



# TUNZA NYUKI

# NEWS

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## ISSUE I

A publication of Tunza Nyuki Beekeeping Hub



**Our Vision for a Community Honey Bulking Center**

**Wax Moths: A Silent and Ferocious Threat**

**The Kenya Top Bar Hive**



## CEO'S Corner

1

### Nurturing Nature, Empowering Communities



As we navigate the challenges presented by the unprecedented events of 2020 amid the Covid-19 pandemic, I am inspired to connect with you through this CEO's message. In the face of adversity, Tunza Nyuki remains committed to creating thriving livelihoods and protecting natural habitats through beekeeping.

In the Rift Valley region, where many communities rely on livestock for income, the impacts of climate change have left them vulnerable to extreme weather and drought, disrupting their livelihoods. Beekeeping emerges as a resilient alternative, utilizing minimal land and offering an inclusive opportunity for the youth and women to participate actively.

Our commitment to beekeeping goes beyond economic considerations. It is about nurturing thriving livelihoods that empower individuals and communities. The challenges of the present have not deterred us but rather reinforced the importance of sustainable practices. Despite disruptions, we have maneuvered through these times, adapting and innovating to ensure the continuity of our mission.

As we reflect on the past months, Tunza Nyuki has been dedicated to fostering a sustainable future, where beekeeping not only provides economic stability but also becomes a catalyst for environmental conservation. I extend my gratitude to our members, partners, and the community for their resilience and unwavering support during these trying times.

Let's all keep safe as we continue this journey together, creating a legacy of thriving livelihoods and preserving the beauty of our natural habitats through the art of beekeeping.

Warm regards,

Brian Kipkirui Ngetich

# BEEKEEPING: A sustainable Source of Income

## Empowering Women and Youth

2

Amidst the economic challenges presented by the COVID-19 pandemic, beekeeping emerges as a beacon of hope, particularly for women and youth seeking employment opportunities. The beekeeping industry offers a sustainable avenue for income generation, requiring minimal land and resources.



### Empowering Youth Through Beekeeping

#### 1. Creating Employment Opportunities:

Beekeeping provides a buzzing avenue for the youth to establish themselves as entrepreneurs. With minimal initial investment, young individuals can set up beehives and venture into honey production. This not only creates employment for themselves but also contributes to the growth of the apiculture industry.

#### 2. Skills Development:

Engaging in beekeeping equips the youth with valuable skills. From hive management to honey extraction, the learning curve is both practical and rewarding. These skills not only support their beekeeping ventures but also enhance their overall employability.

#### 3. Entrepreneurial Spirit:

Beekeeping nurtures an entrepreneurial spirit among the youth. As they manage their hives and market honey products, they develop a sense of ownership and business acumen. This entrepreneurial mindset becomes a stepping stone for broader economic ventures.



The Chairman at a Women Empowerment Drive in Sotik, Bomet County

### Beekeeping: A Shield Against Gender Inequalities and Gender-Based Violence

In addition to providing economic opportunities, beekeeping stands as a protective shield against Gender-Based Violence (GBV), especially for women.



#### 1. Economic Empowerment:

For women, beekeeping serves as a powerful tool for economic empowerment. By participating in apiculture, women gain financial independence, reducing dependency on others and lowering the risk of falling victim to economic-related violence.

#### 2. Changing Gender Dynamics:

Beekeeping alters traditional gender dynamics by involving women in income-generating activities. As women contribute significantly to apiculture, it challenges stereotypical gender roles and promotes a more inclusive and equitable society.

#### 3. Building Community Support:

Beekeeping encourages community support systems. As women actively participate and contribute to the apiculture sector, they foster a sense of community and solidarity. This communal support acts as a deterrent to GBV, creating a safer environment for women.

# OUR VISION FOR A BULKING CENTER

## Enhancing Honey Harvests to Uplift Rural Beekeepers in Bomet County

3

In our continuous efforts to support and uplift local beekeeping communities, we are excited to introduce our plan to establish a Community Honey Collection Center (CHCC) in Sotik, Bomet County, Kenya—a centralized hub that promises to revolutionize honey processing, empower beekeepers, and streamline the honey trade.

### Why a Community Honey Collection Center?

A honey collection center serves as a crucial intermediary between beekeepers and honey traders. It provides a centralized location where honey from various beekeepers is gathered, inspected, and purchased. This approach offers a multitude of benefits for both beekeepers and traders, fostering a more efficient and reliable honey supply chain.

#### a) Streamlined Processing

One of the key advantages of a CHCC is the streamlined processing of raw honey. Honeycombs brought in by beekeepers undergo thorough inspections to ensure proper operculation—ensuring that cells are securely sealed. This meticulous examination guarantees the quality of the honey, meeting the standards that honey traders across the globe seek. By centralizing this process, we aim to elevate the overall quality of honey available in the market.

#### b) Fair Compensation for Beekeepers

At CHCC, beekeepers will be compensated fairly for their raw honey based on accurate weight measurements. This transparent system ensures that beekeepers receive just compensation for their hard work and dedication. By providing a reliable market for their harvest, we will empower beekeepers to focus on their craft without the added stress of finding buyers for their honey.

#### c) Timely Harvesting Advice

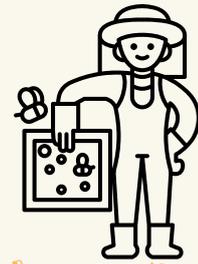
The CHCC initiative extends beyond a mere trading platform. We aim to establish a system where beekeepers receive timely advice on when to harvest their honey. This proactive approach not only maximizes the quality of the honey but also assists beekeepers in planning their harvests efficiently. Beekeepers can bring their honey to the CHCC at the optimal time, contributing to a steady and reliable honey supply.

#### d) Storage Solutions for Beekeepers

CHCC eliminates the need for beekeepers to store large quantities of harvested honey in their homes while awaiting buyers. This not only frees up space for beekeepers but also minimizes the risk of honey contamination or crystallization before processing. Our goal is to create a hassle-free experience for beekeepers, allowing them to focus on their craft without logistical challenges.

#### e) Community Impact

By establishing the CHCC, we aspire to create a positive impact on local beekeeping communities. This initiative fosters a stronger and more collaborative network between beekeepers and honey traders, promoting sustainable apiculture practices and contributing to the economic growth of the community.



Beekeeping and Harvesting



Transport to Bulking Center



Quality Inspection and Weighing



Fair Compensation



Storage and Aggregation



Market Access for Traders

# PROTECTING BEES : *Our Holistic Approach*

## Protecting Bees through Research, Monitoring, and Community-Led Conservation in Bomet County

The vital role bees play in sustaining ecosystems and global agriculture is under threat, and Tunza Nyuki Beekeeping Hub is spearheading a comprehensive initiative titled "Protecting Bees in Bomet County through Research, Monitoring, and Community-Led Conservation". This multifaceted approach is designed to address the challenges facing bee populations by integrating meticulous research, vigilant monitoring, and active community involvement.

### The Urgency of Bee Conservation

The global decline in bee populations has reached a critical juncture. Factors such as habitat loss, pesticide use, and diseases contribute to this alarming trend, posing serious threats to biodiversity and food security. Recognizing the urgency of action, Tunza Nyuki is committed to implementing immediate measures while developing sustainable, long-term strategies.

#### 1. Research: Understanding Bee Dynamics

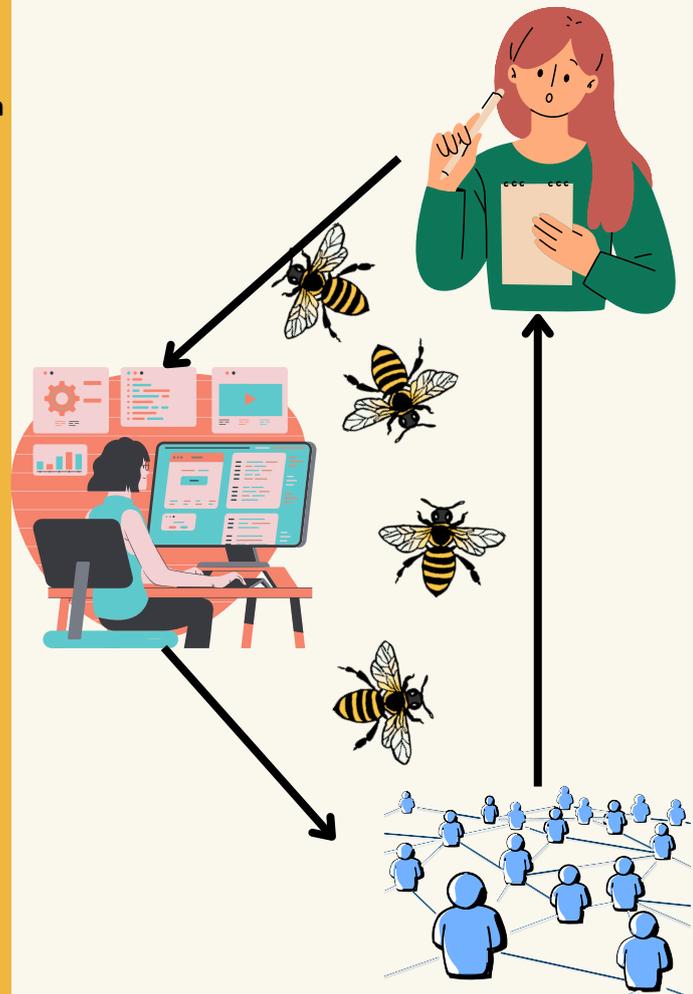
At the heart of Tunza Nyuki's initiative is a commitment to conducting in-depth studies on bee habitats, behavior, and ecological requirements. The research objectives include identifying global factors contributing to the decline in bee populations and investigating the impact of environmental changes on bee health and pollination patterns.

By gaining a deeper understanding of bee dynamics, Tunza Nyuki aims to inform targeted interventions that address specific challenges faced by bee populations in Bomet County and beyond.

#### 2. Monitoring: Harnessing Technology for Global Impact

Tunza Nyuki recognizes the power of technology in addressing the decline of bee populations. The initiative seeks to establish a robust global beehive monitoring network, connecting beekeepers within and beyond Bomet County. Empowering beekeepers with tools for hive monitoring and information sharing is a key component, enabling real-time tracking of changes in bee populations.

The implementation of cutting-edge real-time monitoring systems will provide beekeepers with instant hive condition updates. This proactive approach allows for prompt responses to emerging threats, including solutions for pest control, thereby enhancing the resilience of bee colonies.

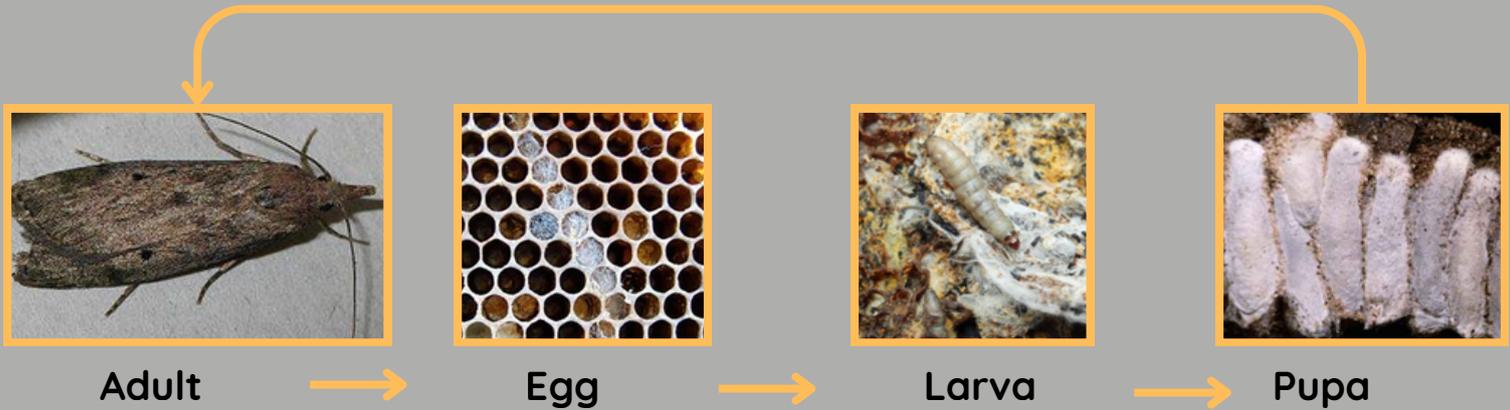


#### 3. Community-Led Conservation: Engaging and Empowering

A fundamental pillar of Tunza Nyuki's initiative is community-led conservation. Actively involving local communities through awareness campaigns and interactive programs is essential. By fostering an understanding of the importance of bees, Tunza Nyuki aims to create a network of informed individuals who actively participate in bee conservation.

The initiative also focuses on establishing pollinator-friendly habitats through community-led projects. This includes strategically placing beehives to support local ecosystems and promote sustainable beekeeping practices. Collaboration with communities is crucial in reducing reliance on harmful pesticides and prioritizing the well-being of bees and the environment.

# WAX MOTH: *Silent Ferocious Threat* **5**



Wax moths, seemingly innocuous creatures, can wreak havoc on the delicate balance of beehives, posing a significant threat to the well-being of bee colonies. Understanding the effects of wax moths is crucial for beekeepers striving to protect their hives.

**Damage to Comb Structure:**

Wax moths target beeswax comb, their larvae burrowing through the structure. This results in compromised comb integrity, weakening the foundation of the hive and disrupting the bees' living quarters.

**Contamination and Spoilage:**

Wax moth larvae leave behind silken webbing as they tunnel through comb cells. This webbing, along with fecal matter, contaminates honey and pollen stores, rendering them unpalatable and potentially harmful for bees.

**Weakened Bee Population:**

As wax moths invade and consume comb, the overall strength and health of the bee colony are compromised. The disruption to the hive's infrastructure can lead to stress among the bees, weakening their numbers and vitality.

**Increased Vulnerability to Diseases:**

Infestations by wax moths create entry points for pathogens, making the hive more susceptible to diseases. The compromised comb provides an environment where harmful microorganisms can thrive, posing additional risks to the colony.

**Economic Impact on Beekeepers:**

Beekeepers may suffer economic losses due to the destruction caused by wax moths. Beyond the immediate impact on honey production, the need for hive restoration and potential colony losses can strain resources.

Mitigating the effects of wax moths involves vigilant hive management, maintaining healthy colonies, and implementing preventive measures. Regular hive inspections and proactive strategies are essential for preserving the vitality and productivity of bee colonies in the face of wax moth challenges.

## *How to Spot Wax Moths*



Early detection is crucial in managing wax moth infestations effectively. In this guide, we'll explore the key signs and indicators that can help beekeepers spot wax moths early, allowing for prompt intervention and hive protection.

**1. Webbing and Larvae Presence**

The most visible sign of a wax moth infestation is the presence of silky webs and small, white or off-white larvae within the hive. Wax moths lay their eggs in the hive, and the hatched larvae spin webs over comb surfaces, causing damage to the beeswax and honey stores.

**2. Bad Smell**

A distinctive foul odor is another sign of a wax moth infestation. The foul odor arises from the wax moths' waste and secretions, contributing to an unpleasant environment within the hive.

**3. Presence of Pupae**

As the larvae mature, they enter the pupal stage, where they undergo metamorphosis into adult moths. Beekeepers may spot pupae attached to the hive surfaces or within the webs created by the larvae.

# DIY : Easy Wax Moth Trap

This Do-It-Yourself (DIY) trap offers a straightforward yet effective solution to protect your beehives from wax moths. Crafted from common household items, this trap can be easily assembled and strategically placed to mitigate the risks posed by this pest.

## 1. Materials Needed

### 1. Large Plastic Bottle with Lid:

Select a sizable plastic bottle with a secure-fitting lid, ensuring it's clean and dry.

### 2. Drill with 1/2" Bit:

A drill with a 1/2" bit is necessary for creating a hole in the bottle.

### 3. Wire or String:

Choose a wire or string to hang the trap in the desired location.

### 4. Trap Mixture:

Prepare the following mixture to attract and eliminate wax moths.

- 1 Cup of Water
- 1 Cup of Sugar
- 1 Cup of Apple Cider Vinegar
- 1 Old Banana Peel



## 2. Preparation Instructions

### Prepare the Bottle:

Clean and dry the plastic bottle. Using the drill with a 1/2" bit, carefully create a hole in the side of the bottle. Ensure the hole is not too large, preventing the trapped insects from finding an escape route.

### Mix the Trap Solution:

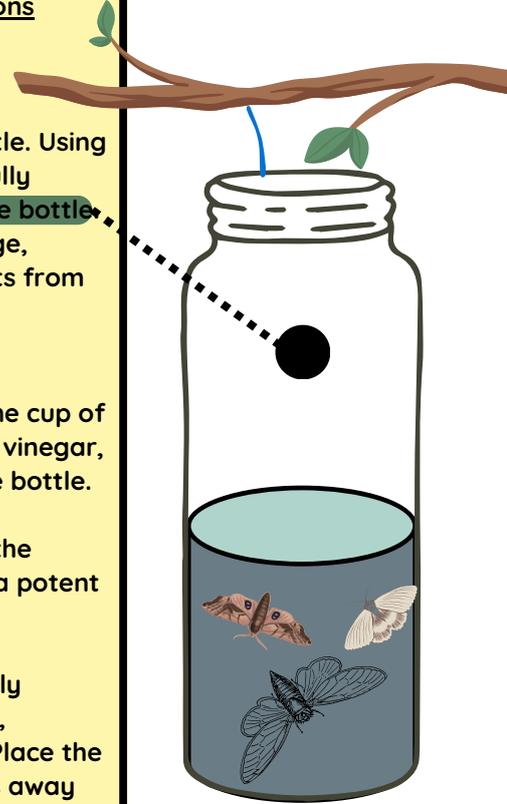
Combine one cup of water, one cup of sugar, one cup of apple cider vinegar, and an old banana peel in the bottle. The sweetness of the sugar, combined with the aroma of the vinegar and banana, acts as a potent attractant for wax moths.

### Hang the Trap:

Attach a wire or string securely around the neck of the bottle, creating a loop for hanging. Place the trap approximately 100 yards away from your beehives, ensuring it's suspended at an appropriate height.

### Regular Monitoring:

Check the trap periodically for trapped moths. Replace the mixture and clean the bottle as needed to maintain its effectiveness.



Hang 30 meters from the apiary/Hives



## Wax Moth Preventive Measures

### Maintaining strong colonies:

Healthy and robust bee colonies are more equipped to resist wax moth infestations. Regular hive inspections, and disease/pest management contribute to strong and resilient colonies.

### Good Ventilation:

Ensure proper hive ventilation to discourage the buildup of excess moisture, which can create favorable conditions for wax moths. Adequate ventilation supports a healthy hive environment.

### Storage Practices

When storing unused comb or hive equipment, take precautions to minimize the risk of wax moth infestations. Store equipment in a dry, cool area and consider using protective coverings to deter moths.

By staying vigilant for these signs and implementing preventive measures, beekeepers can protect their hives from the destructive impact of wax moth infestations. Early detection and timely intervention are crucial for maintaining the health and productivity of bee colonies.

# CENTRIFUGE HONEY EXTRACTOR

## Importance of and How to Use a Honey Extractor

7

The centrifugal honey extractor is a game-changer in the world of beekeeping, streamlining the honey extraction process and enhancing efficiency for beekeepers. This innovative device has become an indispensable tool for those seeking a smooth and productive harvest. Let's delve into the key features and benefits that make the centrifugal honey extractor a must-have for beekeepers.

### Harvesting Honey Efficiently

The primary function of the centrifugal honey extractor is to extract honey from honeycomb frames without damaging them. Unlike traditional methods that involve cutting and crushing the comb, the centrifugal extractor operates with a gentler approach. It uses centrifugal force to spin the frames, causing honey to be expelled from the comb cells and collected in the extractor's drum.

### Preservation of Honeycomb Integrity

One of the standout advantages of the centrifugal extractor is its ability to preserve the integrity of honeycomb frames. The frames remain intact, allowing bees to reuse them for honey storage. This not only benefits the bees by reducing the need for extensive comb reconstruction but also ensures the sustainability of the hive.

### Minimized Disruption to the Bees

Traditional honey extraction methods involve cutting through wax and honey, causing considerable disruption to the hive. The centrifugal extractor minimizes this disruption by swiftly extracting honey without disturbing the bees or their home. This reduction in disturbance contributes to a more harmonious beekeeping experience.

### Easy to Use and Hygienic

Designed with user-friendliness in mind, centrifugal honey extractors are easy to operate. They typically feature a simple loading and unloading process, making them accessible for both novice and experienced beekeepers. Additionally, cleaning the extractor after use is a straightforward task, ensuring hygiene and the prevention of cross-contamination.

### Increased Honey Yield

By efficiently extracting honey without damaging the comb, the centrifugal extractor contributes to increased honey yields. Beekeepers can harvest honey more frequently without compromising the overall health of the hive, leading to a higher quantity of quality honey for consumption or sale.



### How to Use a Honey Extractor

#### Step 1:

Begin the honey harvest by opening the beehive and identifying frames containing capped honeycombs. These capped cells indicate that the honey is mature and ready for extraction. Ensure you choose frames with well-sealed combs for optimal results.

#### Step 2:

To access the honey within the combs, use an uncapping fork or a heated knife. Gently pass the fork or knife over the capped cells, removing the thin beeswax layer that seals the honey. This step exposes the honey-filled cells, preparing them for extraction.

#### Step 3:

Once the honeycombs are uncapped, prepare to load the frames into the centrifugal honey extractor. This ingenious device utilizes centrifugal force to extract honey without damaging the comb. Ensure that the frames are securely placed inside the extractor for a smooth spinning process.

#### Step 4:

Start the centrifuge at an appropriate speed to initiate the honey extraction process. As the frames spin, the honey is expelled from the cells due to the centrifugal force. The extracted honey collects in the drum of the centrifuge, ready for collection.

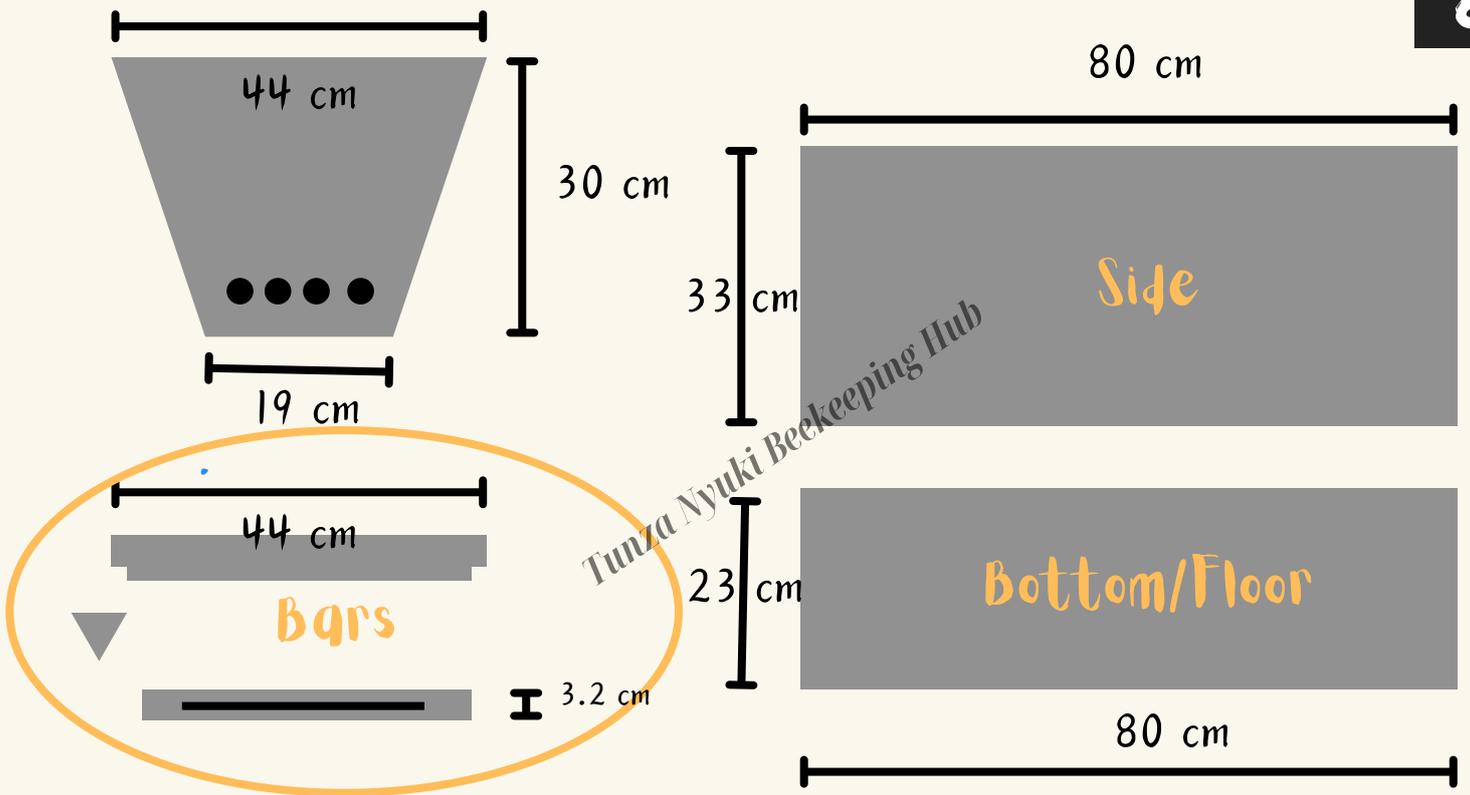
#### Step 5:

After the extraction is complete, carefully remove the frames from the centrifugal honey extractor. It's essential to return these frames to the hive promptly. The bees will clean and reuse the frames, ensuring the sustainability of the hive.

#### Step 6:

Disassemble the equipment and wash all parts with warm soapy water. This not only ensures hygiene but also prevents cross-contamination of honey batches.

*The Anatomy and Advantages of the* **KENYA TOP BAR HIVE (KTBH)**



***The Advantages of the Kenya Top Bar Hive***

The Kenya Top Bar Hive (KTBH) stands out as a preferred choice among small-scale beekeepers, representing an advancement from the traditional log hives widely used in Kenyan communities. Developed in the 1960s, this hive brings several advantages, making it a practical and efficient tool for beekeeping.

These advantages are:

**a) Easy Inspection and Harvesting**

One of the standout features of the KTBH is its design that facilitates easy inspection. The hive is a single-story, frameless structure. The simplicity of its design contributes to its user-friendly nature. Combs are suspended from movable bars, allowing for easy manipulation and management.

Harvesting honey is a straightforward process with this hive. The arrangement allows beekeepers to easily identify capped or ripe honey, streamlining the harvesting process.

**b) High Efficiency**

The hive is known for its efficiency in honey production. The layout and structure contribute to an environment conducive to honeybee activity, resulting in optimal honey yields.

Unlike the Langstroth Hive, it requires minimal additional equipment. This simplicity not only reduces costs for beekeepers but also makes beekeeping more accessible, particularly for those starting in the field.

**c) Swarming Control**

The hive offers an effective means of controlling swarming, a natural behavior of honeybee colonies. The beekeeper can inspect the hive to monitor bee population, brood development, and the presence of queen cells, which are indicators of swarming preparations.

Early detection of swarm cells enables beekeepers to take preventive measures like removal of queen cells.

## ABOUT *Tunza Nyuki Beekeeping Hub*

### Mission, Vision, Objectives, Membership, Core Activities, Future Plans, and Organizational Structure

#### What is Tunza Nyuki Beekeeping Hub

Tunza Nyuki is swahili word that means "Take Care of the Bees." The Tunza Nyuki Beekeeping Hub is an organization that seeks to help people build better lives and take care of the environment through beekeeping.



#### Vision

Empowering beekeepers for sustainable livelihoods and environmental stewardship, contributing to the development of climate-resilient landscapes.

#### Core Activities

1. Providing training and workshops on beekeeping best practices.
2. Facilitating market linkages for beekeepers.
3. Promoting environmental conservation initiatives, including forest restoration projects.
4. Empowering women and youth in beekeeping entrepreneurship.
5. Developing and implementing technology solutions for beekeeping and environmental monitoring.

#### Mission

To empower beekeepers with the knowledge, resources, and support needed to thrive economically while promoting environmental conservation through sustainable beekeeping practices.



#### Organizational Structure

The organization operates in a decentralized manner to remain fast, agile, and adaptable. The board of directors rotates every two years to ensure fresh perspectives and effective governance. The management team consists of dedicated individuals with expertise in beekeeping, environmental conservation, marketing, and technology.

#### Main Objective

1. Provide training and capacity-building for beekeepers.
2. Facilitate access to markets and resources for beekeeping.
3. Foster environmental awareness and conservation efforts, including reforestation and habitat restoration.
4. Empower women and youth in beekeeping entrepreneurship.
5. Promote the integration of technology for enhanced productivity, traceability, and environmental monitoring in the beekeeping value chain.

#### Future Plans

Tunza Nyuki Beekeeping Hub aims to further integrate sustainable practices into beekeeping activities to mitigate environmental impact and promote biodiversity conservation.

#### Membership

Tunza Nyuki Beekeeping Hub welcomes members who are passionate beekeepers dedicated to sustainable practices. Membership requires an annual fee of Ksh. 1000. Members come from various counties including Bomet, Nyamira, Kisii, Kericho, and Narok.