

## EFFECTIVE AND SUSTAINABLE BEEKEEPING IN CLAY POT HIVE

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### **Abstract**

In a quest to stump out poverty in rural areas and create opportunity for employment and establishing micro-industry, many ways have been introduced, some successful and others have failed.

Beekeeping has remained one of these occupation that answers to this quest, yet because of information (knowledge) and capital this area have not been maximally explored.

With this study of keeping bees in clay pots which I have been doing with the help of Peter STEELE, Leah Hozoo of F.A.O. and Bees for Development, we have been able to prove that clay pots can be a very effective way of keeping bees, have more bee products, save our trees and create more employment for rural folks.

With the help of slides we show how one can manage bees in clay pots.

**Keywords:** RT-PCR / alpha glucosidase / cDNA

### **Introduction**

Keeping bees in clay hives is not a new idea. A careful study show that many traditional beekeeper in various part of Africa have been practicing beekeeping in clay pot hive. A close observation will show you that clay hive have been in use in Africa.

With a need to create a more sustainable and environmentally friendly beekeeping culture every effort should be done to find a more appropriate way which will be acceptable as well as create employment to curb poverty in rural areas.

It is therefore important to the planner academic researchers and in applied projects to not overlook the local knowledge which have been in use for ages. As one presenter noted in a unique international symposium: "The need to use local knowledge in beekeeping project" (HERTZ, 2000).

In this view I present a driven research study on clay pot hive, carried out on my farm with a motivational desire to see that the rural and the less fortunate, the less privileged and the less financed are informed and involved in a sustainable beekeeping without destroying their environment.

### **Material for making clay pot and use**

Clay pot are made from clay soil. This is rich old traditional knowledge passed from generation to generation. However this culture of life is in very much longer of dying a natural death because of modernization.

The use of clay item has been in use for long time. The Bible mention many time the use of clay pots in social as well religious life. In Western Kenya clay pots have been in use for time immemorial. Pot have been very essential in day-to-day life for cooking. Keeping water and carrying the water from the wells storing cereal e.g. millet and of course for keeping bees. Even the bride to be was approved when she could balance a pot of water on her head without holding it with her hand. This was before the modern life caught up with the rural folks. Not everyone can make the pot, but there are a few women in the community with the magic for making these wonderful item. Of course it is not every clay soil. After drying, the clay are burned to last. The material for burning the pots costs not so much. What is need is only grass and straws which are easily available.

### **Why use clay pot**

There are several reasons which have made it possible to make study on beekeeping with clay pot.

#### **1. Lack of starting capital**

I was a young farmer without any financial backing to buy modern hives, but motivated by a deep desire to engage into a meaningful beekeeping as a way of uplifting living standard in rural areas. I received a little support of information and know how from friends. I have used several things that I can lay hand on in order to start this venture. I have used Jerry can hive, straw hive, basket hive, homemade modern hive, both Kenyan top bar and Langstroth with top bars and final a more appropriate clay pot hive.

## 2. Availability and the cost of pot

I have found out that clay pots are easily available and very cheap compared to others and also more environmentally friendly. The cheapest and most durable of all the traditional hives is the clay pot, (F.A.O., 1990). This can show us the potentiality in this less explored area of beekeeping.

This type of beekeeping can support many traditional beekeepers who had less information on bees as we have now. How much can it be for our rural beekeeper if it is exhaustively explored? This can mean less input and maximum benefits.

## 3. Clay pot can be re-used

In my venture to keep bees in clay pots I had to use old discarded broken by new one. In an article about beekeeping in pot hive by Peter OTENGO and Peter STEELE they say about the cracks "bees have this amazing ability to fill cracks, and to patch-over areas that may be damaged or missing" (yet to be published).

## 4. It can be improved for appropriate beekeeping

Using clay pots as hive posed several challenges. One i how can it be better managed in a sustainable way. as on old saying goes "necessity is the mother of invention". We have explored a way in which clay pot hive can be managed easily and simply without disturbing the entire hive. We drill hole in upper side of the main pot (brood) which can be accessible by worker bees but excludes the queen; than on the top place another small pot (super) for honey, F.A.O. gives us a lead ideal when they comment "it is useful for local beekeepers to familiarize themselves with few general principals and a few example of experience already gained elsewhere, which can then serve as a base for their own investigation" (F.A.O., 1986).

This enabled us to have a simple complete clay pot hive with a brood and a super very easy to manage because when you want to harvest you only lift the top pot; if there is honey you remove it and place another pot. If there is no honey you leave it there. The operation takes the fewest possible time.

## 5. The pot hive are durable

Clay pot last long unless they are purposely or accidentally broken. They can last as long as one can think. I remember seeing an old pot at my grandmother's place when I was a kid. I was told it was used by her parents and I believe it is still there. Therefore it is a better option of lasting hive for a beekeeper with less financial investment.

## 6. Beekeeping in clay pot is environmentally friendly

Keeping bees in clay pot means saving the environment from degradation. Bees help to increase our trees by pollinating and also guiding. In the journal Bees for Development Fritz Vollrath tell us how bees protect trees from elephant damage. He writes, "It appears that the African bee *Apis mellifera* might assist in the increasingly important task of protecting African small holding from elephant damage" (VOLLRATH & HAMILTON, 2002). I say the most dangerous enemies of our trees are not elephants, because they are not found everywhere, but man. I place my pot hive on the indigenous trees to protect them from unnecessary falling. This helps a little bit, because people keep out such bees, in fear they would be attacked by them. Therefore bees are good guardians of our environment.

## 7. Pot hive are less vandalized

One of the major set back for beekeeping worldwide, is the hive being stolen and vandalize. I placed three loghive with a queen excluder just before the last Apimondia. When a returned from the congress I found that two of ese hives had been stolen. I have placed six of these pot hive in the same place for almost one a half year. They are still safe and in one piece. Maybe because of belief in witchcraft, people see in a pot hive something magic. OLE says in a book Strengthening Livelihood. Exploring the role of beekeeping in development countries... How beekeeping can interfere with knowledge and practice in parts of Africa where beekeeping is strongly influenced by peoples 'tradition and belief', which may include magic, religion and myth" (Reviewed by CARON, DEWEY. 2002).

## 8. Pot hive produces more hive products

You get a good crop of honey. You also get bee wax which can be used to start village micro industry. You can obtain royal jelly and also propolis which can be used in making medicamentous jellies.

### **My observation**

So far cannot say that this study is perfect or better. This is a study being done in a limited space, environment and time. Since placed this pot hive in the apiary. I have seen some positive development. I have been able to check that the hive were occupied with in a few day after I placed them in the apiary. The only drawback is that two of the pot hives were attacked and up to now bee have not returned in. One may because of much rain have absconded recently. However the other three remains strong and very active. I compare this with the work with *cerana* by Gunnar BORNES, "this article shares some designs in low-cost hive making, tested in Bangladesh. The clay block hives are easy to make once the set of moulds are made. The hive are durable.... The trials suggested that the hives were acceptable to the bees. (BORNES, 2001).

Also in Ethiopia there have been some development on clay hive as reported by action of development "as a result of beekeeping is gaining momentum. There are 57 beekeepers in nine areas using top bars hive made from bricks (AFD 2000).

### **Conclusions**

To end I would like to conclude with the words of an experienced and long serving consultant and researcher, Borje SVENSSON that "... small ... realistic... flexible projects where beekeepers can draw on their experience to reach I hoped for monetary rewards, are more likely to succeed."

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