ 2nd youth forum 26th August 2022
- ✓ Closing ceremony 27th August 2022



THE 11th NATIONAL HONEY WEEK

THEME: "PROMOTING INCLUSIVE BEEKEEPING FOR HOLISTIC WEALTH"

Date: Tuesday 23rd – Saturday 27th August 2022 Venue: Forest Mall, Lugogo By pass

CONTACT DETAIL OF THE LEAD EVENT COORDINATOR:

TUNADO, Plot 9 Canon Road Kigoowa-Ntinda.

P.O. Box 8680, Kampala, Uganda. Telephone: +256 (0) 414258070

E-mail: info@tunadobees.org Website: www.tunadobees.org

3.0 Event arrangement

- ✓ Apiculture congress 24th August 2022
- ✓ Judging exercise. 25th August 2022
- ✓ Closing ceremony 27th August 2022

- ✓ Main exhibition 24th – 27th August 2022
- ✓ 2nd youth forum 26th August 2022

4.0 Sponsorship packages

The following are the opportunities for sponsorship **Platinum Sponsor (Ugx. >12 M)** Benefits:

- a) Prominent display of logo on adverts of Newspaper, TV, banners, posters and fliers b) Unlimited branding at the event venue c) Prominent display of logo on the event website d) Logo on invitation letters e) Free single stall d) Logo on invitation letters e) Free single stall exhibition space f) Appreciation announcements during the event g) A platform to address participants
- Gold Sponsor (Ugx. 10M 12M) Benefits:
- a) Prominent display Logo on the event website b) Company logo on display banners, Posters and fliers c) Free single stall exhibition space d) A platform to address participants **Silver Sponsor (Ugx. 7M 9M)** Benefits:
- a) Company logo on: Display banners b) logo on the event website c) Free single stall exhibition space d) A platform to address participants

Bronze Sponsor (Ugx. 5M - 7M) Benefits:

a) Logo on the event website b) Free single exhibition space

To book call 0779674935/0777383043 or email: info@tunadobees.org Written by Dennis Amena,

Training & Business Advisor (TBA), TUNADO Secretariat.

Quality Supplies and Traceability Systems - What Is It All About?

fake and adulterated bee products on the market, Traceability of bee products becomes fundamental in the honey supply chain, to provide re-assurance on the quality of your bee product brand on the market. International Standards Organisation 8402 defines traceability as the ability to trace the history, application or location of an entity by means of recorded identifications." It allows producers track and trace each component that comprises a product, from the suppliers, through the manufacturing process and, eventually, to the final consumer.

Traceability is fast becoming an important part of the manufacturing process for companies in diverse industries. While some believe it only applies to products that might be subject to recalls, such as food, traceability should be a part of every bee product processing. Considering the significant cost, resources and productivity advantages it provides, it's not hard to see why. By implementing systems that encourage high-level tracking and tracing capabilities, processors can exercise more granular control over their production process. This helps them process and pack bee products that are safer, of higher quality and creates processes that can be optimized for continuous improvement.

Establishing traceability systems in a bee product processing Company, enables the company to access historical information about the bee products, including:

- The origin of the out sourced bee products
- Date of supply, processing, packing and lot number

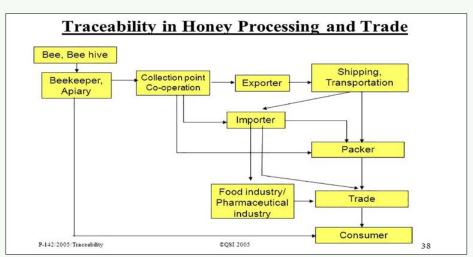
Clear identification system will provide the processor with better means to follow the sequence of production vertically along the value chain, allowing him/her to discover the origination and history of products.

How traceability can work in your processing company

There are two primary components that underlie effective traceability systems. These are:

- Reliable identification/coding; and
- Central recordkeeping

The process requires adopting an identification or coding system that enables unique tagging of individual products, lots or production from a geographical area. This involves using technologies such as permanently marking part or components as



Vivid example of a honey supply and traceability flow chart

they enter the processing room or directly from the supplier.

Once processing of the product begins, its ID is captured in real time and transmitted to a central database, along with information about the work done at each step. This is repeated across every station the product passes through, creating a rich history of the production journey of each unique bee product.

When a bee product accumulates a complete processing history, it is said to be fully traceable.

Why is traceability important?

As more facilities and manufacturers transition from analog manufacturing to digital processes, it's becoming clear that traceability is the future of manufacturing.

Technology has already revolutionized the manufacturing process, leading to cost and resource savings. However, as industry 4.0 continues to pick up speed, organizations can begin to fully enjoy the broad benefits of technology-enhanced production through robust traceability systems.

There are other critical considerations that also underpin the importance of traceability for organizations. These include:

- Product recall: Product recalls can be devastating. Traceability is vital for quick, efficient and less costly product recall. It not only helps the processor manage these situations better, traceability also helps prevent avoidable product recalls.
- Quality control: With the high-level control it provides over the manufacturing process, traceability encourages granular quality control. This is invaluable in industries such as food production.
- Customer satisfaction: Ultimately,

business is about solving the problems of consumers and positioning oneself as a valuable provider of solutions. With robust traceability systems, processors are better positioned to implement the incremental improvements that help them present higher-quality products that comprehensively meet customer needs.

Benefits of traceability

Companies that start implementing traceability can prevent Product recalls leading to terrible costs and significant damage to a company's brand, reputation and market share.

By implementing a well-designed traceability system, bee product processing companies can prevent disaster and access multiple benefits, including:

- Seamless root cause analysis: Traceability makes it much easier to identify potential problems before a product is sold and accurately predict the extent of the problem and isolate its root cause.
- Value stream mapping and optimization:
 With greater control over the
 manufacturing process, companies/
 beekeepers are better able to understand
 what makes their products unique or
 successful and optimize those aspects.
- Meet compliance mandates: Regions such as the EU require traceability in certain industries, such as food production where honey falls.

As World of bees, we encourage companies and beekeeping entrepreneurs involved in processing and packing of bee products to develop traceability systems within their work.

Colony multiplicationWhen and How to do it.

olony multiplication is a combination of appropriate techniques aiming at creating more new colonies from the existing ones with an overall objective of achieving stable, strong, industrious, productive bee colonies.

When should a beekeeper multiply bee colonies?

A bee keeper should multiply bee colonies when they have a large population of bees and overcrowded brood, at least 10 top bars for the case Top bar hives and 10 frames in brood box for the case of frame bee hives.

According to a bee keepers' observation upon opening a colony of bees, when they observe that the bee colony is crowded. Such a colony will show signs like, bees tending to "pour over" the top of the frames or bars and sometimes bees are observed crowding on the entrances.

If a preferred bee colony for multiplication is observed preparing to swarm, a large colony preparing to swarm is an excellent colony to multiply. Prior to swarming such, a colony produces many (sometimes 10 or more) queen cells (called swarm cells) on the bottom portion of the comb in the brood area.

Checking on the bee calendar, during the buildup period, when there is plenty of food (nectar and pollen sources) preferred bee colonies can be multiplied by the fact that queens during build up period is devoted to laying a number of eggs to increase on the brood nest.

It's in good practice to a bee keeper to consider colony multiplication practices during evening time when temperatures are low that no larvae can desiccate and when the level of aggression is low. When daily colony activities are reduced and most of the bees are concentrating on in house activities. When most of the bee population is back in to the hive and any manipulations cannot lead to the loss of bee population and thus no much in reference to the neighboring communities.

However, a bee keeper should note that while choosing colonies to be used in multiplication, he should look for colonies with good traits like industriousness, productiveness to mention, else if colonies with poor traits are multiplied, the apiary might become nonproductive.

How to do it. (How to do colony multiplication)

Bee colonies be multiplied by divisions,



Practical stingless bees Colony multiplication learning visit between Bunyangabu Beekeepers cooperative and the Batwa.



Ronald Mugume

which can be done in a number ways; can Dividing a of bee Colony with Queen Cells

- Set up equipment's and organize all equipment's to be used for the task, these may can bottom boards, inner covers, top covers, supers, frames among others.
- 2) Open the parent colony with minimum smoke observe and locate the queen. Pick the frame with a Queen place it in the new hive that you are trying to make a colony. This removal of a queen from the parent colony will give it the illusion that the queen has swarmed. It is important to determine how many splits you can make from looking at the number of frames of brood and food stores in the old colony being divided.
- 3) Place the split (the new colony you are trying to make) without the old queen in the location of the parent/old colony. The older foraging workers will return to the parent colony since it's the home they know. The split should have at list two combs of brood and food, if there is no honey in the colony, feed sugar syrup or feed on honey as well.
- 4) After 3 days carefully remove every brood frame from the parent colony that contain queen cells place them all empty hive body. Queen cells are easily damaged. Do not leave the frame exposed to sun/high temperatures or rain/ too much cold as extreme conditions will kill the queen cells and do not turn the queen cells upside down.
- 5) Make splits from the mother colony, each split should at list have two brood combs and food combs (pollen and honey) together with at list two to three hand full off bees to completely cover the brood.
- 6) Place a frame having two or three large well shaped queen cells in the middle of the two other brood combs in the queen less splits, when queen cells are placed adjacent to the brood, there is easy temperature regulation and destroy the queen cells that you do not need if any.
- 7) Provide at least two frames of empty brown combs (preferred) or two frames of comb foundation on the outside of the brood area, these ease work of the worker bees of comb construction and for storage if any food is collected, they act

- as immediate stores or queen breeding space.
- 8) Also add division boards /dummy boards from the open ends of the hive to help the bees maintain the temperature more easily.
- The newly created split(s) should be sited on different hive stands away from the parent colony about 10metres and entrances facing opposite direction of parent colony.
- 10) Newly created splits should feed on pollen or honey supplements and progressively monitored, check for a laying in both splits after about 14days

Colony and Produce a Queen from Eggs

- Set up and organize all equipment's to be used for the task of dividing bee colonies.
 These may include bottom boards, inner covers, top covers, supers and frames protective equipment's and others.
- 2) Open the parent colony with minimum smoke observe eligibility of the colony for division or split, locate the queen ensure that it remains in the old colony and determine how many splits this colony can make.
- 3) Split the colony making sure that each split has got at list 2 frames of brood, 2 frames of pollen and honey and 3 to four handfuls of bees.
- 4) The newly created split(s) should be sited on different hive stands away from the parent colony about 10metres and apart, entrances facing opposite direction of parent colony to avoid forages from returning back.
- 5) Inspect the new splits for queen cell development (emergency queen cells) always in the middle of the comb after 5days of split. During this time the colonies will have missed queens and tried to develop queens through an emergency/ supersedure impulse from the larvae of the previous queen and they will be in Prepupa stage, these should be destroyed.
- 6) Introduce a brood comb in to each split from another colony with preferred traits by placing it in between the previous brood combs. This will ease brood monitoring by nurse bees in these splits. There are high chances of acceptance of the brood comb and thus select the larvae that will be fed and raised as queens to take over the queen less split.
- Also add a division board, dummy board from the open ends of the hive to help the bees maintain the temperature more easily.
- 8) Newly created splits should be fed



Bwambale Mason a member of BBC conducts a colony multiplication training with the Batwa Beekeepers from Kisoro

comb in to each split from another colony with preferred traits by placing it in between the previous brood combs will ease brood monitoring by nurse bees in these splits. There are high chances of acceptance of the brood comb and thus select the larvae that will be fed and raised as queens to take over the queen less split.

on pollen or honey supplements and progressively monitored, check for acceptance and queen cells after five days then for a queen in both splits after about 16days.

Dividing colonies and introducing queens,

- Set up and organize all equipment's to be used for the task of dividing bee colonies.
 These may include bottom boards, inner covers, top covers, supers and frames protective equipment's and others.
- 2. Divide a preferred colony and determine how many splits it can make and introduce a new queen into a small colony.
- 3. Ensure that the splits have at list 3 to 5 frames, these should have brood, pollen and honey and hand full of bees.
- 4. Allow the old foragers to return to the parent colony by leaving the old colony

- with an old gueen in in the old position.
- 5. Transfer the split(s) in to new locations and let them face opposite directions, let the split sit queen less for about 24 hours.
- Add division boards or dummy boards from the open ends of the hive to help the bees maintain the temperature more easily.
- Introduce a virgin caged queen, the virgin queen should first remain caged for about 3days to allow acceptance. It should be noted that young bees accept new queens more readily than old bees.
- 8. The queen should be tied on the string suspending in the young colony. The queen should remain in the cage for 3 days before she is released in the colony so that the bees in the colony can adjust to her pheromones and vice versa.
- 9. Ensure that the bees do not eat through the candy plug in the cage and release the queen too quickly, prevent access to the candy with a cork and release the queen from the cage yourself after 3 days by letting her walk out onto a comb.
- 10. After 10-14 days, check the laying pattern of the new queen for eggs, larvae and sealed brood. When the new queen is laying eggs it means you have multiplied successfully the colonies in your apiary.
- 11. Newly created colony should feed on pollen or honey supplements and progressively monitored, check for a laying in both splits after about 14 days.

By Ronald Mugume Apiculture Export Rwebitaba, ZARDI

INCLUSION AND INNOVATION; TUNADO's WORK WITH WOMEN, YOUTH AND PERSONS WITH DISABILITY IN KARAMOJA REGION.

he concept of Inclusion of marginalised groups is at the core of TUNADO's work, we deliberately reach out to share information on beekeeping, mobilise and train women, persons with disability, youth and the Batwa (a minority tribe at the verge of extinction in Uganda).

TUNADO with her partners like Bees for Development and Oxfam Uganda (with support from IrishAid) aim at creating Women and Youth livelihood opportunities in apiculture in Uganda through utilising low cost and locally available materials to make beekeeping equipment like traditional hives. In Kotido in particular, we have supported an innovation of applying cement to the exterior of traditionally woven hives to address the challenge of adverse weather effects, pests infestation and increasing longevity of the hives thus giving birth to the "Kotido improved hive"

Traditional hive weaving is a common



Cemented hives in Karamoja: a remedy to termite infestation and adverse weather conditions



Women and youth take part in the Hive making process in Karamoja

practice in Karamoja, the members consisting mostly of women and youth in a period of 2 months have made 438 Kotido improved hives and work is ongoing to increase these numbers.

In the past, farmers have noted that traditionally woven hives are prone to pests which attack the bees, thus affecting colonisation rates and productivity. TUNADO working together with JICAHWA (our grassroot partner) innovated the use of cement for the exterior of the hives, the beekeepers acknowledge this has helped protect the hives from destruction by pests, harsh weather conditions thus longevity of the hives. Inclusion of persons with disability at programme level is a journey that TUNADO embarked on in 2018, currently there is a Disability inclusion strategy with implementation framework, training of staff at management and field level have been conducted on inclusion, there is a full time staff incharge of disability



Hope Agwang

inclusion who has responsibility of ensuring the Organisation programmes, services and infrastructure are accessible for all.

The Inclusion Officer is mandated within the Organisation to address issues of inclusion and propose changes. As part of this mandate persons with disability in Kotido District have been mobilised through the District Union of PwDs to start beekeeping through inclusion in the established groups. Support services like sign language interpretation, guides and personal assistants are recognised as reasonable accommodations to ensure full and meaningful participation.

Karamoja is a semi-arid area with dry grassland with the majority of the population engaged in agro-pastoralism, some people are still using traditional methods of beekeeping. However, we have documented examples of changing practices with the community adopting modern methods of beekeeping. We are working with 6 (six) groups in Rengen, Nabuin, Kokoria, Rekitae, Losilang and Kangorok.

Supported by





Article by Hope Agwang Inclusion Officer, TUNADO





Macadamia Seedlings distributed to beneficiaries under BAC1

Bee A Champion 2 (BAC2)

'Establishing a competitive and inclusive honey sector in Uganda'. REGION.

ee a champion 2: is a 3 year (2022-2024) beekeeping project in Uganda funded by the Norwegian agency for development (NORAD). The project is implemented by a consortium of 5 who include; Woord en Daad a faith based organisation in Netherlands as the lead partner, The Uganda National Apiculture Development Organization TUNADO, Trias -Uganda, Läkarmissionen and World of Bees (U) Ltd. BAC2 comes as a build up to the successful implementation of Bee a champion 1 that was implemented in three RTCs of Bunyangabu beekeepers cooperative, Arid land development programme and Arua market women honey traders association which ended in December 2021.

Some of the achievements registered under BAC1 include;

Introduction of the rural transformation centre model of beekeeping in Karamoja, West Nile and Mid-West. The model has been widely appreciated by both government (specifically, Ministry of Agriculture Animal Industry and fisheries-(MAAIF) and as a result, MAAIF used it as a base to develop a 10-year strategy for commercialising apiculture in Uganda.

Promotion and profiling of multipurpose tree crops such as Hass avocado, macadamia and cashew nuts with their economic and ecosystem benefits especially for families with small land holding. Led to their inclusion on the list of priority commodities for promotion

under the PDM for poverty reduction.

Introduction of the RTC model equally resulted into improved relationship between beekeepers and RTCs which enabled them to source 202.9MT of honey in 2021 up from 20.3MT at baseline in 2019.

Additionally, under the BAC1, TUNADO was able to adapt and tailor several applications to beekeeping to improve business management such as 1) Kucheza (farming forward): a gamebased learning approach that uses digital games to let beekeepers understand and work with the economic relationship between inputs and outputs and managing their farm as a business 2) Sevi fintech app an IT platform and app for financial service providers (FSPs), that makes their financial services (loans,



Rudolf Mulderj visits the fully stocked Honey Processing Centre at ADP in Abim District



A fully stocked honey processing centre renovated and equipped under BAC1 with funding from word en Daad.

transactions, pay in instalments, etc.) more efficient. 3) Farmer Link: is a data platform that allows beekeepers to link professionally and meaningfully with their producer group, clients, suppliers and financiers.

BAC2 is here to build on the successes of BAC1. And was designed to reach 2750 beekeepers and create an inclusive and internationally competitive apiculture sector in Uganda that offers income generating opportunities for new and existing beekeepers.

BAC2 will have a slightly wider scope of implementation and will focus its operations in the districts of Ibanda, Mbarara, Isingiro Shema, Rubirizi, kisoro and Bushenyi Districts) in South Western, Bunyangabu, Kabarole, Ntoroko and Kasese Districts in Mid-Western, Mubende district in Central Region, Zombo, Arua and Nebbi in west Nile and Abim, Kotido napak and moroto in North Eastern.

During implementation, the project will work towards achieving the impact pathways below,

- IP 2, improved livelihoods for refugees and hosting communities' representatives, through the BONGA approach: to be coordinated by International Aid Services Uganda / LM
- IP 3, improved market access for beekeepers through expansion of Rural Transformation Centres (RTC): Tunado
- IP 4, capacitated beekeepers receive access to finance: to be coordinated by Trias Uganda
- IP 5, increased export of traceable high-quality beeswax to the international market: to be coordinated by World of Bees

RTCS participating in the project are;

- Bunyangabu beekeepers cooperative
- Arua market women honey traders association
- · Delta bees Uganda Itd
- Bee house products ltd
- Kisoro beekeepers Cooperative
- Arid land development programme

While we implement BAC2, TUNADO is working tirelessly to upscale the RTC model to mid-North (Lango and Acholi sub regions and Eastern region (Busoga, Bugisu and Teso).

Women and youth in beekeeping; the Success Stories of Moreen and Christine in kigezi sub region south western Uganda.

"The youth can" is a common slung used by Moreen Namanya the director of prime bees co. Itd, a beekeeping agro enterprise located in Bubare trading Centre, Rubanda district - Kigezi sub region Uganda. Before I enrolled in beekeeping, I always wondered which enterprise I can freely engage in that doesn't need a lot of startup capital but also a project that can be done on a small portion of land given that Kigezi sub-region is prone to land fragmentation. In 2018, after a careful enterprise selection. I made up my mind to start beekeeping as an income generating enterprise. My greatest inspiration was learning that beekeeping can be done on a small portion of land regardless of its fertility. This venture requires less investment of about 15,000 Ugx for a traditional hive and it's not time consuming compared to

other agro enterprises. Using my savings, I managed to start beekeeping with 16 and with the help of my siblings, I established an apiary in a eucalyptus tree plantation. Within a period of 1 month, 10 of the hives were already colonized. This prompted me to seek for more knowledge in different beekeeping areas such as apiary management, harvesting and post-harvest handling. After five months, I managed to harvest 37kg of honey which I sold at a cost of 20,000 Ugx per kg. The returns on investment encouraged me to take up beekeeping as business. Currently, I have 30 Bee colonies which give me an average of 200kg of honey per harvest which when sold earns me approximately 5,000,000 Ugx. With the increase in harvests, I decided to start processing and packing my honey.

Moreen Namanya displays some of her Bee-products at her shop in Rubanda District.



Achievements in the beekeeping.

Empowerment; personally, I have gained Self- employment and empowerment but also created employment for two more youth under my processing and packing unit.

The apiary has evolved from a mere site with hives to a formal company involved in production and processing of bee products (Prime Bees Ltd).

Business growth; I started with 37kg of harvest from my own farm which have since increased to over 200 kg. This combined

with honey I out source, Prime Bees Ltd sales averagely 3 tons of honey a year.

When I started processing and packing, demand for my bee products went relatively higher than supply which prompted me to establish mini collection centres. These have greatly helped me to bulk out sourced honey from other beekeepers in Rubanda, Kabale, Rukiga and rukungiri districts.

Through beekeeping, I have managed to change the myths that beekeeping is an ancient venture for men and the elderly and

as a result more youth within our village have picked up and joined the mantle.

Challenges I have experienced in beekeeping.

- Inadequate skills in value addition of other bee products like honey wine making and venom extraction
- Limited capital to stock enough honey during the season
- Lack machinery which makes work more hectic and costlier in terms of labor
- Seasonal weather changes that at times affect the general harvest.

Future plans

In addition to honey, I intend to process more bee products such as jelly, bee venom honey mixture, honey wine etc.

Prime Bees Ltd. also plans to grow its production and market base to the level of exporting.

My greatest joy would be using beekeeping to empower others especially young women and the entire community

Advice to the youth

Don't fear to start up, write up your dreams into plans and actualize your plans into enterprises.

Scan the environment with in your vicinity and be able to identify society need gaps.

Have realistic entrepreneurial ideas that can be achieved with the few resources at hand. Find something you can do with in your means

Lastly, Deuteronomy 15:10 Give generously to him and do so without a grudging heart; then because of this the lord your God will bless you in all your work and in everything you put your hand to.

Appreciations.

I thank TUNADO for the sensitization, motivation, empowerment and uniting Uganda under one umbrella. I can testify that for the one year I have been a member, I have benefited a lot and have no regrets. To all the Prime Bees stake holders, our suppliers, customers and every one, I greatly appreciate your sincere support.

Since my tender age, I have always admired beekeeping, at 31 years, my passion for bees has driven me from an admirer to a serious beekeeper and now a bee product processor. My love and passion for Bees is unstoppable.

Christine Ryumugabe Kamanzi

live in Kisoro district in South Western Uganda. I have been full time beekeeper for one and ahalf years now. Besides beekeeping, am a trainer who has helped to train both existing and new beekeepers in different areas along the honey value chain.

My inspiration to keep Bees came from honey sales. My story into beekeeping started with a bee swarm on our farm land that I sprayed away. two weeks later I got another swarm and for this time, I was advised to call a professional beekeeper to take the bees away instead of spraying them. When he came to take the bees, I asked him countless questions out of curiosity about beekeeping and honey and his response was always positive. In his explanation, my attention was drawn to the price of honey. I therefore started beekeeping because I wanted to make money out of honey sales. However, two months later, after extensive research about beekeeping and learning visits, I fell in love with the bees more compared to making money, therefore with or without honey, I knew I would keep the bees for their other importance.

Since then, I have achieved quite a lot from beekeeping.

- I introduced beekeeping to a number of women who had never believed that women could keep bees and always believed that beekeeping was a men's iob.
- I formed a group of women beekeepers under the trade name Jireh Women Beekeepers Uganda and we have so far given out 320 local bee hives, beesuits, gum boots, gloves, airtight buckets,

hive tools and smokers. In a few days' time, we shall be giving out more 102 local beehives to the same group. These women have been getting a lot of honey from their bees and it has helped boost their family income.

- I have hosted many people who are interested in learning about beekeeping.
 These include high school students who are Interested in beekeeping knowledge.
- I opened a shop for honey and other beekeeping value added products. Some of the honey is from my bees. However I also buy honey from the members of Jireh women Beekeepers group. I have given the women market for their honey.
- I have worked with Edirisa to introduce beekeeping to women groups in Kabale and Rubanda districts.
- I have been hired by different organisations to conduct trainings on their behalf.

Future plans

My future plan is to scale up further to more women and high school girls beyond Kigezi and Uganda and prove to them that beekeeping has nothing to do with gender.

Business advice to women.

I advise women to embrace beekeeping. We all know that beekeeping does not require so much land and we also know that majority of women in Uganda do not own land. Therefore, beekeeping is the best alternative they have to boost their household income with the little land they own.











Christine Kamanzi training the Batwa in cheap methods of processing Bee products like jelly, candles and honey.

API Price Watch

Bee product Harvesting and Hive Inspection Equipment			
	ltem	Unit Price In Ugx	
1	Complete bee Protective Gear (Bee Suite, gloves and gumboots)	200,000	
2	Smoker	50,000	
3	Bee Brush	45,000	
4	Hive Tool	25,000	
5	Airtight Bucket	25,000	
6	Knife	50,000	

These equipment prices are as of April 2021 **Source**: World of Bees Ug ltd Kiira house Pilkington road Kampala contact details 0778371891



THE UGANDA NATIONAL APICULTURE DEVELOPMENT ORGANISATION

A membership & apex body for coordinating apiculture sector in Uganda

Vision

A vibrant membership based apex body coordinating apiculture industry in Uganda for sustainable national development

Mission Statement

To provide a national platform for apiculture sector growth through, capacity building, lobbing and advocacy market development, product diversification and information sharing.

Mandate

A national apex body that coordinates initiatives of stakeholders in the apiculture industry.

TUNADO Philosophy

Apiculture is business

Organizational Values

- · Membership centered
- Accountability
- Innovativeness
- Inclusivity
- Voluntarism

OBJECTIVES

- To bring together all people involved in the Beekeeping industry into active and gainful commercial production of honey especially for the rural poor.
- To contribute to policy formulation and implementation processes pertaining to the apiculture industry in Uganda.
- To protect the National bee colonies from diseases, infections infestations, and interferences of a harmful nature of whatever manner, so as to maintain the productive quality of the indigenous bee species.
- To conduct research and disseminate knowledge pertaining to the apiculture industry in Uganda.
- To liaise with Uganda National Bureau of Standards, Uganda National Bureau of Statistics and any other body to monitor quality, standards and statistics of bee products.
- To collaborate with any other Beekeeping related organizations and firms all over the world hence, soliciting for local, regional and international markets for hive products.

Membership

TUNADO is a membership and national apex body mandated by the Government through the Ministry of Agriculture Animal industry and fisheries (MAAIF) to coordinate the apiculture sector in Uganda. Currently its membership is open to individuals, Institutions, Non- Government Organization, Companies and associations or other persons involved in Apiculture development in Uganda. This membership is renewed annually and is based on the following categories:-

Category	Membership Fee (UGX)	Annual Subscription
Associations, Processors Corporate membership	100,000/=	200,000/=
Registered Groups/CBOs	100,000/=	100,000/=
Individual Membership	100,000/=	50,000/=
Honorary Membership	FREE	FREE

Support a bee keeper

Did you know that 50 USD can train a vulnerable woman in beekeeping?

Donate now through the TUNADO account number;

Account Name : The Uganda National Apiculture Development Organization Limited.

Account number : 95010200001852

Bank : Bank of Baroda, Kampala Rd.

Swift code : BARBUGKA

More information, www.tunadobees.org

In proud partnership with;













CHALLENGE
FUND
FIR
YOUTH
EMPLOYMENT
FUNDED BY NETHERLANDS
MINISTRY OF FOREIGN AFFAIRS