The Masanga Hospital Bee Project: production and use of quality honey for wound treatment in Sierra Leone

Kwame Aidoo, Director, Bees for Development Ghana

Introduction
The Masanga Hospital in Tongolili District in Sierra Leone has a long history of effective treatment of wounds and ulcers with honey. Patients from all over the country and neighbouring West African countries including Guinea, Liberia and The Gambia have received treatment from the Hospital. Patients with wounds caused by leprosy have received healing from the Wound Clinic of this referral and teaching Hospital. From before the civil war up to today, specialist doctors at the Hospital have used honey for wound healing with amazing results. Wounds dressed topically with honey have healed quickly, paving the way for skin grafting, and patients have gone home fully recovered.

The major challenge facing Masanga Hospital has been the lack of good quality honey for more than 500 patients who visit the clinic every year. According to Dr Jonathan Van Nunes, the Medical Officer in Charge, the only source of honey has come from local honey hunters. These hunters fell trees and extract honey under unhygienic conditions. Dr Van Nunes stated that even though the quality of honey from the hunters was questionable, the Hospital has no alternative sources. However, healing results at the Wound Clinic have been very good.

Scientific trials
Dr Van Nunes reports the many scientific studies he and his colleagues have conducted over the years, comparing several orthodox wound dressing antibiotic medications with honey. Results show that most laboratory developed antibiotics have little or no effect on the bacteria that infest the wounds of patients reporting to the Hospital. Small wounds that are dressed with antibiotics and other herbal preparations at home develop into long standing ulcers with serious health consequences for the patients. Interestingly, patients who report to Masanga Hospital with these wounds are healed within two weeks of treatment with honey dressings. He has identified the following wound infesting bacteria that are commonly found in many rural farming communities of Sierra Leone and especially in the swampy agricultural landscapes where rice is cultivated:

• Escherichia coli
• Klebsiella pneumonia
• Proteus mirabilis
• Staphylococcus aureus

The Masanga Hospital Bee Project: production and use of quality honey for wound treatment in Sierra Leone

Kwame Aidoo, Director, Bees for Development Ghana

Introduction
The Masanga Hospital in Tongolili District in Sierra Leone has a long history of effective treatment of wounds and ulcers with honey. Patients from all over the country and neighbouring West African countries including Guinea, Liberia and The Gambia have received treatment from the Hospital. Patients with wounds caused by leprosy have received healing from the Wound Clinic of this referral and teaching Hospital. From before the civil war up to today, specialist doctors at the Hospital have used honey for wound healing with amazing results. Wounds dressed topically with honey have healed quickly, paving the way for skin grafting, and patients have gone home fully recovered.

The major challenge facing Masanga Hospital has been the lack of good quality honey for more than 500 patients who visit the clinic every year. According to Dr Jonathan Van Nunes, the Medical Officer in Charge, the only source of honey has come from local honey hunters. These hunters fell trees and extract honey under unhygienic conditions. Dr Van Nunes stated that even though the quality of honey from the hunters was questionable, the Hospital has no alternative sources. However, healing results at the Wound Clinic have been very good.

Scientific trials
Dr Van Nunes reports the many scientific studies he and his colleagues have conducted over the years, comparing several orthodox wound dressing antibiotic medications with honey. Results show that most laboratory developed antibiotics have little or no effect on the bacteria that infest the wounds of patients reporting to the Hospital. Small wounds that are dressed with antibiotics and other herbal preparations at home develop into long standing ulcers with serious health consequences for the patients. Interestingly, patients who report to Masanga Hospital with these wounds are healed within two weeks of treatment with honey dressings. He has identified the following wound infesting bacteria that are commonly found in many rural farming communities of Sierra Leone and especially in the swampy agricultural landscapes where rice is cultivated:

• Escherichia coli
• Klebsiella pneumonia
• Proteus mirabilis
• Staphylococcus aureus
All these bacteria which infest wounds and *Mycobacterium ulcerans* (the Buruli ulcer bacterium) are inhibited by the antibacterial properties of honey from the area with amazing results. Findings at Masanga confirm other scientific studies of the wound healing properties of honey published by Libonatti *et al* (2014).  

**Two unique patients at the Masanga Wound Clinic:**

**Mohammed**
I met and interacted with two patients at the weekly Wound Clinic. The first was during the dressing session: Mohammed had been admitted to the Hospital about two weeks earlier and has received honey dressings for an ulcer which had affected his entire ankle and almost eaten away his right foot.

Mohammed was happy with the treatment he has received so far with honey dressings and told me the doctor was very satisfied by his quick recovery. He said the doctor was going to perform a skin graft operation soon to enable him to be discharged. Unfortunately for 22-year-old Mohammed, his other leg was amputated at the thigh as a result of an ulcer. He had reported at the Hospital too late for the leg to be saved. The amputated wound healed quickly with honey dressings before skin grafting.

**Tamba**
Tamba had an amazing story to tell of his life. Some years back he had been healed of any ulcer at Masanga Hospital and now works full time in the same Hospital as a Wound Dressing Specialist. As a young man, Tamba helped his father on the farm until civil war broke out. One day as they worked on the farm, they were suddenly attacked by the rebels who killed his father. He managed to escape into the forest where he spent the night in an abandoned hut. Unfortunately for him there was a black cobra which bit him on the right ankle. He laid down helplessly and could not move; his whole body swelling and numb. He was rescued by some villagers who took him home to receive first aid from government soldiers who had arrived at their village in pursuit of the rebels. He was then air lifted by military helicopter to Freetown Government Hospital for further treatment. The snake bite developed into an ulcer which refused to heal. After his discharge from the Hospital, Tamba tried several medications prescribed by doctors, herbalists and others but with no positive results. He was then advised to visit Masanga Hospital which was at that time known for effective treatment of wounds and leprosy patients. He went back to work in Freetown for a while to find the money needed to pay for his treatment in Masanga. On arrival the doctors dressed his ulcer with honey only and within two weeks his ulcer was healed and was subsequently prepared for skin grafting. This was successfully performed, however just as he was going to be discharged, Ebola broke out in Sierra Leone necessitating a government quarantine order for months on the Hospital. Tamba used his time helping out at the wound clinic, working hard to the admiration of the doctors. He was subsequently trained to dress wounds and later employed full time in the Hospital as a wound dressing specialist. He is very happy and passionate about his work and especially the use of honey for dressing wounds. He participated in the Beekeeping Training Workshop and promised to become a good beekeeper to produce top quality honey for his clinic.

**The Beekeeping Training Workshop**
The main objective of the Bee Project in the Hospital was to train some selected staff members and farmers from five adjoining villages to keep bees to produce quality honey for the Wound Clinic. A five-day Training Workshop was organised to develop production apiaries on the 600 acres of forest land owned by the Hospital. The participating farmers will also keep bees and produce honey and beeswax which will augment that from the Hospital’s apiaries. Marketing opportunities for surplus honey will be explored by the Hospital and the farmers to improve income levels.

The first Training Workshop taught participants basic honey bee behaviour, hive construction using timber (top-bar hives) and local materials (grass, palm fronds and raffia palm) to make basket hives. These were for an apiary at a selected site in the forest and participants were taught how to set up their hives to attract and manage bee colonies. Other beekeeping equipment was shown, and their uses discussed. At the end of the Workshop, all participants including Dr Van Nunes were fully prepared and ready to establish apiaries that will...
produce and supply quality honey for effective wound dressing at the Hospital. As the new beekeepers of the Project grow their hive numbers, our expectations are that viable trade of honey, beeswax and other hive products will develop in Masanga and other parts of Tongolili District. A second Training Workshop for honey harvesting, processing and packaging will be organised in March/April 2020 when the colonies managed by participants are ready.


**Postscript**

Last month, on November 23, Dutch doctor Wouter Nolet (age 30 years) died of the Lassa virus he contracted while working in Masanga Hospital. A second doctor who also contracted the virus is still under surveillance in The Netherlands. Lassa fever does not spread easily between people and the overall risk to the public is very low.

Our thoughts are with all friends and family of Wouter at this sad time.

---

**Application to host young beekeepers meeting**

**Dear fellow beekeepers**

**After a successful 10th International Meeting of Young Beekeepers (IMYB) in Slovenia this year, we are already looking forward to the 11th and 12th year meetings which will take place in Slovenia and Russia respectively.**

We are excited to announce that we are now taking applications to host the 13th meeting of IMYB in 2022. We ask candidates to sign up at piza@icyb.cz by the end of December 2019.

After receiving your email, we will contact you and discuss your ideas. In 2022, we expect 50-70 participating countries (each country is represented by three young beekeepers under 18 and up to two adults). The duration of the meeting is usually five days.

All the best with your beekeeping endeavours!

Jiri Piza, IMYB Coordinator

Information about previous IMYB meetings can be found on our website: www.icyb.cz

The IMYB is an annual meeting for young people interested in beekeeping. It is designed for participants 12-18 years old to compare their knowledge and skills, make new friends and find out more about other cultures and countries.

---

**APPEAL**

In March 2019 devastating Cyclone Idai caused havoc in Southern Africa. From the east coast of Mozambique, it travelled through Mozambique, Zimbabwe, Malawi and Madagascar, causing around 1,300 deaths. More than 3 million people suffered loss of family members, their possessions, homes and livelihoods.

In these nations of sub-Saharan Africa, beekeeping helps to support families and can be also a ready source of quick cash when needed. It is a feasible alternative to forest products like charcoal, where the beekeeper becomes a protector of the forest - as honey production is directly related to the health of the forest.

Many beekeepers in Manicaland (Zimbabwe and Mozambique) have lost their hives, and consequently their livelihood, because of Cyclone Idai. Swept away by the flooding, destroyed by rock and landslides, or thrown out of the trees by the fierce winds. APIMONDIA (the International Federation of Beekeepers Associations) and Bees for Development, have started a joint effort to raise funds and support beekeepers affected in these areas by Cyclone Idai.

It is challenging to collect information about the affected beekeepers due to damages to infrastructure. As far as we can estimate, 682 beekeepers in Chimanimani (Manicaland, Zimbabwe) have been affected, losing 2,912 bee hives. In Chikukwa (district of Chimanimani), there are at least 164 beekeepers, with at least 600 hives washed away by the floods.

Solomon Chikwee from Ngangu (Manicaland, Zimbabwe) says: “I had 250 colonised hives, 150 are destroyed or taken by the floods.” He has been hit hard by landslides and flooding.

There is urgent need, expressed by beekeepers in the affected areas, to help them rebuild their lives with external help. Many lost their hives with honey bee colonies, or the honey bee colonies absconded. Beekeepers have been unable to harvest honey and are missing the funds they need to reconstruct their normal lives.

This is an urgent intervention and funds will go directly toward: replacing hives, training on hive making and reforestation.

**Please donate to this Appeal and visit www.justgiving.com/campaign/bees**

---

The IMYB is an annual meeting for young people interested in beekeeping. It is designed for participants 12-18 years old to compare their knowledge and skills, make new friends and find out more about other cultures and countries.