

The Pulping of Coffee at Kikobero in Bulambuli District

BULAMBULI—Moses Gidudu grew up watching coffee farmers and saw them carrying sacks of harvested Coffee beans through the Mt Elgon hills in Bugisu Sub-region.

But he never took keen interest to know what really was involved in the process of taking Coffee beans from rustic hillside landscapes to everyone's favorite mug in the office.

“Neither did I bother to know how to get clean and green seeds from the coffee that had been harvested and processed at home,” Gidudu said.

Gidudu has big dreams to add value to Coffee which historically has been a realm of exportation and chose the traditional Arabica Coffee grown in the hills of Mt Elgon because this would easily bring the local people on board.

Kikobero Coffee Company was created in 2013 and undertakes community and conservation projects in Mt Elgon area besides dealing in Coffee.

The Company that intends to use the packed Kikobero Coffee proceeds to construct the Simu-Corner-Buginyanya-Masira road urges farmers to improve on the quality of their crops so as to withstand international competition.

Gidudu advises that in order to produce quality Coffee seeds and add value to them, farmers at Mt Elgon must plant quality seed, pulp it well, ferment it, dry it well, roast it before grinding and storing the beans.

Gidudu says for sustainable production of coffee there was need for farmers to end the poor ways of drying coffee, which he added reduces the quality of the beans.

He explained that buyers across the World including UK, Macedonia and European Union have indicated that they shall, henceforth, test coffee for quality before allowing same on its markets.

Process of Pulping

The traditional organic Arabica coffee grower Samuel Nangoli, 68, says the process involves removing the skin and pulp, and should be carried out as soon as possible after harvesting,

certainly within 24 hours but adds that it is necessary to remove all green unripe and black overripe dry berries before pulping, as these will reduce the quality of the coffee.

He says traditionally there are two home methods can be used for pulping. One is to squeeze each individual berry by hand, and the other is to use a piece of wood to tamp the berries in a bucket until all seeds have been forced out from the skin.

“But now we have what is called a pulping machine that has made work easy and does this in a short time,” Nangoli said.

The Fermentation process

Nangoli says that fermentation by natural enzymes breaks down the insoluble mucilage around the parchment layer, i.e. the slippery layer you can feel with your fingers.

Put the coffee beans traditionally on the leaves after pulping or in a plastic container and add some add water to cover the beans. Fermentation may be complete in 12-24 hours, depending on the surrounding temperature.

Job Chemutai, a Coffee breeder at National Coffee Research Institute [NaCORI], Kituza-Mukono says farmers need to check whether the fermentation phase is complete by gently washing a handful of the beans.

“If they come clean and feel gritty (not slippery), then adequate fermentation has been achieved and the beans can be washed. Wash and repeat this process until the water becomes clear, this should take about three washes,” he says.

He says to strain off the water; farmers should use a basket or some fine, net-like material such as a fertilizer bag or sisal bag, as this will prevent the loss of beans. During the washing process, discard any floating beans.

The drying process

The Coffee farmer Nangoli says he has taught his people how Coffee beans are supposed to be dried before the parchment can be removed and beans roasted.

“The simplest local traditional method is sun drying on a tray usually built locally using local materials where the coffee is spread on a papyrus mat. And one could also use drying racks or other fine mesh to allow for the flow of air and enhance drying,” Nangoli says.

He adds that before he got the knowledge from Buginyanya Zonal Agricultural Research Centre (BUGIZARD), as local coffee farmers they had been taught by extension workers in the 1970s and 1980 that the beans should be spread out in a thin layer no more than 3 cm thick, stirred three times a day, and be protected from rainy weather.

He adds that as with sun drying, beans must be stirred three times a day using clean hands as you sort out the dirty and unfit coffee. Drying in this manner can be completed in several days [usually 5 to 30 days] and avoid risk of the beans being harmed by the weather.

Mr. Chemutai adds that whichever method of drying you use, the parchment on the coffee bean will dry to a pale straw color and be brittle to touch and that at this stage; test the dryness of the beans by removing the parchment by hand off several coffee beans.

“And if they are dry, the bean inside should be greyish blue in color, hard, and likely to break when bitten between the teeth, if soft and chewy continue the drying process,” Chemutai said.

Dr Lawrence Owere, the director Buginyanya zonal agricultural research development institute [Bugizard], says Coffee drying requires greater than 12 per cent moisture and that it will cause mouldiness and stale aroma during storage.

“After correct drying, store for at least a fortnight in heavy gauze bags to allow moisture to distribute evenly throughout the coffee beans-for longer term storage before parchment removal, air-tight containers are recommended,” Owere said. Drying and Sorting Coffee at Kikobero Coffee Company

Roasting, grinding and storing the beans

Dr Owere says the green coffee beans must be roasted to develop the typical coffee aroma and flavor and that during roasting, several changes occur to the beans which include loss of moisture, caramelisation of sugars, change in color and increase in size.

“And the beans must be roasted in a large baking dishes in the oven, spread the beans thinly and stir frequently to prevent burning and to give an even roast. A single layer of beans will roast in 12 minutes at 230-250oC, while beans at a depth of 25 mm may take 30 minutes at this temperature,” said Dr Owere.

Dr Owere says that the cooled coffee beans may then be ground to the desired extent and that this is determined by the type of brewing extraction to be used.

He adds that the finer the grind the greater the extraction of the flavour when the coffee is brewed; Expressor-Very Fine Coffee powder, Percolator-Fine, Filter Coffee Powder [dripolator]-Fine medium and Pot Infusion [Plunger] –Medium to coarse

Coffee grading at Kikobero

Mr Nangoli says that coffee sizes are referred to as grades, because there’s a general correlation between a bean’s size and its quality.

“And the buyers across the world are interested in best quality Coffee beans because there are numerous factors that affect a coffee’s taste and market. If all other factors are equal, a larger coffee bean will generally produce a higher quality brew than a smaller one,” said Mr Nangoli.

Dr Owere says that grading is used to describe size shouldn’t be confused with other grading terminology. “Grading” is a loose term in the coffee industry. For instance, it’s used by the Specialty Coffee Association of America, which “grades” coffees as “specialty grade” and “below specialty grade.”

He adds that the association considers much more than just size in this classification, though additionally “grades” are used in some countries to describe a coffee bean using terms like “strictly hard bean,” “hard bean,” and “soft bean” are considered grades, but they don’t detail size.

He says further that grading jargon like supremo and AA, AAA, and A therefore, shouldn’t be seen as the only way to grade coffee, but they provide valuable insight into a coffee’s potential quality.

Mr Gidudu, an organic farmer and now Arabica Coffee buyer under at Kikobero Coffee Company, says the Arabica coffee cherries, which are red when ripe, are harvested from coffee trees and plants by hand in hilly part of this Mt Elgon area then the outer shell is removed to get to the actual coffee bean by passing them through a pulping machine

Price of Coffee

Mr Martin Nangoli, the executive director Wake up ministries and Kikobero Coffee Company, says because ground coffee goes stale rapidly and loses flavour due to oxidation of certain oils, farmers also need to start packaging ground coffee in air tight containers for better prices from UK, Mercedonia and the United Nations.

He revealed that once properly graded and packaged, the Kikobero Coffee fetches Shs 16,942.40 [about £3.25] for a kilogram in United Kingdom far above the unprocessed Coffee [Where value had not been added] that stands at Shs 5500 for a Kilogram.

The challenges

Mr Nangoli says that the transportation of Coffee from Kikobero at the slopes of Mt Elgon to the processing plant in Mbale is very difficult as the road is steeply, very muddy and impassable during rain seasons.

He added that the market trends and harvest yield/quality are unpredictable and that nothing is certain until the coffee is processed, bagged and cupped, and the price has been paid.

He explained that the pests, diseases and fungi are also a threat for many producers as they destroy the crop and the beans. “The major Arabica coffee pests are antestia bugs, coffee lace bugs, stem borers and root mealy bugs which destroy cause severe damage and reduce quality and quantity of the Coffee.

Dr Owere says that farmers have no power also over changes in the environment [Climate change], but when their harvest suffers as a result, they do too and that they need their harvest season to cover the fixed costs they’ve incurred throughout the year.

Advice to farmers

Dr Owere advised farmers not to expect to get quick money from Coffee because it takes time to grow but “just love growing Coffee, make it your business and hobby and you will never regret because it pays,”

He added that every successful farmer must be ready to go to the garden and participate in the farming, picking, pulping, drying and grading physically.

Dr Owere explained that farmers should ensure that coffee produced in Uganda is of high quality at all stages.

“Market prices are controlled by the color of the beans, size and flavor of the cup. To get better prices, our coffee must remain prime,” Dr Owere added