

Report on Kalahari Melon Seeds Survey - North Central Regions

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Methods for Extracting Melon Seeds: Case studies in Omuthiya, Ongha, Oshitayi and Onheleiwa areas

1. Introduction and General Background

Melon seeds extraction has been exercised in North Central part of Namibia. Kalahari Melons naturally grow in the fields when eaten by livestock and grow the following season depending on where the livestock has dropped the seeds off. In the past, there used to be an abundant Kalahari Melon Seeds (KMS) in the fields that people could not finish collecting as priority was first given to staple foodstuff such as Mahangu, Sorghum and Beans.

Those years, some farmers could leave KMS to dry on its own or to be eaten by livestock without really processing and extracting the most valuable seeds that could create livelihood for rural communities. However, it is generally known that KMS is traditionally used to feeding the households when roasted (*Eenhanga domukokotwa*) or making the traditional pup (*Epwati*) for the family. This happens mostly at times of drought and hunger, as KMS is being regarded as nutritional and was often the only foodstuff left that people could feed on. KMS is also used to feed livestock such as Pigs, Dogs and Chickens.

This survey was aimed at examining the different methods of extracting seeds that people in North Central are using and explore ways of improving those methods. The survey has documented the various traditional and improved traditional methods that people are using when extracting melon seeds. The paper shall also outline the various steps involved in the improved methods of extracting KMS and state what changes have been made in improving the traditional methods.

Traditionally, and in some societies, seeds extraction was looked at as women oriented jobs and this has changed significantly with a progressive number of men entering and taking up KMS marketing challenge. For instance, both the informants who displayed the traditional improved methods were lead by men.

2. Methodology

The study used open interviews with four sample groups of KMS producers from Omuthiya (Oshikoto Region), Onheleiwa (Omusati Region), Oshitayi (Oshana Region) and Ongha (Ohangwena Region). About 20 informants participated in the survey from the four respective areas and each has given their experience with regard to KMS extraction.

3. Traditional Methods

Farmers would gather melons and let them dry before extracting the seeds. When melons dry they would pound and winnow them to separate seeds from the pulps. Even though all the traditional methods involve winnowing of the pounded melons to remove skins and pulps, this method (drying) is efficient even though most producers are not familiar with it. It reduces labor, time and it does not require the use of water in cleaning the seeds.

Another traditional method is by pounding fresh melons and after pounding the producer will either (a) dry the crushed melon or (b) wash them in water and then separate the seeds from the residue and dry them separate. In part (a) one need to pound the pulp and winnow again in order to get the seeds clean.

4. Improved Methods

The research found that some KMS producers implemented some initiatives in order to make the extraction process easier and more effective. The improved methods are not entirely different from the traditional methods but have replaced some of the steps in order to reduce time, labor and also improve the quality of seeds extracted.

It is important to outline the steps involved in the improved method of extracting seeds.

4.1 According to Mr. J. I. Shali, the following is the preferred method that he is using.

Equipments used:

1. Panga for cutting the melons
2. Old tires cut
3. Buckets for washing pounded melons with water
4. Sheet for drying seeds
5. Pounding stick
6. Sieve for taking seeds from the water

Step 1.

The first step is to collect melons and gather them at the processing site. This is usually done after finishing with the Mahangu harvesting. Picture 1 shows melons gathered waiting to be processed



Picture 1: Melons gathered at one place either in the house or at the Mahangu Ground” (Oshipale)

Step 2.

At this stage melons are cut into small pieces to make it easier for pounding. There are two ways to follow from here:

2.1 Drying pieces of melons or

2.2 Pounding pieces of fresh melons



Picture 2: Cutting melons into small pieces

Drying melons

After the melons have been dried, they can be pounded and winnowed thereafter to separate the seeds from the residues. This process does not require water to be used, however one need to wait for about four days for the melons to dry properly.

Fresh melons

In this method small pieces of melons are pounded while still fresh see figure 3. Thereafter, the mixture will be mix with water to allow seeds to settle down while the residues will float on top. This is shown in figure 4.

The pulp and immature seeds will then be taken out and dried to be processed later as food for livestock. Good quality seeds often sink and settle on the bottom of the container still with some solid pieces of pulps (see figure 5 and 6). The next step is to take out the seeds and take out the unwanted materials to ensure that the seeds are clean.



Picture 4: Mixing with water to allow seeds to sink



Picture 3: Pounding crushed melons



Picture 5: Drying of residues



Picture 6 Drying of seeds

4.2 Second method by Mr. Hasheela

- Equipment:*
1. Pounding stick
 2. Drying sheets
 3. 4 x sticks for making a small fence
 4. Sheets for fencing

According to Mr. H.H. Hasheela from Onheleiwa, he uses the same method for pounding the seeds while they are still fresh. However, the design is a little bit different as he prefers to construct a small fence that would keep the seeds inside when they are pounding. He said this method would work easier because seeds will not fly away but be trapped inside the fence.

Step 1.

The first step is to collect melons and gather them at the processing site. Similarly Mr. Shali, collection of melons also done after finishing with the Mahangu harvesting. Picture 1. above shows melons gathered waiting to be processed

Step 2.

Construct a closed off space with round fence that will act as barriers to keep the seeds inside. One can use nets or any sheet materials that can catch or trap seeds inside.

Step 3.

In step three, when the melons are gathered together, one start pounding the melons and seeds will pop out together with the pulp. After the seeds pop out there are two ways to extract the seeds from the pulp: one way is to use water similarly to Mr. Shali and the other way is to carefully take out the seeds without using water and dry them.

Step. 4

The last step is to dry the seeds and give the residues to the livestock.

5. Data Analysis

The sample data collected covers three of the four northern regions of Namibia namely: Oshana, Oshikoto and Ohangwena. All together, 20 informants were randomly selected for the survey; 8 participants from Omuthiya, 1 participant from Onheleiwa, 7 participants from Ongha and 4 participants from Oshitayi. Therefore, data covers almost the whole northern regions.

To the question whether there are variations between wild Kalahari melons Seeds and the domesticated melon seeds, about 30 percent of the informants indicated that they do not know if there are melons collected outside the field. They also indicated that all they know is only the melons that grow in the field together with the Mahangu and other crops. About 35% indicated that they are aware of the wild and domesticated melons and responded that there are no differences between the melons harvested from the field and those that grow outside the fields in terms of colour, shape; however, they were not sure about the oil content. Another 35% indicated that melons grown in the field are better than the one grown out of the field because the one in the field are taken care of by removing weeds while the one outside compete for water and nutrients with weeds.

Due to heavy rain and flood in the northern and eastern part of Namibia, was there any change experienced in the quantity of seeds collected last year? Producers responded as follows: 40% of all responded indicated that the harvest for KMS was good because their melons were not affected by water. Another 20% indicated that they were heavily affected by rains and flood and thus could only extract few seeds as there were not enough melons. Another 40% could not quantify the number of seeds as they did not account for what they have taken.

To the question If farmers noted any difference between the current methods of seeds extraction and the traditional methods, only 10% of the informants indicated that they knew the improved methods (Mr. Shali and Mr. Hasheela experiences) and that it is much faster than pounding “full” fresh melons. The other 90% could not indicate which methods was the preferred as they only knew the traditional method which is slow, takes time and labour intensive, although this has not been completely proven as no measurements were taken.

Constraints

- One of the constraints for using the traditional methods for extracting seeds is that it requires more time and work compared to the improved one. Therefore, a lot of time will be wasted on work needed and also on the number of people required to complete the work.
- It has been indicated that the time it takes for the producers to complete the whole melon seeds extraction from collecting seeds to pounding and winnowing them does not align with compensation one get when selling the seeds. In other words, KMS producers feel that the market price of KMS is not worth the labor and time they invest, and they have claimed that it is discouraging to participate in the production and marketing of KMS where their expectations are not met.

6. Conclusion and Recommendations

In conclusion, the study has characterized the different methods that are being used in the extracting of KMS in the North Central Regions. The study has found that even though the existing methods have been improved, there is still a need for further improvement in order to make work much easier and faster. It has been noted that KMS producers have implement various initiatives to enhance the extraction seeds from melons. The possibility of implementing KMS extracting machine is worth considering. As proposed by the producers that at least having access to a machine would enable them to leverage their work as well improve the quality of seeds extraction. However, one needs to note the constraints of the machine, that it might affect the remuneration of labour and also the cost for maintaining the machine. Therefore, the study recommends that a further study could be done to research the possibility of implementing a machine for extracting seeds.

ANNEXURE: A

KALAHARI MELON SEEDS QUESTIONNAIRE – NORTH CENTRAL

1. Kalahari Melon Seeds (KMS) can be used for producing essential oil. Do you know of any other historical usage of the Kalahari Melon Seeds (KMS)?

2. Have you noted any significant change over the years when working with the KMS and if yes, what change and when did the change happen?

3. What month / season of the year did people start with the following activities?

Activity	Month / Season
Sowing / throwing melon seeds in the field	
Collecting / harvesting of KMS	
Seeds extraction	

4. Is there any variation between wild Kalahari Melon Seeds and the domesticated Kalahari Melon Seeds? If yes what are the variations?

5. Briefly outline different steps involved in working with KMS from harvesting to seeds extraction.

6. Due to heavy rain and flood in the northern and eastern part of Namibia, was there any change on the quantity of seeds collected in your area?

7. Do you know of any other seeds extraction methods that people in your area have been using in the past and no longer in use? If yes please list.

8. Is there any difference between the current methods of seeds extraction and the traditional methods (*if there is any please explain*)?

9. Between the traditional method and the current method, which one do you prefer, and why?

10. Is there any improvement on the traditional method of seeds extraction? If there is any, has it been useful?

11. Do you think there is a need to improve the current method of seeds extraction, if yes what improvement would you suggest?
