### **COFFE SECTOR PROFILE**



Main Sector Products: Robusta coffee and Arabica coffee

**HS Code of the products:** 0901.11.00

Uganda Coffee: "the sweet aroma from the source of the Nile"

#### 1.0 Sector Background

Coffee is one of the most important cash crops in Uganda playing a major role in the livelihoods of many poor people and is a major foreign exchange earner in Uganda. Uganda Coffee Development Authority (UCDA), the government agency responsible for the sector, estimates that about 500,000 households depend on coffee production. There are two main types of coffee grown in Uganda namely Arabica and Robusta coffee. Annual production on average is made up of 15% Arabica and 85% Robusta. In addition to serving as a main source of income, coffee has many other uses and thus provides many opportunities for value addition investment. Coffee can be used as a medicine to cure asthma, headaches, and Alzheimer's disease. As a stimulant, coffee can inhibit sleep which can make some one to keep working for longer hours. Coffee is also known to have over 700 different compounds and thus has numerous industrial uses especially in the chemical industry.

#### 2.0 Production Information

Coffee is mostly grown in mixed farms where it is intercropped with food crops such as bananas and beans which ensure households' food security. It is also grown among shade trees that result

into sustainable coffee production, while ensuring a social, economic and suitable environment that requires a minimal use of agro-chemicals such as fertilizers, pesticides and fungicides. Cheap labor available in Uganda enhances great opportunities for investment in the coffee sector.

#### 2.1 Main Production Seasons

Coffee is a perennial crop. However, there are two main harvest seasons in Uganda for both Arabica and Robusta coffee (March-June and September-November). The main production season for Robusta ranges May-August for Masaka and Western regions and November to February for Central, Eastern regions. In the case of Arabica, the main seasons are April-June for Western Region and October-February for Eastern and West Nile Regions as indicated in the table.

#### Central

The main crop starts September – March, this also depends on the distribution of rainfall. Note that the more rainfall the better the crop in terms of bean size, appearance and cup. Robusta coffee's season is between may- August

## Arabica coffee, main crop

This begins in April- July and the following crop is October – February. This is mainly in Ibanda and Kasese district.

### **West Nile Region**

Arabica main crop is grown between October- February . However this also depends on the rainfall distribution.

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Table- I	Cottee	harvest	periods

REGIONS	Oc t.	No v.	Dec	Jan	Feb.	Mar.	Apr.	May	Jun	Jul.	Aug.	Sep
CENTRAL		MA	IN CR	OP (Ro	busta)			F	LY CR	OP(Rob	ousta)	
MASAKA	FLY CROP(Robusta)					MAIN CROP(Robusta)						
EASTERN		MAIN CROP (Robusta)					FLY	CROP	(Robus	ta)		
BUGISU/SEBEI		MAIN CROP (Arabica)				FLY CROP (Arabica)						
WESTERN	FLY	FLY CROP (Robusta)			MAIN CROP (Robusta)							
	FLY	FLY CROP (Arabica)			MAT	N CROP						

#### 2.2 Coffee production areas in Uganda

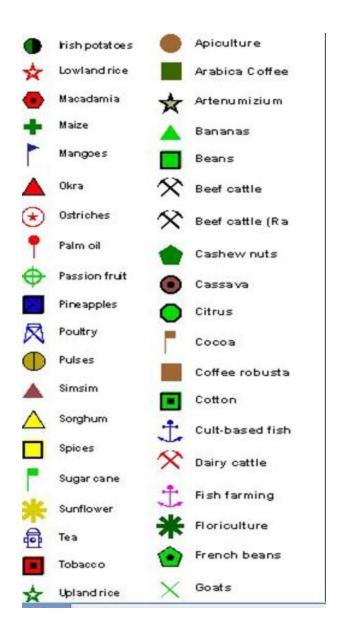
Robusta Coffee is grown in the low altitude areas of Central, Eastern, Western and South Eastern Uganda up to 1,200 meters above sea level. Arabica coffee on the other hand is grown in the highland areas on the slopes of Mount Elgon in the East and Mt. Rwenzori and Mt. Muhabura in the South Western Region (1500-2,300 m above sea level). Unlike Robusta whose native habitat is the Lake Victoria Crescent, Arabica coffee is an introduced crop originating from Ethiopia. Arabica coffee is more competitive on the international market because of its superior quality. Uganda Robusta too has intrinsic quality attributes which also attract a premium on the international coffee market. There is, also, a new Arabica variety locally known as Tuzza,

commonly referred to as catimors which performs well in low altitude areas of the country predominantly zoned for Robusta coffee, (1,200-1,500 m). This variety is known for its high yielding capabilities, drought resistance and tolerance to diseases presenting a very attractive opportunity for investment.

Zones

L. Kyoga Basin
L. Victoria Crescent
Mountain Renges
Murchison Falls Grasslands
Hortheastern Brylands
Horthewstern Farmlands
Southwestern (Ankole) Rangelands
Southwestern Farmlands
Western Farmlands
Western Farmlands

Fig-1 Coffee growing areas in Uganda



# Coffee growing areas

# Central

Luwero, Mpigi, mukono, mityana, kayunga, masaka, rakai, mubende, kiboga.

#### Western

Bushenyi, Ntungamo, Mbarara, kasese, Ibanda, Rukungiri.

Generally the western region produces the highest quality of coffee.

Other producing areas include;

Buwenge, Jinja, Iganga, Kamuli. These districts are generalized as Busoga. This area produces the worst quality of coffee mainly because of post harvest handling and in addition they harvest mainly pre-mature coffee which had low levels of quality.

## 2.3 Production Inputs, Outputs and Productivity

Coffee farmers in Uganda use mainly the low input system and households strongly rely on family labour for production. There is minimal use of agro-chemicals (fertilizers, pesticides and fungicides) and this practice has made Uganda a suitable country for organic coffee production. In general, the inputs in coffee production include land, labour, farm implements, seedlings, mulching, fertilizers, pesticides and fungicides, as well as transport. Good storage facilities are also essential for guaranteeing quality. Under medium management level, the yield of Robusta and Arabica is 5000 kg/ha and 1,100 kg/ha of clean and parchment coffee respectively. The average costs of production and yields per hectare are indicated in table 2 below

Table-2 Coffee production cost and Yield per Hectare

Product	Inputs costs	Labour costs	Total costs	Yield
	(Ushs/ha)	(Ushs/ha)	(Ushs/ha)	(kgs/ha)
Robusta coffee	355,000	910,000	1,265,000	5,000
Arabica coffee	225,220	500,000	725,220	1,100

Source: Uganda Coffee Development Authority (UCDA) 2007

Ironically, the cost of inputs for Robusta coffee was made higher i.e. shs 355,000 than that of Arabica coffee i.e. shs 225,220. Robusta coffee requires less input costs because it can even grow on its own without much care on the other hand, it should be Arabica coffee to require much more input costs because Arabica coffee is quite expensive to maintain on a farm as compared to Robusta.

#### 2.6 Post-harvest Handling Practices

The ripe coffee fruits (cherries) go through a number of operations aimed at extracting the beans from their covering of pulp, mucilage, parchment and film to improve their appearance. The resulting clean coffee can then be roasted and ground to obtain the coffee powder which is fit for human consumption. Coffee processing is the major post harvest process that involves wet process and dry processing.

## Wet processing

Wet processing is used mainly for Arabica coffee. Wet processing involves three stages: Removal of pulp and mucilage followed by washing to obtain clean wet parchment. Wet processing is also done on Robusta coffee especially colonal coffee which has big beans. This leads to wash Robusta coffee

## **Pulping**

Pulping involves the removal of the outer red skin (exocarp) and the white fleshy pulp (mesocarp) and the separation of the pulp and the beans. Immature cherries are hard to pulp. Therefore, if the coffee is to be wet processed, correct harvesting is essential. There are two most common pulpers. The first pulper is the drum pulper which involves a rotating drum with a punched sheet surface and adjustable breast plate between which coffee cherries are pulped and the breast plate has to be adjusted so that the pulp is removed without damaging the beans. These can be manually operated or attached to a treadle or bicycle. For larger scale units, motorized

drum pulpers are available. The second pulper involves the disc pulp which entails the use of a disc with roughened surface.

# Mucilage removal

The amorphous gel of mucilage around the bean consists of hemicelluloses, pestic substances and sugars and is soluble in water. It can therefore be removed by use of chemicals, warm water or by an agua pulper. However, for small scale units, fermentation is the most feasible. Fermentation involves the beans being placed in plastic buckets or tanks and left until the mucilage has been broken down. Natural enzymes in the mucilage and feasts bacteria in the environment work together to break down the mucilage. The beans should be stirred occasionally and a few beans tested by washing them in water. The beans are ready when the mucilage can be washed off and the beans feel gritty. After this, the wet processed beans are dried to prevent cracking and this should be done slowly to 10% moisture content level and similar drying methods can be used for this as for the dry processed coffee. After drying, the coffee should be rested for 8 hours in a well ventilated place and the thin parchment around the coffee removed by hand, pestle and mortar or in a small huller.

## **Dry Processing**

Dry processing is used mainly for Robusta coffee although it can also be used for Arabica coffee. Dry processing involves the freeing of the wet parchment of mucilage at moisture contents of 50 – 60 % to the required 12 % to ensure their conservation. Dry processing involves coffee cherries drying either by the sun (solar drying) on raised stands or on mats or in solar driers immediately after harvest. The bed depth should be less than 40 mm in case of open drying and 30 mm for solar driers and the cherries should be raked frequently to prevent fermentation or discoloration. Care should also be taken to prevent dust and dirt blown onto the produce as well as preventing damage from unexpected rainstorms that can soak the produce very quickly without warning. Investment in solar driers helps overcome this problem.

After coffee drying, hulling commences. This is the removal of the pericarp either by a pestle and mortar or in a mechanical huller. The mechanical hullers usually consist of a steel crew, the pitch of which increases as it approaches the outlet so removing the pericarp.

#### **Secondary processing**

Secondary processing is the final post harvest process before coffee is exported. This stage involves: pre-cleaning and de-stoning, size grading, gravimetric sorting and finally for export of green coffee beans, bag-off which entails bagging coffee in jute bags of 60 Kg which are then loaded into a container for transportation to the port.

Apart from exporting green coffee beans, coffee can also processed to make higher value-added coffee beverage products. This level of coffee processing involves roasting, grinding, making of instant coffee, extraction of soluble coffee solids and other products using imported technology.

#### 2.7. Value Addition Recommended Practices

## **Roasting**

The final flavour of coffee is heavily dependent on how coffee beans are roasted. Roasting is a time temperature dependent process. The roasting temperature needs to be about 200oC. The degree of roast is usually assessed visually and one method is to watch the thin white line between the two sides of the bean. When this starts to go brown, the coffee is ready. It is always important to find out the locally acceptable degree of roast in any market. Coffee beans can be roasted in a saucepan as long as they are continually stirred but an improvement is roasting the coffee in sand as this provides a more even heat. Use of a coffee roaster is preferred as it produces a higher quality product. The simplest roaster is basically a tin can with a handle so that it can be rotated slowly over a fire. There are various other roasters suitable for larger scale units.

### **Grinding**

Grinding is a key value addition process. It underpins the preparation of beverage coffee and other coffee by-products. Grinding is best done by use of grinding mills, manual or motorized. There are many manual grinders that can be used to grind coffee. Manual grinders can be attached to a bicycle or treadle to make work easier and increase output. It is always important to find out the degree of fineness consumers want and the grinding mill adjusted to deliver the desired ground product. Motorized grinding mills involve the use of a hammer plate, vertical plate or hammer mills and are required for large scale production of 100kg of ground product per day.

Apart from exporting green coffee beans Coffee can also be roasted, ground to make coffee powder which is in local coffee shops to prepare coffee drinks. Encouraging of local coffee shops and local people to consume coffee could also help on value addition.

#### **Production of Instant Coffee**

Production of instant coffee is unsuitable for small-scale enterprises as it requires very expensive machinery such as an extractor, a freeze and a spray drier. Presently the smallest economically viable instant coffee factory is 1000mt/year. Machinery can be obtained from countries such as India, China and other European countries. To produce instant coffee, the soluble coffee solid and other compounds have to be extracted and then dried into powder or granules. The extraction of the soluble coffee solids is done using different methods that include use of percolation batteries, countercurrent system or slurry extraction. The extracts can then be dried in a spray drier, freeze drier or a drum drier. More detailed information on production of instant coffee can be obtained from www.ugandacoffee.org

#### **Other Products from Coffee**

A number of other products can be made from the coffee bean. These include a number of value added foods and fuels, paint from mucilage using Pectin extraction methods and other industrial products and chemicals. More information on these technologies can be obtained from <a href="http://www.vafaf.com/Coffee.html">http://www.vafaf.com/Coffee.html</a>

### 3.0 Markets and Marketing

## 3.1 Coffee global market

Coffee is grown and exported by more than 50 developing countries, but the major consumers are in all industrialized countries like USA, EU and, more recently, Japan. Globally, coffee is the second major traded commodity to oil and thus plays a vital role in the balance of trade between developed and developing countries, providing the latter with an important source of export earnings to pay for imports of capital and consumer goods. World consumption of coffee is projected to increase by 0.4% annually from 6.7 million ton in 1998 - 2000 to 6.9 million tons in 2010.

Coffee consumption in developing countries is projected to grow from 1.7 million tons in 1998 - 2000 to 1.9 million tons in 2010, at an annual rate of 1.3%, while their share in the world market is expected to increase from 26% in the base period to 28% in 2010. The projected higher growth rate for developing countries compared to developed countries is due mainly to higher income and population growth in developing countries, with increased coffee consumption continuing to be concentrated in the major coffee producing countries. Finally, World production for coffee in the crop year 2006/07 (April-March) was 121.57m bags, an increase of 11% over the previous season, while consumption was forecast at 116m bags, according to the International Coffee Organization (IOC).

## 3.2 Markets and marketing trends of Uganda coffee

Uganda's coffee export volumes grew by 30% from 126,000 metric tons in 2006 to 265,853 metric tons in 2007. Values grew by 40% from US\$ 189 million in 2006 to US\$ 265.8 million in 2007. Uganda Coffee Development Authority 2006 report indicated that yields and international prices for coffee were expected to increase in 2008, which offers significant opportunities for investment in the sector. Therefore coffee export volumes are predicted to increase along with values.

Year	2002	2003	2004	2005	2006	2007
Value (000 US\$)	96,626	100,233	124,237	172,942	189,830	265,853
Volume (MT)	210,591	146,299	159,983	142,514	126887	164,540

Source: UEPB

As shown above, the data and information available indicates that the coffee sector possesses significant opportunities for investment. In terms of coffee exports by type, Robusta coffee has higher procurement volumes than Arabica coffee as indicated in table-4. However, over the same period Arabica coffee has had high growth potentials.

Table 4 Coffee Procurement by Type 2001/02-2005/06 (60kg bags)

Year	2001/02	2002/03	2003/04	2004/05	2005/06
Robusta	2,849,868	2,284649	2,221,850	2,149,403	1,550497
Arabica	414,767	444,794	542,104	544,575	624,724

# **Leading Importing Countries and Companies of Uganda coffee**

Most of Uganda's coffee in the 2006/07 season was exported to the European Union which accounted for 72% market share of total exports as indicted below. The main country destinations were: The UK, Netherlands, Spain, Italy, Denmark and Norway. Outside the European Union, the main importing countries were Sudan, Singapore and China.

Table-5 Leading importers of Uganda coffee by country (60kg bags

Destination.	EU	Sudan	Switzerland	USA	Singapore	Morocco	Japan	Aus	Canada	Israel	Hong Kong	Egypt
QTY	1,449,360	433,029	34,836	34,490	16,868	12,358	10,710	3,999	2,264	2,178	1,299	933
%AGE	72.38	21.63	1.74	1.72	0.84	0.62	0.53	0.20	0.11	0.11	0.06	0.05

There are twelve main companies that imported Uganda's coffee in 2006/07. These were: Ecom Agro Industries, Olam International, Sucafina, Socadec, Drucafe, Cofftea, Luois Dreyfus, Bernard Rothfos, Volcafe, Dectrade, Icona café and El Mthalib. The addresses and other details of leading importing companies of Uganda coffee can be obtained on www.ugandacoffee.org.

## 3.4 Leading local buyers and Exporters in Uganda

Email: branton@wananchi.com

1. Kawacom (U) Ltd 2. Olam Uganda Ltd 7/9/ Mapera Rd Nalukolongo, Kampala M284 Ntinda P.O. Box 23436 Kampala, Uganda P. O. Box 22623 Kampala, Uganda Tel: + 256 31 260201 Tel: + 256 41 271440/271418 Email: rlugone@ecomtrading.com Email: niraj@olamnet.com 3. Ibero (U) Ltd 4. Kyagalanyi Coffee Ltd 44/50 7th Street, Kampala 1/2/3 5th Street, Kampala P.O. Box 23139 Kampala, Uganda P.O.Box 3181 Kampala, Uganda Tel: +256 41 342621/31 261464 Tel: + 256 41 344021/251447 : traffic@ibero.co.ug Email: kcl@kvagalanvi.com 5. Pan Afric Impex (U) Ltd 5. Mbale Importers and Exporters Ltd 62 Bombo Rd, Kawempe, Kampala 27/29 Pamba Rd, Mbale P.O Box 264 Mbale, Uganda P. O. Box 7257 Kampala Tel: +256 41 567847 Tel: +256 75 725400 Email: panafricimpex@utlonline.co.ug Email: mbaleimpex@utlonline.co.ug 7. Great Lakes Coffee Company Ltd 6. Kampala Domestic store Ltd 9 3rd Street, Kampala M289 Ntinda, Kampala P.O. Box 30532 Kampala, Uganda P.O.Box 27198 Kampala, Uganda Tel: +256 41 235597 Tel: +256 41 286961 Email: kds@infocom.co.ug Email: glc@imul.com 8. Ugacof Ltd 9. Sitanida Agencies Ltd 246 Bweyogerere, Kampala 14 William street, Kirumira Towers, P.O Box 7355 Kampala, Uganda Kampala Tel: + 256 41 286290/286288 P.O. Box 27544 Kampala, Uganda Email: fbe@ugacof.com Tel: + 256 41 255913 Email: sitanida@africaonline.co.ug 10 Wabulungu Mult-purpose Estates 11. MTL Main Traders Ltd 508 Bombo Rd, Kawempe, Kampala 46 Palisa Rd, Mbale P.O. Box 27544 Kampala, Uganda P.O. Box 6217 Mbale Tel: +256 41 254485 Tel: +256 45 36377/41 256426 Email: lawrence.mwaka@mtluganda.com 12. Job Coffee Ltd 13. Union Export Services Ltd 103 3rd Street, Kampala 103 3rd Street Kampala P.O. Box 4152 Kampala Uganda P.O. Box 7455 Kampala, Uganda Tel: + 256 41 255914 Tel: + 256 41 258778 Email: jobcoffee@infocom.co.ug Email: unex@starcom.co.ug 15. Gumutindo Coffee Coop Enterprise Ltd 14. Bakwanye Trading Co. Ltd 13/15 3rd Street, Kasese 46 Palisa Rd, Mbale P.O. Box 240 Kasese, Uganda P.O. Box 283 Mbale, Uganda Tel: 256 483 44068/44007 Tel: +256 45 34415/772 927942 Email: cobwa@vahoo.com Email: mutindo@Infocom.co.ug 16. Simba Cafe East African Ltd 17. Lakeland Holdings Ltd M466 Ntinda, Kampala 9 3rd Street, Kampala P.O. Box 29129 Kampala, Uganda P.O. Box 26926 Kampala, Uganda Tel: +41 285866 Tel: 256 41 345120

Email: lakelandholdingsltd@yahoo.com

## 3.5 Uganda's Competitive Strength

- Availability of two coffee products: Arabica and Robusta which attract premium price on international market. Uganda coffee has a sweet aroma that is used to produce many varieties of coffee which include the Italian cappuccino that is on great demand currently.
- Uganda is a unique country in the region with 2 main seasons characterized by rains throughout the year in some parts of the central and 2 fly crops throughout the year
- Uganda coffee has a very good intrinsic quality due to high altitude, soils and farming systems not easily found elsewhere in the world
- Macro-economic stability- Uganda coffee sector is fully liberalized and thus offers many opportunities in the coffee sector
- The Uganda investment and trade regimes provide many opportunities for investment through the Uganda Investment Authority, Uganda Export Promotion Board and Uganda Coffee Development Authority.
- **3.6 Market Prices**Uganda coffee producers enjoy premium prices due to the high quality of Uganda coffee and export prices have continued to increase since 2004/05 as shown by table-6.

### Coffee Export Prices by type 2004/05-2006/07 (USD\$/kg)

Year	2004/5	2005/06	2006/07
Robusta coffee	1.08	1.42	1.92
Arabica coffee	1.81	1.87	2.7

# 3.7 Best Marketing practices recommended

The following are a few selected practices in foreign markets

- The demand and the popularity of organic products has increased. Uganda should embark on producing organic coffee which attracts premium price.
- Uganda coffee should be marketed through cooperatives. This practice will ensure steady supply of high quality coffee with value addition. Also cooperatives will guarantee procurement of coffee produced by farmers and stability in the produce will enhance production.
- Uganda coffee needs to be uniquely branded as 'Uganda Coffee' and effectively differentiated from other coffees using slogans such as "Uganda coffee; the sweet aroma from the source of the Nile". A company to market Uganda coffee should be launched in the international media such as the BBC and CNN.
- Uganda Embassies abroad should be tasked to promote Uganda coffee in their respective embassies. There is also need to have regulatory reforms and infrastructural development to promote and facilitate coffee marketing.
- Quality assurance practices should be promoted throughout the country through training, enforcement of best coffee making practices, coffee regulation and provision of coffee testing laboratories.

4. 0 Business Development Service Providers

Ministry of Agriculture Animal Industry and Fisheries

P.O Box 102 Entebbe Tel. 256414 321107/ 4320901

Email: psfmaaif@infocom.co.ug

Website: www.agriculture.go.ug

Uganda Export Promotion Board (UEPB) Plot 22, Entebbe Road, Conrad Plaza 5th Flr.

P.O. Box 5045, Kanoaka, Uganda

Tel: +256 (0) 414 23023 +256 (0) 312 262591

Fax: +256 (0) 414 259779 E-mail: uepc@starcom.co.ug

Website: www.ugandaexportsonline.com

Activities: Trade promotion organization which operates under

the Ministry of Tourism, Trade & Industry

National Union of Coffee Agribusinesses and Farm Enterprises

(The Coffee Farmers' Association of Uganda)

P.O.BOX 34967, Kampala Uganda

Tel: +256-414-236199

Mob: +256-772-595030

Email: nucafe@ugandacoffee.org,

Website: nucafe@africaonline.co.ug

Uganda Investment Authority P.O. Box 7418, Kampala

Tel: 251562/5 or 251854/5; Fax-342903

Email info@ugandainvest.com

Activity: One stop shop for investors

Private Sector Foundation Uganda (PSFU)

Plot 43, Nakasero Road

P.O. Box 7683, Kampala Uganda

Uganda Coffee Development Authority

P.O Box 7267, Kampala Tel. 414 256940/256198 Fax. 256414256994

Email: ucda@ugandacoffee.org

www.ugandacoffee.org

National Agriculture Research Organization

(NARO)

P.O. Box 295, Entebbe

320324/9 321070 narohq@imul.com

Activities: Research in product development

Enterprises Uganda (EU) P.O Box 24581, Kampala Tel: +256 414/51810/03

Fax: +256 414 Email: info@enterprise.co.ug

Website: www.enterprise.co.ug

Activities: Business service provider designed to support

realizing its objective of promoting the development of Sr

Enterprises to grow

Uganda National Bureau of Standards (UNBS)

M217, Nakawa Industrial Area P.O. Box 6329, Kampala Tel: +256 (0) 414 505995 Fax: +256 (0) 414 286123 E-mail: unbs@inforcom.co.ug Website: www.unbs.go.ug

Activities: Conformity assessment and standards enforcen

Uganda Cooperative Alliance Ltd. (UCA)

Plot 47/49 Nkrumah Road Cooperative Alliance House Tel: +256 (0) 414 230956 Fax: +256 (0) 414 259109 E-mail: psfu@psfuganda.org

Website: www.psfuganda.org

Activities: Uganda Development Scheme-Support for Small

Enterprises.

E-mail: ucainfocen@uca.co.ug Website: www.uca.co.ug

Activities: Commodity marketing organizations supports

Uganda National Farmers Federation (UNFFE)

Plot 27, Nakasero Road, P.O. Box 6213 Kampala, Uganda Tel: +256 (0) 414 340249

Fax: +256 (0) 414 230748 E-mail: unfa@starcom.co.ug Website: www.unffe.org

Activities: Farmers' Advocacy organization

National Organic Agricultural Movement of Uganda

Plot 268 Gaba Road, Kabalagala P., 0. Box 70071, Clock Tower, Kampala

P.O. Box 2215, Kampala Uganda

Tel: +256 (0) 414 258848

+256 (0) 414 258898 Fax:+256 (0) 414 258856, 258895

Tel: +256 (0) 312 264039 +256 (0) 772 603539 Fax: +256 (0) 312 264040

E-mail: organictradepoint@nogamu.org.ug

Activities: Research organization in product development