



**Profiling of potato processing
companies in Kenya:**
Report and recommendations



Published by
Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ)

Food Security and Drought Resilience
Programme
PO Box 41607
00100 – Nairobi, Kenya
T +254 20 340 520 /221 1659
F +254 20 221 8765
M +254 724 256939
E jackson.muchoki@giz.de
I www.germanfoodpartnership.org

Report prepared by
Gladys Maingi

Nairobi, June 2014

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giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

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List of Abbreviations

ASDS	Agricultural Sector Development Strategy
BMZ	Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (Federal German Ministry for Economic Cooperation and Development)
GFP- PIA	German Food Partnership – Potato Initiative in Africa
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
KARI	Kenya Agricultural Research Institute
KENAPOFA	Kenya National Potato Farmers Association
KSh	Kenya Shilling
LPG	Liquid petroleum gas
MLND	Maize lethal necrotic disease
PSDA	Promotion of Private Sector Development in Agriculture
PHL	Post-harvest losses
KARI	Kenya Agricultural Research Institute
KFC	Kentucky Fried Chicken
UN	United Nations
MoALF	Ministry of Agriculture, Livestock and Fisheries

Executive Summary

Potato is the second most important food crop in Kenya after maize. It is cultivated by over 800,000 growers who are mostly smallholders. Potato contributes greatly to the household income of growers, and the industry employs close to three million people.

It is for this reason that the German Food Partnership Potato Initiative Africa (GFP-PIA) is supporting the development of the potato value chain in Kenya. In order to identify local project partners, GFP-PIA commissioned a study to profile potato processing companies in Kenya.

A list of companies that process potatoes in one form or another was obtained from secondary sources. In total 45 processing companies (Annex i) are active in the sub-sector. Criteria for selection of companies that would be profiled were used to choose the final number for in-depth study. Out of these 45 listed companies, 17 companies that met the selection criteria were profiled. They include examples of large processing companies, fast food restaurant chains, small scale processors and big hotels.

The potato processing industry is expanding fast with many large manufacturing companies entering the market. There is also rapid growth of small processing companies that have gone into crisps and peeled, ready-to-cook potatoes for supply to hotels and restaurants. Despite the interest in the market there are many constraints that cut across both small and large companies, the most conspicuous and pressing of these being the shortage of suitable processing varieties and the unreliable quality and pricing.

After analysis a summary of each company was made and scoring was done on the basis of age, capacity to process, working with farmers, and ability to cooperate: factors that need to be taken into consideration in order to fit in well, working with GFP-PIA and other partners along the potato value chain. The age of the company is significant. A company about 10 years old is stable, a major factor for the collaboration. Capacity to process and market was another consideration. A company with high processing capacity creates the market pull effect that is desirable for the development of the value chain. The third consideration was the willingness to work with growers. Since the GFP initiatives are targeted at improving the livelihoods of communities, it is important that a company in the partnership is willing to work with farmers. The final consideration is the willingness of the company to work with GFP-PIA and other partners in the potato value chain. These factors were weighted on the importance of each for collaboration.

After analysis, a final selection of four companies that showed high prospects for partnering with GFP-PIA was made. The recommendations are that partnerships should be formed with the companies Propack and Norda as they emerged with the highest potential for collaboration. Another two companies, Deepa and Njoro Canning, could be included in the partnership as the

project moves on. They have very useful experiences in contract farming and should be kept in the arrangement even on a consultation basis, to tap lessons learned.

1 BACKGROUND OF THE STUDY

1.1 German Food Partnership (GFP-PIA) initiatives and objectives

The German Food Partnership (GFP) is a network that enables German and international business operating in the agriculture and food industry, German development agencies and other organisations from science, civil society and the public sector to work together to contribute to food and nutrition security in developing countries. GFP has initiated a programme that endeavours to extend the alliance to Kenyan institutions and companies including processors and others that promote the potato industry at various levels of the chain.

1.2 The potato value chain in Kenya

Potato is the second most important food crop in Kenya after maize. It is cultivated by over 800,000 growers who are mostly smallholders, for food and income generation. Potato is currently worth about KSh 46 billion and the country can realise more benefits by optimising production and processing (e.g. crisps, starch, soaps, wine etc.). In comparison, the value of maize production is estimated at KSh 120 billion. Indeed potato is one of the strategic enterprises with the potential towards realisation of the set objectives of the government's Vision 2030, Millennium Development Goals and the Agricultural Sector Development Strategy (ASDS) 2010 - 2020. Primarily, potato can provide a cheap but nutritionally-rich staple food. This is particularly important in the face of declining maize yields attributed to maize lethal necrotic disease (MLND), increasing soil acidity, changing land use patterns and fragmentation, the pressure of rising populations, high cost of inputs and changing weather patterns as result of climate change.

Potato has high nutritional value. In the past, the potato has been regarded as junk food especially with the increasing consumption of French fries (chips). This has significantly affected the perceived role of the potato in fulfilling dietary needs, which has led to the undermining of its potential contribution to food and nutritional security in Kenya.

Potato contributes greatly to the household income of growers. Under suitable climatic conditions and good agronomic practices, one hectare of land can yield over 45 metric tons of potatoes per season depending on the variety. This translates to about 18 metric tons of potatoes per acre and over 300 bags of 50 kg. This earns the farmer total revenue of KSh 375,000 at an average price of KSh 1250 per bag, potentially leading to a profit of over KSh 290,000 against estimated input cost of KSh 83,000. This shows the high potential of potato in contributing to increased wealth (incomes) of smallholder households.¹

¹ Report prepared for the Senate Speakers' Round Table Meeting, April 2014, by Wachira Kaguongo.

Despite the high potential in contributing to the growth of the economy and uplifting the welfare of poor households, the potato industry faces many complex challenges in Kenya:

- i. **Low productivity.** Until 2010 potato yields were declining at the rate of 11% per ha per year.² This has been attributed to inadequate quality seed potato to meet the required annual demand of 200,000 metric tons and led to widespread pests and diseases in most of the potato growing areas.
- ii. **Poor seed systems and variety development.** The rate of variety development is also very low, limiting options for farmers.
- iii. **Limited value addition.** Value addition can be through processing potatoes into various products, or through proper grading, packaging and improved storage. However these value addition aspects are not applied, especially at farm level or in rural areas. Inadequate infrastructure development and provision of modern facilities has discouraged investment in rural areas. Value addition if well promoted has the potential to generate employment and incomes for rural communities where the crop is grown.
- iv. **Inadequate development of rural infrastructure** increases operation costs and thus discourages investors in rural areas.
- v. **No clear policy and subsector development plan.** The potato sub-sector lacks clear policies to guide development of the industry. Both potato and roots and tuber policies that were drafted by the Ministry of Agriculture, Livestock and Fisheries (MoALF) with support from development partners and players in the industry remain in draft form. Alongside these there are several Acts and Legal Notices that govern production, marketing and processing of potatoes but implementation has been very slow. These include the Root and Tuber Policy, Potato Strategy, Potato Policy and Seed Potato Master Plan. Some of these documents need to be reviewed and updated to include recent innovations and technologies, and match the current situation and international laws and guidelines. Areas that urgently need policy guidelines include importation of seed potato. Equally important is revision and implementation of guidelines and regulations on potato marketing standards. These policy gaps have implications for the growth of the subsector and thus need to be addressed in order to promote the development of the industry.
- vi. **Inadequate organisation in production and marketing.** Although potato growers have a national association, The Kenya National Potato Farmers Association (KENAPOFA), they have not been able to organise themselves to profitably market their produce. They sell their produce mostly as individual farmers; as a result they have been deprived of the power to determine the price of the produce or the standard under

² *National Seed Potato Master Plan, 2009, Wachira et al.*

which marketing of the crop should be done. Brokers and traders take advantage of the situation and exploit the farmers. There is need to build the capacity of farmers and support them by putting in place policies that will assist them to benefit from their produce. e.g. contract farming, collective marketing and warehouse receipt systems.

- vii. **High post-harvest losses.** Post-harvest losses (PHL) occur through various post-harvest operations on the farm to the first level of market. Other losses occur through poor handling and bad exposure during transportation, wholesaling and retailing. Losses are physical (weight and quality) and/or economical (loss of opportunity due to lack of proper storage facilities or information systems). The PHL are highly variable, from 10% up to 40%. Per season 19% of the production is damaged or lost. Extrapolating the losses to the national production level, 815,000 tons are damaged or lost per year with a value of about KSh 12.9 billion (€ 109 million).³

2 OBJECTIVE OF THE COMPANY PROFILING STUDY

Overall, the objective of the GFP-PIA project is to develop a comprehensive and scalable approach to establish competitive potato value chains benefiting smallholder farmers and their families, increase productivity, postharvest management and farmer-market linkages. This shall be obtained through suitable modern technologies and smallholder-inclusive business models. The project is considered to be a pilot to a subsequent value chain programme.

Activities in Kenya have been developed to advance the potato sub-sector through import of better quality seed, improved crop management and mechanisation, processing and storage, and finance.

The specific objective of this study is to provide the GFP-PIA project partners via GIZ-Kenya with the company profiles of the most promising potential partners in potato processing in Kenya, in terms of collaboration to support producers find markets for their produce in the form of contract farming, and capacity building support to be able to produce potatoes of high quality for the various purposes, including processing. It is also envisaged that within the collaborative efforts farmers will access finance services to facilitate them to buy quality farm inputs in order to boost their yields.

The identified processing companies were ranked according to the selection criteria, to obtain indications of which of the potato processing companies would fit best in the project.

³ GIZ Potato Post Harvest Losses study 2013.

3 METHODOLOGY AND TOOLS FOR THE STUDY

To identify companies that would be profiled, selection criteria were developed on the basis of the terms of reference given for the study. A list of companies that process potatoes in one form or another was obtained from secondary sources, the National Potato Council processors data base (2013) and the GIZ Food Security and Drought Resilience Programme. In total 45 processing companies, 4 large hotels and 5 fast food restaurant chains active in this sub-sector was obtained. Criteria for selection of companies that would be profiled were decided as follows:

3.1 The selection criteria

- i. Must be legal entity. The company must be officially registered and operating at the time of the study
- ii. Willingness to co-operate with other stakeholders in the potato industry including GFP
- iii. Commercial orientation
- iv. Processing potatoes and able to market the products that are processed
- v. Sufficient potato processing capacity (quantities of potato processed per month or year/ number of employees)
- vi. Indications of upward growth in terms of expanding processing capacity and diversifying products
- vii. Willing to work with smallholder farmers
- viii. Willing to invest and co-fund the project in terms of time, financial services etc.
- ix. Willing to share relevant data with partners

A questionnaire was developed and used to collect information from the selected potato processing companies

4 FINDINGS OF THE STUDY

4.1 General information from the study

The potato processing industry is expanding fast with many large manufacturing companies entering into potato processing. There is also a rapid growth of small processing companies that have gone into crisps and peeled, ready-to-cook potatoes that are supplied to hotels and restaurants. Despite the interest by both small and large companies there are many constraints that cut across all. The most conspicuous and pressing of these is a shortage of processing varieties. Companies making crisps say they do not have a potato processing variety that suits their requirements. The only variety available is an old Dutch variety, Dutch Robjin, which was introduced in Kenya some years ago. It is low yielding and susceptible to diseases, requires high maintenance, and as such is not very popular with farmers.

There are over 45 companies that process potatoes into a range of products. Most are in the form of snacks, sold in packs of 50 - 200 gm and then packaged into larger units. The products include crisps, chevda,⁴ chips and other snacks. Potatoes are also processed into canned potato cubes, dehydrated potatoes or frozen chips. There are over 10 main fast food restaurants chains; some of them such as Kentucky Fried Chicken (KFC), Chicken Inn and Galito's are international. There are also quite a large number of hotels that use potatoes to make a variety of dishes for their guests.

Potato processing companies vary in size and the products they make. Large processing companies produce a variety of potato products for domestic, regional and international markets. Such companies have well established infrastructures, modern machines for processing, and the capacity to process and market large quantities of potatoes and products. There are other medium-sized companies, some with upward growth prospects. They process fewer products and only for the domestic market. The small processing companies process potato crisps and a few other products, including bananas, arrowroots, sweet potatoes, cassava etc.



Potato shredder



Potato peeler

⁴ A popular Indian snack made with crisped rice, broken potato chips, cereal and nuts

Potato processing companies appear to face common challenges. Nearly all of them, except hotels and some restaurants, cited the lack of suitable processing varieties. The Dutch Robjin, although available, is grown by few farmers compared to the large number of potato producers in the country. Farmers shy away from this variety because it is low yielding (less than 10 tons per ha) and requires a lot of chemicals to protect it from diseases. The variety is considered expensive to grow, giving low returns due to its low yields.

Some of the companies have engaged in contracting farmers and have even paid for extension services and involved banks in financial services to the farmers. The main challenge is that despite signing a contract with processors, the potato farmers sell their harvest to brokers and traders, who entice them with higher prices. There is need to support contract farming to ensure that contracts are respected, processors get potatoes and the farmers are well paid.

Other companies talked of competition from imports. Companies that make frozen chips say that they are unable to compete with imported products made from superior quality potatoes that produce long chips, which are desired in the market and sought by fast foods restaurants. The only potato available in Kenya suitable for frozen chips is a variety called Tigoni. However farmers do not want to grow Tigoni as it is low yielding. Tigoni competes at farm production level with a variety called Shangji, which is high-yielding and very popular in fresh produce markets. But the processors say it is not good for their purposes as it has low dry matter content and become hard when fried in oil. Tigoni is not the perfect variety for frozen chips either. Although it has some good qualities such as retaining colour and texture after being frozen, it produces short chips that are not wanted in the market. This leads to loss of business for some of the companies. In an effort to stay competitive, some of the processing companies have started to grow potatoes for themselves, thus avoiding dependency on contracted farmers or contracted suppliers who are unreliable. The companies said that they needed to be assisted to enter into binding contracts with farmers and traders in order to ensure sustainability of their business.

A few companies interviewed were not willing to share the requested information as they considered it a competitive advantage for themselves.

4.2 Categorisation of the profiled companies

In selecting the companies to profile, the criteria developed were applied (Chapter 3). From the list of 45 companies, companies that met the criteria and were willing to participate were interviewed. The companies are based in Nairobi and the neighbouring counties of Kiambu and Machakos, and Nakuru in the Rift Valley. The companies profiled fall into four main categories:

i. Large processing companies — 5

These are the companies that process large quantities of potatoes into crisps as well as other snacks.

ii. Fast food chain restaurants — 5

These are mostly international fast food chains that sell chips as an accompaniment to other food items. They mainly consume imported frozen chips.

iii. Small processing companies — 4

These are small but upcoming processors who process crisps and other products. They source their potatoes from farmers and some of them buy from the main markets in their town.

iv. Big hotels — 4

The big hotels in Nairobi have capacity to absorb large quantities of potatoes. They mainly source their potatoes from appointed suppliers.

4.3 Reports on individual companies

4.3.1 LARGE PROCESSING COMPANIES

The large processing companies have large factories and process over two tons of potatoes per day.

4.3.1.1 NORDA INDUSTRIES

a. Overview

Norda (meaning North) Industries Limited was founded in May 2008 by Tajdin Hussein Jaffer, an industrialist who owns businesses in Rwanda. It is located at the boundary of Machakos and Nairobi counties. It has three directors and 150 employees. Norda started as a small maize snacks processing unit. Later the company started processing crisps. It has now grown and has an administration block, a fully equipped modern factory, and additional warehouses for expansion. The company



has planned a growth rate of 30% to 40% per year and has planned to get new machines. They intend to expand the range of products and are conducting a feasibility study for frozen chips as they prepare to start production of the same. They are also planning to import new machines to supplement what they have and for other products that the company wants to go into processing.

b. Products processed and outlets

The company currently manufactures and markets a range of snacks that go under the brand names of Bitez, Urban Bitez, footballz and Tamtam, each holding their brand identity in the market. The current brands are targeted at the urban middle



class in Kenya with planned expansion to the whole population and neighbouring countries.

Table 1: Products processed by Norda

Products processed	Potatoes processed per day	Qty of products processed per day	Price per unit KSh	Quantities sold	Place of sale	Varieties processed
Potato crisps	2.5 tons (capacity is 15 tons/day)	800 kg	100 per 100 gm of crisps	N/A	Domestic in all supermarkets	Dutch Robjin

c. Working with farmers

Norda is working very hard to engage in and perfect contracts with farmers. Currently their potatoes are supplied by one contracted supplier. The company is very uncomfortable with this arrangement and they are seriously looking to expand their sources by contracting farmers. They have already visited Meru County in an effort to link up with farmers. The company is looking for varieties that they can do trial samples on before they engage farmers in contracts. They emphasized the need to get high quality and clean potatoes.



They would want farmers trained in a collaborative effort in which they are very willing to contribute and participate so that they can get sorted, graded and clean washed potatoes, thus avoiding mud and dirt being brought from the farms to the processing environment. They buy potatoes that have been graded to 45 - 65 mm.

d. Processing equipment

The company has installed state-of-the-art machinery and equipment consisting of three product lines, and extruding machines for corn products. The potato processing equipment include peeler, shredder, crisps frying line, and fully automated packing lines. Details of the machines including type and age were not available.



e. Processing capacity

The company has capacity to process 2.5 tons of potatoes per day.

f. Sources of energy

Norda combines electricity and diesel to power their operations.

4.3.1.2 DEEPA INDUSTRIES

a. Overview

Deepa Industries was founded in 1973 as a small snack cottage industry with three employees operating out of a house. Since then it has become a household name in Kenya. Though still family owned, it now employs over 190 personnel in a large custom-designed factory located in Nairobi's industrial area. Apart from processing potato and corn products, Deepa Industries leads in the packing and blending of various spices and herbs brand under the name "Tropical Heat" that is well known in the East Africa region. The company has five directors. It is one of the largest manufacturers of potato snacks in Kenya with wide range of products.

b. Products processed and outlets

Deepa Industries is one of the largest manufacturers of potato snacks in Kenya. The company manufactures flavoured potato crisps, crinkle crisps, masala sticks, peanuts, chick peas and a range of snacks like chevda and bhusu.⁵ Other snacks include popcorn, extruded snacks, peanuts and fried peas. Most snacks are fried using a combination of healthier corn and sunflower oils.



The products are sold in the domestic market as well as exported to the neighbouring region in Uganda, Tanzania and even beyond to the USA, UK, Australia and various other countries. The company experiences difficulties getting sufficient amounts of potatoes for processing. Although it has contracted farmers, the arrangement is not smooth and sometimes they buy potatoes from traders who have bought from farmers. There are also delays due to the poor road network, contract farmers not honouring agreements and dependency on rain-fed production, which can lead to shortages. The company sometimes cannot meet demand as they end up with stock outs due to the shortage of good quality potatoes. They rely on only one variety, Dutch Robjin. The company says there is urgent need to increase the number of processing varieties and train farmers on good agricultural practices so as to supply quality potatoes.



⁵ An Indian spicy, crunchy mix of chickpeas, rice, nuts, raisins and others.

Table 2: Products processed by Deepa Industries

Products processed	Potatoes processed per day	Qty of products processed per day	Price per unit KSh	Quantity sold	Place of sale	Varieties processed
Potato crisps	13.2 tons day	N/A	50- 200 depending on size of package	25 tons in 1 year	Domestic East Africa Region	Dutch Robjin
Chevda	See above	N/A	50- 200 depending on size of package	N/A	Domestic East Africa Region /Europe	Dutch Robjin
Sticks	See above	N/A	50-200 depending on size of package	N/A	Domestic Africa East /Europe	Dutch Robjin

c. Working with farmers

Deepa Industries was the first potato processing company to engage farmers in contract farming. The company contracted farmers from Bomet County, who grew Dutch Robjin. The arrangement was a collaborative effort between stakeholders that included Equity Bank, which provided financial services, the Kenya Agricultural Research Institute (KARI) Tigoni provided seed and technical backup in GIZ-PSDA for creating and strengthening the linkages between stakeholders, and the Ministry of Agriculture provided extension services. The contracts that are signed with farmers are short term of about three months. The company wishes to continue to work with farmers but says that capacity building is needed so that farmers realise the importance of honouring agreements. There is need to support the establishment of collection and grading centres, that can help farmers to sort and sell quality potatoes to processors.

The company desires good quality potatoes that are mature, to reduce sugar content to 0.10%. The preference is for varieties that have high dry matter content of minimum 22.21%, round to irregular in shape, with yellow flesh and shallow eyes.

The company pays premium price for graded potatoes, but incidences of being supplied with small potatoes are very high.

d. Processing equipment

Deepa industries has both old and new machines. Details are given in the table below.

Table 3: Deepa Industries equipment

Type	No.	Age	Make	Source	Comments
Crisps frying line	1	34 years	-----	Saudi Arabia	Second hand
Packaging machine	1	8 years	Hassia	India	Purchased new
Packaging machine	1	4 years	TNA	Australia	Purchased new

The company plans to buy a crisp processing line of 300kgs/hour up from the current processing machine that does 150kg/hour. It also wants to invest a new packaging machine.

e. Processing capacity

Deepa industries process 13.2 tons of raw materials in 24 hours. Potatoes are sourced from Bomet County, currently supplied by a contractor. The source is 95% reliable, but there are scarcities in May and December due to reliance on rain-fed production.

f. Sources of energy

The company uses electricity as source of energy and this costs them about KSh 2.1 million per month. The company plans to relocate to Limuru in Kiambu County. They plan to cut energy costs by using 100% natural light during the day through use of atriums, use of biogas, use of briquettes for fuel, and elimination of mortar-driven conveyers. The flow of materials will be by gravity since the factory will be situated on sloping land.

4.3.1.3 PROPACK KENYA

a. Overview

Propack processing company was started in 1996. The company is mainly engaged in snack foods processing, with a wide range of products from potatoes and maize. The company is on an expansion path. It is farming to produce its own potatoes to ensure continuous supply but also making efforts to have contracted farmers produce potatoes for them. The company has three directors and 120 employees. It has already conducted tests on samples of over 100 varieties and found only four with the desired qualities. These have high dry matter content and are low in sugar. But the varieties are not yet grown by farmers here in Kenya.

b. Products processed and outlets

Propack specialises in manufacturing of crisps from potatoes and crackers from maize. The table below shows the details.

Table 4: Products processed by Propack

Product processed	potato processed per day (tons)	Quantity of products processed/day	Price per unit KSh	Quantity sold	Place of sale	Varieties processed
Crisps	15-20	1.5 tons	KSh 1275 per carton	300-500 cartons per day	Domestic and EA region	Lady Rosetta and Lady Claire
Krackers		10000	N/A	N/A	Domestic and EA region	N/A

The products are sold in the domestic market and distributed countrywide. The outlets are shops and supermarkets, with the latter taking a share of 60%. The company says it has problems getting sufficient quantities of good quality potatoes that are cheap, high in dry matter and low in sugar content. The cost of raw materials is so high that the finished goods are out of reach of 95% of the population. They are hoping to get quality potatoes at reduced cost of production. They plan to get the desired processing varieties as soon as they have conducted tests on about a hundred processing varieties, out of which about 17 show promising results. Among these varieties are Lady Rosetta and Lady Claire.

Table 5: Varieties processed by Propack

Variety	Products	Qualities desired	comments
Lady Rosetta	Potato crisps	Low sugar High dry matter	They should be of medium size, round to oval
Lady Claire	Potato crisps	Low sugar High dry matter	Round to oval in shape

Lady Rosetta is used widely in many countries for producing crisps, but it is not yet available in Kenya. It is low yielding and may not be popular with farmers. Propack supplement their own production of potatoes (Dutch Robjin) through supplies from a contracted trader who buys from farmers in Bomet County.

c. Working with farmers

Currently Propack do not have direct contracts with farmers. They are supplied by a trader who buys potatoes from growers. They are trying hard to find ways of dealing with farmers directly. They say the company is willing to pay a premium price to farmers so long as they can produce potatoes of the quality needed. The company is willing to get into collaborative arrangements with financial institutions to ensure that farmers access financial services for the inputs they need. This will ensure the company gets quality potatoes for processing. The main periods of potato shortages are April and August.

The challenges quoted by the company are the same as all other processors. The farmers do not respect contract agreements. They sell the potatoes to buyers who offer higher prices. Propack is planning to set up an integrated value chain, with smart seed multipliers supported by a distribution system to the growers and a company-supplied extension system, as soon as they have found a potato variety with the qualities that they are looking for. The company will then build storage to ensure a continuous supply of potatoes even at time of shortages.

d. Processing equipment

No available information

e. Processing capacity

Propack processes 15-20 tons of raw material per day in making crisps. The supply is not reliable because deliveries may fail due to poor roads or side-selling of potatoes to other buyers who offer a few shillings more.

f. Source of energy

The company uses diesel to power their operations. The use of correct and high quality potatoes will increase the output per unit of energy and correspondingly lower the energy cost per unit of production.

4.3.1.4 NJORO CANNING FACTORIES

a. Overview

Njoro Canning Factories is a company based in Nakuru County, Njoro Sub-county. The company was founded in 1938 by a British settler and bought by the current owner, Mr Patel, in 1978. The company at first specialised in canning French beans for export and later expanded to other products. In 2000 the company invested in a freezing line to process frozen potato chips and other vegetables. It has also introduced a spice milling plant after signing a supply contract with Unilever Kenya. It has 50% shareholding at Kenya Orchards Ltd and holds several certifications with respect to food safety management systems.

b. Products processed and outlets

Njoro Canning Factories has a range of products processed from fruits and vegetables.



The company has 3 brands namely Golden Valley, KOL, and Mua Hills targeted to local and regional markets. The products highlighted in the table below are those processed from potatoes.

Table 6: Products processed by Njoro Canning

Product (Processed)	Quantity potatoes processed per day	Quantity of products processed per day	Price per unit of sale KSh	Quantity sold	Place of sale	Varieties processed
Frozen chips	300 tons	10 tons	100-170 per kg	little	Domestic and EA region	Tigoni
Dehydrated potatoes	See above	By order	N/A	Varies with demand		
Canned potato cubes	See above	By order	N/A	Varies with demand		

The factory processes 300 tons of potatoes per day for all potato products. The frozen chips are a big problem for the company because of (i) lack of suitable varieties, and (ii) competition from superior imported frozen chips. Njoro used to supply frozen chips to Farmer's Choice Ltd, who distributed the chips to their customers along with their own pork products. Njoro ran out of chips for their freezing line when farmers stopped growing the Tigoni variety in favour of the higher-yielding Shangi.



The company entered into collaboration with Syngenta last year in an effort to boost production of the Tigoni variety. With the support of Syngenta, farmers were able to harvest 20 tons per ha, up from 10 tons that they previously harvested. Njoro Canning bought the potatoes and made frozen chips. Unfortunately, they had already lost the Farmer's Choice business and fast food restaurants (the largest segment of the market) rejected their chips as they are too short. Njoro have a current glut of 40 tons of frozen chips that they are trying to sell.

Their other two products, dehydrated potatoes and canned potato cubes, have a ready market. They are bought by the UN food programmes and individual businessmen who export them to places like Sudan.

The company says that they need the correct varieties for frozen chips to be able to compete with imports.

Njoro buys potatoes that are graded and have to be 6cm and above in diameter.

c. Working with farmers

Njoro Canning has been contracting farmers to produce potatoes for them. They have trained over 10,000 farmers on good agricultural practices. In 2013, under their arrangement with Syngenta, the company provided seed for the farmers and Njoro Canning paid them from the farmer's proceeds. In the past Njoro also provided farmers with inputs.

The problem is that farmers always sell to other buyers who offer even a slightly higher price.

d. Processing equipment

The company has a vegetable canning plant especially for French beans (Factory One), a fruit concentration and canning plant (Factory Two), a vegetable freezing plant (Factory Three), vegetable dehydration plant (Factory Four), spice milling plant (Factory Five), a central quality laboratory and fully equipped workshop.

Some of the factories have old equipment and the company is planning to bring in new machines to reduce inefficiencies. They have realised their costs of production are higher than in other similar set ups. The company plans to continue to develop local and regional market networks and develop products to keep in step with consumer requirements. The company also continues to revamp the processing lines in the factories.

e. Processing capacity

The Company has huge processing capacity as it has five factories, if they can get sufficient raw materials per day for their various potato products.

f. Sources of energy

Njoro Canning Factories uses electricity to power their operations. The company plans to improve production efficiency through buying more efficient processing lines to reduce their cost of energy.

4.3.1.5 KEVIAN KENYA LTD

Kevian Kenya Ltd was founded in 1992 as a drinking water packaging company. It is based in Nairobi with a second factory in Thika. The company has 2 directors and 455 employees.

Kevian originally targeted Mombasa tourist hotels as its main market for bottled water, with limited supplies going a few restaurants and supermarkets in Nairobi. At the time, mineral water was not yet popular with consumers in the city. Kevian has since transformed itself into a fruit juice company. It launched two strong juice brands, Pick 'N' Peel and Afia. Together with a multinational company as partner, they ventured into whole fruit juice production, becoming the first local company to package the product in aseptic Tetra Pak cartons.

Kevian started to contract farmers to get mangoes and passion fruit for processing into juice. Up to day Kevian works with contract farmers and they expect to continue.

The company is planning to start a potato processing line to make frozen chips, starch and powder. Although new to potato processing, the company is well prepared. It has good processing infrastructure and has already started to engage farmers in Nyandarua in discussions about growing potatoes under contract. They have bought 40.5 ha of land where they intend to set up a training site for their growers.

The company intends to target local markets, the East Africa region and the Middle East with its potato products.

Kevian says that the main challenge will be farmers ignoring the agreement and selling potatoes to other buyers outside the contract. There is need to build farmers' capacity to learn to honour contract arrangements.

4.3.2 FAST FOOD RESTAURANTS

Fast foods restaurants do not contract farmers to supply them with potatoes. These are bought from contracted suppliers, some of whom supply peeled potatoes and ready-to-cook chips. They use moderate amounts of potatoes and they are not particular about the varieties so long as the potatoes are mature, firm and of large size.



4.3.2.1 NAIROBI JAVA HOUSE

a. Overview

Nairobi Java House is one of the leading fast food restaurants in the country. It is both a chain of coffee houses and an exporter. Founded in 1999, it has two directors and its main branch in ABC Place, Waiyaki Way has 40 staff members. The chain is



known for its variety of coffees. The chain has 17 restaurants in Nairobi, one in Mombasa and one in Nakuru.

b. Products processed

Product processed	Potatoes processed per day	Quantity of products processed /day	Price unit KSh	Total quantity sold	Place of sale	Varieties processed
Potato chips	2.1 tons	N/A	220 per plate	400 plates per day	To patrons of the restaurants	Tigoni
Home fries	See above raw	N/A	250 per plate	600 plates per day	To patrons	Tigoni

Java House specialises in fried chips which are served in their restaurants. The restaurant processes 2100 kg of raw material (potatoes) per day in all its branches. They sell an average of 400 plates of chips a day at KSh 220/plate. They use another 500 kg of potatoes to make their second product, called home fries, of which they sell about 600 plates per day. Potatoes are supplied by a contractor and they have set standards for the potatoes they want. Their challenge is the unstable price of potatoes. Prices can rise so high out of season that they have difficulties pricing the chips. There should be a way of stabilising the price of potatoes to avoid gluts and distortions. Farmers should be trained to grow high quality potatoes. Sometimes the potatoes are too small for good quality chips. The company prefers Tigoni variety as it makes chips of good colour and taste, and does not absorb a lot of oil.

c. Working with farmers

The restaurant does not work with farmers.

d. Processing equipment

Table 7: Java House processing equipment

Type	Number	Age	Make	Source	comments
Peelers	2	2 years	n/a	USA	
Fryers	25	2 years	n/a	USA	
Chippers	5	2 years	n/a	Local	

e. Processing capacity

The restaurant (all branches) is capable of processing 2.1 tons a day. They have a reliable supplier but face supply shortages in April/May and October/November.

f. Sources of energy

The restaurant uses electricity and gas (LPG) with an expenditure of KSh 100,000 to KSh 120,000 a month. There are no plans for using different sources of energy.

4.3.2.1 KENCHIC INN

a. Overview

Kenchic Inn is a chain of franchise fried chicken restaurants. It was founded in 1984 and is the largest fast food chain in Kenya. It currently has seven branches across Nairobi and 30 Kenchic Inns countrywide. The Kenchic Inn is a favourite with locals due to low prices, taste and chicken quality. Menu items are all served with chips. The chain is owned by Kenchic Ltd, which is one of the largest poultry producers and distributors in Africa. Potatoes are bought from appointed suppliers.



b. Products processed

The main products processed from potatoes are chips and bhajias.⁶ In one Nairobi branch, on Muindi Mbingu Street, the processed products are:

Table 8: Kenchic processed products

Products processed	Potatoes processed per day	Quantity of products processed/day	Price unit KSh	Quantity sold	Place of sale	Varieties processed
Potato chips	15 tons	9 tons	200.00 per plate	N/A	To patrons	Tigoni Shangi
Bhajias	0.1	3 tons	200.00 per plate	N/A	To patrons	Tigoni Shangi

c. Working with farmers

The restaurant does not work with farmers directly.

d. Processing equipment

The processing equipment includes a peeler, shredder and fryer.

e. Processing capacity

Kenchic has a large number of branches countrywide. It was reported that branches together process a total of 15 tons of potatoes per day, per day.

⁶ Fried potato fritters served as a snack.

f. Sources of energy

Electricity and gas (LPG) are both used in the restaurants.

4.3.2.2 GALITO'S RESTAURANTS

a. Overview

Galito's restaurants are a chain of fast food restaurants from South Africa. The franchise grilled chicken restaurants started in Kenya in 2006. Galito's has four directors and 112 staff members, with 14 branches in the country. The restaurants specialise in international recipes. Often Galito's are located next to other fast food restaurants, such as Pizza Inn, that are all owned by the same company (Innscor Kenya). They have nine branches in Nairobi. The restaurants serve chips as the main accompaniment to their dishes.



b. Products processed

The 14 branches of the restaurant together process on average 1.1 tons per day, sold mostly as chips at KSh100/plate. The varieties used are Tigoni and Shanghi. The restaurant wants to be supplied with potatoes of high dry matter content and fully mature. They say when potatoes are not hard and well matured more oil is needed to fry the chips. They are supplied by one supplier, who is reliable. The potatoes are delivered once a week.

Products processed	Potatoes processed per day	Quantity of products processed/day	Price unit KSh	Quantity sold	Place of sale	Varieties processed
Potato chips	1.1 tons	N/A	350	N/A	To patrons	Tigoni Shanghi

c. Working with farmers

The restaurant does not work with farmers as potatoes are supplied by an appointed dealer.

d. Processing equipment

These are the same as those found in other restaurants: shredders, peelers and fryers.

e. Processing capacity

The total amount of potatoes used in all Galito's restaurants in Nairobi is 1000 kg per day.

f. Sources of energy

The restaurants use both electricity and LPG gas.

4.3.2.3 STEERS RESTAURANTS

a. Overview

Steers Kenya was started in 1996. It has 4 directors and at the interviewed restaurant there are 10 staff members. Steers has seven branches spread throughout Nairobi.



The challenges that Steers faces are an unreliable supply of potatoes, of sometimes unsuitable quality. The preference is for long potatoes that make long chips and they do not get this. Potatoes should contain high dry matter to make clean chips and also prevent high usage of oil.

b. Products processed

Steers specialises in flame grilled burgers, fried chicken and grilled chicken, all served with fries as accompaniment.

Products processed	Potatoes processed per day	Quantity of products processed/day	Price unit KSh	Quantity sold	Place of sale	Varieties processed
Potato chips	1.0 tons	N/A	350	N/A	To patrons	Tigoni Shangi

c. Working with farmers

The restaurant is supplied by an appointed dealer and so does not work with farmers.

d. Processing equipment

Processing equipment used are the same as all other fast food chain restaurants.

e. Processing capacity

Steers seven restaurants together use 1.0 tons of potatoes per day on average. In a month they use 15 tons of ready-to-cook chips that are supplied by Midlands Ltd. They sell them in plates of chips at KSh 350 per plate.

f. Sources of energy

The restaurants use both electricity and LPG gas.

4.3.2.4 DEBONAIRES RESTAURANTS

a. Overview

Debonairs Pizza is a chain of franchise pizza and sub restaurants started in South Africa and expanded to Kenya in 1998. There are currently seven locations in Nairobi with total staff strength of 315.



b. Products processed

In addition to their flagship product, pizza, the restaurants serve a range of side dishes such as potato wedges, chicken wings, and cheese and garlic bread, as well as fold-overs and customisable hot subs (on a French baguette).

Products processed	Potatoes processed per day	Quantity of products processed/day	Price unit KSh	Quantity sold	Place of sale	Varieties processed
Potato chips	603 kg	N/A	250 per plate	N/A	To patrons	Tigoni Shangi

The restaurant would like a reliable supply of peeled potatoes to reduce time wasted in peeling and also for a cleaner kitchen environment. They would like to see properly packaged potatoes to prevent damage and change of colour. They would also like potatoes with shallow eyes. Challenges are similar to those cited by other fast food restaurants and include poor quality of potatoes that are too short for chips, low dry matter content, and unreliable supply.

c. Working with farmers

The restaurant does not work with farmers directly.

d. Processing equipment

Information not available.

e. Processing capacity

Though mainly a pizza outlet, Debonairs restaurants sell fries and each branch processes about 90 kg of potatoes a day, bringing the total to about 630 kg a day. They are supplied with ready-to-cook chips by Midlands Ltd. The potato products include chips and wedges.

f. Sources of energy

Both electricity and LPG gas as used.

4.3.3 SMALL SCALE PROCESSORS

The small scale processing companies are up-and-coming enterprises, some of them individually owned and others owned by a group of people. They vary in approach and capacity to process and even in the type of products that they make. These were included in the study to capture their contribution to the potato value chain and their challenges, and find out if there is a potential to assist them grow as commercially-oriented enterprises.

Four small processing companies were sampled for profiling. But one company was found to be more focused on juice processing and subsequently dropped from the profiling.

4.3.3.1 MWATHUKA CRISPS PROCESSING COMPANY

a. Overview

This is a family-owned company founded in 1987. It is situated in Nakuru County, Nakuru town. It has one director and employs seven staff. The company makes crisps that are sold to individual supermarkets in Nakuru, Nairobi and Kisumu.

b. Products processed

The only product made by the company is salted potato crisps. They process crisps and pack in 40- 60 kg packs. They also sell small packs of 100 g at KSh 60 per pack. The company sells all that it processes and so does not have bulk products at the factory. The highest demand is when schools are closed in the months of April /May/, August/September and December. The biggest challenge the company has is competition between the crisps processors. The large scale processors keep the prices so low that it is hard for the company to compete. Currently it is processing on demand, only buying the required potatoes when there are orders to supply. Mwathuka uses the Dutch Robjin variety bought from farmers in Bomet. The company buys graded potatoes of 35-60 mm. The owner looks for potatoes that are fully mature and hardened. Sometimes he is forced to buy from open market when there are shortages.

Products processed	Potatoes processed per day	Quantity of products processed/day	Price unit KSh	Quantity sold	Place of sale	Varieties processed
Potato chips	120-200kg	40-60kg	60 per 100g	N/A	Domestic in supermarkets	Dutch Robjin

c. Working with farmers

The company used to contract farmers to grow potatoes. But this proved difficult because farmers did not respect the agreements. Some sold potatoes to other buyers. There are no current contracts with farmers.

d. Processing equipment

Table 9: Processing equipment used by Mwathuka

Type	No.	Age	Make	Source
Peelers	3	1 - 10 yrs		One is from India, one is from China and one bought in the domestic market
Slicer	5	1 - 5 yrs		From Spain, India and Kenya
Dryer	1	2 yrs		Local market
Sealers	5	1 - 4 yrs		Local market

e. Processing capacity

The company has capacity to process 120 to 200 kg a day.

f. Sources of energy

The company uses an old diesel engine which has been re-designed to run on used engine oil. This supplements electricity used to fry the crisps, thereby cutting the cost of fuel. The company plans to source for fryer that uses paraffin or diesel. With capital, the owner intends to install a commercial crisps processing line.

4.3.3.2 BONIKA

a. Overview

Bonika is a small processing company with a single owner. It has two directors and employs seven staff. The company was started in 2001 and started processing crisps in 2006.

To make their crisps they use the Shangji variety, obtained from Uasin Gishu County, which they say are good for crisps.

The company director complained of unfair competition from big processors. The small processors have difficulty penetrating the market. He said that he does not have capacity to expand his business as he would like to, due to financial limitations. He would like to have processing machines, his own transport, and expand capacity so that he can contract farmers in order to get good quality raw materials.

b. Products processed

Bonika has a number of products apart from potato crisps, sticks and chevda, made from other raw materials and not potatoes. These include cassava crisps, arrowroot crisps, roasted nuts and bananas crisps.

Table 10: Bonika products and sales

Products processed	Potatoes processed per day	Quantity of products processed/day	Price unit KSh	Quantity sold	Place of sale	Varieties processed
Potato chips	110 kgs for all products	N/A	200-250 per 400g	N/A	Domestic in supermarkets and hawking	Shangi
Sticks		N/A	200 per 200g	N/A	Domestic in supermarkets and hawking	Shangi
Chevda			200 per 200g			

c. Working with farmers

The company does not work with farmers directly but buys potatoes from traders or open air markets.

d. Processing equipment

All the processing is done manually; there is no mechanised equipment.

e. Processing capacity

The company uses Dutch Robjin, but when this is not available it they use Shangi or Alika, which they say is not as good for making crisps. The company processes 110 kg of potatoes per day

f. Sources of energy

As source of fuel they use sawdust and firewood, at a cost of about KSh 1000 per day.

4.3.3.3 GREEN POINT GROCERIES



a. Overview

Green Point Groceries (GPG) was started in 2011 by two young university graduates who had looked for jobs without success.

They started their business online, tapping into the growing demand for ready-to-cook potatoes and other vegetables, with a workforce of 10 employees and a capital investment of about KSh 200,000. To expand its market and business, GPG is planning to start home delivery services to individual customers. The company is facing the problem of lack of capital to buy needed processing equipment.

b. Processed products

The company processes and delivers ready-to-cook peeled and sliced potatoes to restaurants and hotels. They process 50 kg of potatoes per day, which they sell at KSh 85/kg. The company also supplies other popular vegetables, prepared and ready to use.



c. Working with farmers

The company sources raw materials direct from farmers. They do not buy their raw materials from the market because they want them free of chemicals. The company pays for supplies on a weekly basis. They have not made any formal contracts with farmers but plan to do so as their market grows.

d. Processing equipment

Processing is done manually.

e. Capacity to process

The company processes 50kgs of ready-peeled potatoes per day on average. This can increase to 100 kg depending on demand. The company gets about 10 bags x 200 kg a week.

f. Sources of energy

Not needed as the work is done by hand for the time being.

4.3.4 BIG HOTELS

The big hotels that were selected have bed capacity of over 200. These are hotels of international standard that use large quantities of a variety of foods to serve their guests, and among these foods are potato-based dishes.

4.3.4.1 SOROVA PANAFRIC HOTEL

a. Overview

Sarova Panafric started life in 1967 as the Panafric Hotel. It later joined the Sarova Hotels chain and became the Sarova Panafric. The hotel has four directors and a staff strength of 100. The five-star hotel lies a 5-minute drive from the central business district and is popular for functions such as business meetings, conferences and weddings.



b. Products processed

The hotel uses potatoes to make varied products such chips, mashed potatoes and roasted potatoes, and as an ingredient in soups and salads.

c. Working with farmers

The hotel does not deal with farmers directly since they have a contracted supplier.

d. Processing equipment

Not available.

e. Processing capacity

The hotel uses 100 kg of potatoes per day. There is no preference for any potato variety. When the supplier has not delivered, they buy from the open market.

f. Source of energy

The hotel uses LPG gas to cook.

4.3.4.2 THE HILTON HOTEL

a. Overview

The Hilton Hotel is one the Nairobi's top hotels, started in 1969. It has two directors and 110 staff. The five-star hotel is situated in the city's central business district and its prime location makes it popular for hosting conferences, weddings and receptions.



b. Products processed

The hotel uses potatoes to make varied products such chips, mashed potatoes and roasted potatoes, and as an ingredient in soups and salads.

c. Working with farmers

They are supplied by a contracted farmer who brings potatoes once a week, and do not deal directly with farmers.

d. Equipment

Not available.

e. Processing capacity

The hotel uses about 500kg of potatoes a day

f. Sources of energy

Both electricity and LPG gas are used.

4.3.4.3 SAROVA STANLEY

a. Overview

The Sarova Stanley launched itself into Kenyan history in 1902 by becoming the first luxury hotel in Nairobi and the host of prominent world leaders, renowned authors, and international celebrities. The hotel has four directors and 380 members of staff.



b. Processed products

The hotel uses potatoes to make varied products such as chips, mashed potatoes and roasted potatoes, and as an ingredient in soups and salads.

c. Working with farmers

The hotel is supplied by an appointed supplier and therefore does not work with farmers directly. They say the supply is not reliable as it is subject to price fluctuations depending on season and availability in the market.

d. Processing Equipment

Not available.

e. Processing capacity

The hotel uses 300kg per day to make various potato products.

f. Sources of energy

The hotel uses electricity and LPG gas.

4.3.4.4 THE SAFARI PARK HOTEL

a. Overview

The Safari Park Hotel & Casino started in 1963. It has three directors and a staff strength of 120. One of the few five-star hotels away from Nairobi city centre, the Safari Park Hotel stands along the Thika highway in 50 acres of gardens. It has five restaurants and is a popular conference venue.



b. Products processed

The hotel uses potatoes to make varied products such chips, mashed potatoes and roasted potatoes, and as an ingredient in soups and salads.

c. Working with farmers

They are supplied on daily basis by an appointed supplier. Therefore the hotel does not work with farmers.

d. Processing equipment

Not available.

e. Processing capacity

The hotel uses 500kgs of potatoes a day.

f. Sources of energy

The hotel uses LPG gas and electricity.

4.4 Comparison of the companies

Companies are compared on the basis of the factors that were set for profiling as seen in the table below.

Table 11: Comparison of the companies

Company name	Potato Products	Qty of products processed per day	Amt of potatoes processed per day	Varieties used	Willingness to work with farmers	Willingness to Collaborate	Age of the company	
1	Norda	Crisps	800 kg	2.5 tons	Dutch Robjin	High	good	7 years
2	Deepa	Crisps Chevda Sticks Crinkle Crisps, Masala Sticks	N/A	13.2 tons for all products	Dutch Robjin	Good	fair	41 years
3	Propack	Crisps	1.5 tons	15-20 tons	Rosetta	High	good	18 years
4	Njoro Canning	Frozen chips Dehydrated Potato Canned potato cubes	10 tons	300 tons for all products	Tigoni	High	Fair	74 years
5	Kevian	Plans to go into frozen chips, power and starch	N/A	N/A	N/A	High	High	22 years
6	Java	Chips Home fries	N/A	2.1 tons for all products	Shangi and Tigoni	N/A	fair	15 years
7	Steers	Chips	N/A	15 tons	Shangi Tigoni	N/A	fair	18 years
8	Kenchic	Chips Bhajias	9 tons 3 tons	15 tons	Shangi Tigoni	N/A	fair	30 years
9	Galitos	Chips	N/A	1 ton	Shangi Tigoni	N/A	N/A	8 years
10	Debonairs	Chips	N/A	0.63 tons	Shangi Tigoni	N/A	N/A	16 years
11	Green Point Grocers	Ready to cook peeled potatoes	50 kg	1 ton a week	Shangi Tigoni	fair	Good	4 years
12	Bonika	Crisps, chevda	N/A	110 kg	Shangi Tigoni	fair	good	13 years
13	Mwathuka	crisps	40-60 kg	120-200 kg	Dutch Robjin	good	good	24 years

14	Panafric	Chips, soups, salads	N/A	100-150 kg	Shangi Tigoni	N/A	N/A	47 years
15	Hilton	Chips, soups, salads	N/A	500 kg	Shangi Tigoni	N/A	N/A	49 years
16	Sarova Stanley	Chips, soups, salads	N/A	300 kg	Shangi Tigoni	N/A	N/A	102 years
17	Safari Park	Chips, soups, salads	N/A	500 kg	Shangi Tigoni	N/A	N/A	51 years

5 SUMMARY AND RANKING OF THE COMPANIES

5.1 Criteria for ranking

The selection of four companies that showed high prospects for partnering with GFPA-PIA was made after the analysis in table 11 above. A summary was made and the scoring done for each on the basis of age, capacity to process, working with farmers, and the ability to cooperate — these are the factors deemed important in order to fit well in working with GFP-PIA and other partners along the potato value chain. The age of the company is significant. A company that is about 10 years old is stable, and stability is important for the collaboration. A company with high processing capacity is good in the partnership because it creates the market pull effect that is desirable for the development of the value chain. Producers can confidently be assured of marketing their products. The third consideration was the willingness to work with farmers. Since the GFP initiatives are targeted at improving the livelihoods of the communities, it very important that a company in the partnership is willing to work with farmers. Another consideration made is the willingness of the company to work with GFP-PIA and other partners in the potato valued. Value chain promotion is about linkages and synergetic effects obtained from the stakeholders working together. This brings the flow of goods and services along the chain and by so doing creates a conducive business environment for all. These factors were weighted on the importance of each for collaboration.

- **Age of the company (20 points)**

A company scored 2 points for every year it has existed. A range of 10 years was used. No extra points were awarded for companies older than 10 years. This makes a score of up 20 points (indicates stability).

- **Capacity of the company to process (30 points)**

A company was awarded 3 points for every ton they process per day. A company processing less than a ton got no points as their capacity is too low to make a difference in the market. A range of 10 tons was used. No extra points were awarded for companies processing beyond 10 tons. The highest score is 30 points.

- **Willingness to work with farmers (30 points)**

A company that is already working with farmers and has signed agreements and is willing to work with GFP scored 30 points. A company that is not working with farmers but willing to engage in contracting farmers and aggressively seeking to work with them and work with GFP got 20 points. A company working with farmers but that has poor relationships with them scored 15 points. A company not working with farmers and not trying got no points. Highest score in this category is 30 points.

- **Company's willingness to cooperation with other partners (20 points)**

Companies working with other stakeholders and willing to work with GFP scored 20 points. A company not working with other stakeholders but willing to try and work with GFP got 15 points. Companies not willing to collaborate got no points. Highest score is 20 points.

This makes a total possible score of 100 points.

Table 12: Ranking of the companies

Company name		Age Max 20	Willingness to cooperate Max 20	Capacity (amt of potatoes used /day) Max 30	Varieties preferred	Working with Farmers Max 30	Overall score Max 100
1	Norda	14	20	30	High in dry matter	20	84
2	Deepa	20	10	30	High in dry matter	15	75
3	Propack	20	20	30	Lady Rosetta	20	90
4	Njoro Canning	20	15	30	Long variety for chips	15	80
5	Kevian Kenya	20	15	0	N/A	20	55
6	Java House	20	10	6	Any, but good quality	0	36

7	Steers	20	10	30	Good chips variety	0	60
8	Kenchic Inn	20	10	30	Good chips variety	0	60
9	Galitos	16	10	0	Good chips variety	0	26
10	Debonairs	20	10	0	Good chips variety	0	30
11	Green Point	8	20	0	Any, but good quality	10	28
12	Panafric Hotel	20	10	0	Any, but good quality	0	30
13	Sarova Stanley	20	15	0	Any, but good quality	0	35
14	Hilton Hotel	20	5	0	Any, but good quality	0	25
15	Safari Park	20	5	0	Any, but good quality	0	25
16	Bonika	20	8	0	Shangi	0	28
17	Mwathuka	20	10	0	Dutch Robjin	5	35

5.2 Proposals for partners to work with GFP

From the analysis in Table 12 above, only four companies scored above 75% of the points.

- i. Propack scored the highest with 90%, due to its willingness to collaborate with other stakeholders, high capacity to process and willingness to work with farmers. They are making efforts on their own to create linkages with farmers. Propack has its own farm (110 ha) where they are producing potatoes, that could be used as a demonstration farm.
- ii. Norda comes second with 84 points. Norda has already made contact with farmers in Meru and are doing analysis of potato samples collected from farmers to determine the

qualities of the potatoes so that they can go into contract with growers. It has high capacity to process and has a planned growth rate of 30-40% per year.

- iii. Njoro Canning Industries scored 80 points. It is an old stable company with high capacity to process. It has also worked with farmers and even trained over 10,000 of them. But it is slowing down on working with farmers due to failure by farmers to keep agreements. The company is also reluctant when it comes to collaboration with others. They are not readily open to collaboration.
- iv. Deepa Industries is also another old and stable company and scored 75 points. It has good experience in contract farming and working with farmers and banks for provision of financial services. However the Deepa management is not very open to cooperation with other stakeholders along the chain.

5.3 Conclusions and recommendations

From the analysis above, there are four likely options for companies to form partnerships with. Each of them presents good prospects. It is recommended to work with at least two companies to start with, as the initiatives are piloted. Working with two companies as partners will lead to the opportunity to compare experiences and information gathered from different sources. Another reason for working with two companies is that the arrangement would mitigate any eventuality arising should one entity fail to continue the partnership.

The partnership should be formed with Propack and Norda as they emerged with the highest potential for collaboration. The other two companies, Deepa and Njoro Canning, could be included in the partnership as the project moves on. They have very useful experiences in contract farming and should be kept in the arrangement even on a consultation basis, to tap lessons learned.

The fast food restaurants process reasonable amounts of potatoes (0.5 to 15 tons a day), mostly into chips. Although they are not working with farmers directly, they are a very good outlet for farmer-produced potatoes supplied by appointed dealers. The restaurants could be considered for inclusion in the partnerships as important players in the potato value chain.

There are several challenges in the processing sub-sector cited by the companies that should form part of the issues to be addressed in the project implementation plans:

- Supply instability is one of the cited constraints. Potato supply in the market is very unstable as most of the production is rain dependent. This leads to oversupply in the peak harvest season that dwindles about two months later, leading to potato shortages and increases in price. A means of stabilising prices of potatoes should be put in place

to avoid gluts that distort pricing of potatoes and affect the pricing of processed potato products.

- Farmers do not respect agreements made in contracts. They sell potatoes instead to other buyers and they do not produce good quality potatoes. It is important to build the capacity of farmers on production aspects as well as organisational development to enhance their ability to participate in partnerships.
- All the companies expressed strong need for better processing varieties of potatoes. This is the case especially for crisps and chips processing companies. Urgent measures are needed to ensure the companies access processing varieties to feed their fast-growing factories and meet the increasing demand for potato products. Currently all the top processing companies are operating below their processing capacity due to lack of adequate raw materials.

6 ANNEXES

Annex i. List of potato processing companies

Potato Processing Companies						
	Brands	Company	P.O. Box	Email address	Mobile	Landline
1	C&R	Candz Ltd	111173-00400	none	none	551901
2	Tuzo	Top Snacks	12275	none	none	none
3	Depy's	Pioneer Foods	61204	none	none	none
4	Chigs	Chirag	31150-00600	chigs@chiragkenya.com	none	020-557898, 650777
5	Crisps, Chevda	Deepa industries	44804-00100	info@tropicalheat.co.ke	none	3573000-3
6	Crisps	Norda Industries				0202-367881
7	Krackles	Propack		info@propack-kenya.com	none	020-8561185
	Crisps	Propack		info@propack-kenya.com	none	020-8561185
8	Frozen Chips, Dehydrated Potatoes	Njoro Canning	Njoro, Nakuru			
9	Kellmwanz	Kellmwanz	6438-00200	none	0726 671362	none
10	Kristas	Kristas Ltd	7346-00401	info@kristasLtd.com	020- 3003587/	2451480
11	Golden Crisps	Happy Eater Ltd	44014	none	none	none
12	Leaky Bites	Leakims Eater Ltd.	14727-00100	none	722262894	0722-431089
13	Yankee Doodle	Deluxe Foods	39150-00623	yankeedoodledfi@yahoo.com	none	550790
14	Amigos	Super Snack	38983-00623	amigos@wananchi.com	none	558758
15	Ricky's	Salma Ind.	6208-00300	none	none	6766730
16	Penny Bites	Penny Foods	71576	none	722875559	none
17	Kingsmill	Wheatbee	49133-00100	none	735587354	020-3542468/9
18	Tasty Crisps	Three Star Packers	19575-00202	none	721531877	none
19	Kismart Crisps	Kismart Enterprises	6505-00100	none	723347648	none
20	French Bites	French Products Ltd	67598 Nbi	none	none	none
21	Delice	Individual		none	none	none
22	Ready Chips	Midlands	Nyandarua			

23	Lbf Crisps	Bonika Foods Ltd	590 Waiyaki	bonilikambu@yahoo.com	0722-309648	
24	Jacker	Kenroid Ltd				
25	Piripiri	One Stop Enterprises	45015		ABC Place	020-3746768
26	Vina Salted Crisps	Vina Ent.	31569		ABC Place	
27	Jammy	Magic Time		sales@magictime.com	ABC Place	
28	Walker	Sunseed	Leicester			
29	Super Crisps	Super Qlty Snacks	344-00610		0733-903882	
30	Kimme Potato Crisps	Kimme Food Products	4357 GPO		721774148	
31	Kara Smart	Kara Smart Food Prod.				
32	Quince	Quince Foods				
33	New Arrivals Lybo	Lybo Bites	6617 Nbi			
34	Bbjk Crisps	Bbjk Food Prod.	23017 Nbi		0720-274275	
35	Super Mix	Sunace Foods	Nakuru		0713-316594	
36	Viva Crisps	Viva Snacks	15808, Nakuru	vivasnack@yahoo.com	0710-440880	051-221003
37	Potato Crisps	Raani Foods	735-20100 Nku		0733-428540	0726-397037
38	Potato Crisps	Gioja Products	Box 852 Uthiru		733903086	
39	Potato Crisps	Oas Potato Prod.			728202954	
40	Potato Crisps	Rimusa Prod.	Box 29179 Nbi		725535533	
41	Potato Crisps	Saima				
42	Potato Crisps	Njambini Foods	Box 54 S. Kinangop		721123330	
43	Peeled Potatoes	Green Point Grocers			724395990	
44	Crisps and Nuts	Equatorial Processors			N/A	
45	Crisps	Mwathuka				0202-186744

Annex ii. Questionnaire



POTATO PROCESSING COMPANY PROFILE

1.1 Processor Profile

Name _____ of the processor _____ Phone number _____
Date ___/___/___ (DD/MM/YY)

County _____ Town _____ Location _____

1.2 History

Date and year the company was founded _____

Date and year the company was registered _____

Date when company started processing potato _____

Current legal status (is the company operating on day to day basis without difficulties)

Number of directors _____

Number of staff _____

1.3 What are the main activities of the company _____

2. PRODUCTS PROCESSED

2.1 What potato products do you produce and sell and at what price:

Product 1 (name the product)	Quantity processed per day (in kg)	Unit of sale	Price per unit of sale	Total quantity sold	Total amount demanded by the company (including unmet demand)	Deficit(what was not supplied to the company as per demand
2 _____						
3 _____						
4 _____						
5 _____						
6 _____						

2.2 Where do you sell the products that you process?

- i. Town _____
- ii. Type of outlet/client or buyer (supermarket, shop others) _ and what is the % of the total products that is sold to each? _____

2.3 What challenges do you have in getting adequate supply of potatoes?

2.4 What challenges do you have in selling all the potato products you produce?

2.5 What improvements are necessary to increase the quantities and quality of potatoes supplied to you?

3. VARIETIES

3.1 What varieties are suitable for producing each product?

Variety	Products made	Qualities desired	Comments
Variety 1_____			
Variety 2_____			
Variety 3_____			
Variety 4_____			
Variety 5_____			
Variety 6_____			

Note: Questions below may have many answers, e.g. per product

3.2.1 What qualities do you look for when choosing the varieties to source for each product?

3.3 What are the shortcomings in each variety chosen for each product?

3.4. Do you buy sorted/ graded potatoes? If yes what are the different grades that you buy?

4. WORKING WITH FARMERS

4.1 Do you source potatoes from farmers?

4.2 What arrangements are in place for the farmers to supply you with potatoes?

4.3 Do you have contracts with farmers to supply you with raw materials?

4.4 If yes do you include financial services or credit access for farmers in the agreement?

4.5 Have you signed any agreements with farmers?

- 4.6 What type of contract does have with farmers/suppliers?
- 4.7 Is there any type of financing scheme for Framers/ suppliers?
- 4.7.1 How is it arranged?
- 4.9 What are the challenges that you experience in contracting arrangements?
- 4.10 What are your suggestions for improvements?
- 4.11 If no contract arrangements with farmers, what are the reasons for it?

5. COMPANY PROCESSING EQUIPMENT AND MACHINERY

5.1 Equipment

Type	Numbers	Age	Make	Source	Comments

ii) Other assets related to processing capacity_____

iii) What improvement are you planning to expand your processing capacity?

6. PROCESSING CAPACITY

i. What is the amount of potatoes processed per hour/day/month /year in tons_____

ii. What are your sources of potatoes you process?

- iii. How reliable are these sources?
- iv. What are times of the year that you experience potato shortages?
- v. What are the times that you have potatoes in plenty?
- vi. How do you source the potatoes you process? (from market or supplied by a dealer or others)

7. SOURCE OF ENERGY USED IN THE COMPANY

7.1 What are the sources of energy that you use?

7.2 What is the cost of the energy for the company?

7.3.1 How do you plan to reduce the cost of energy?

Annex iii. Terms of Reference



Terms of Reference for selecting a new GFP PIA Potato Processing Partner in Kenya

Introduction

The potato Industry in Kenya provides great opportunities for local and international investment. However, business feasibility at various levels of the value chain ranging from seed potato breeding and multiplication, crop protection, mechanisation, processing and storage is not well defined. Potential investors do not have ready information on potato market demand and supply in the Kenyan market. In February 2014 GIZ hosted the German Food Partnership Potato Initiative Africa (GFP-PIA) kick off workshop which brought together 9 German companies and several Kenyan companies and institutions promoting potato production and processing. The Kenya institutions who participated in the kick off workshop included Agricultural Research Institute (KARI) Tigoni, Kenya Plant Health Inspectorate Service (KEPHIS), National Potato Council of Kenya (NPCK), International Potato Centre (CIP), Kisima Farms and DEEPA Industries.

The GFP PIA companies from Germany are as follows:

1. Seed potato breeders
 - 1.1 Solana GmbH & Co. KG is a private potato breeding company with more than 100 years of experience and
 - 1.2 Europlant Pflanzenzucht GmbH is an innovative leading potato breeding company operating in over 70 countries worldwide with its administrative centres in Lüneburg, Germany. Its production and sales covers more than 100 varieties for all purposes and climates
2. Machinery
 - 2.1 Grimme Landmaschinenfabrik GmbH & Co. KG -A world leader for innovative potato, vegetable and sugar beet machinery and
 - 2.2 Lemken a part of AGCO:-A global leader focused on the design, manufacture and distribution of agricultural machinery
3. Processing - GEA Westphalia Separator Group GmbH- A company of GEA Group Aktiengesellschaft which is one of the largest suppliers of process technology and components for the food and energy industries

4. Soil fertility management

2.3 K+S Kali GmbH - A global provider of Specialty and mainstream fertilisers, as well as products for industrial applications

2.4 Bayer Crop Science AG -A global enterprise with core competences in the fields of health care, agriculture and high-tech materials and

2.5 Syngenta- A global company for the development and production of seeds and plant protection products including herbicides, insecticides and fungicides for crop protection.

Project objective

Overall, the objective of the GFP-PIA project is to develop a comprehensive and scalable approach to establish competitive potato value chains, especially benefiting smallholder farmers and their families in Nigeria and Kenya; increased productivity, postharvest management and farmer-market-linkages . This shall be obtained through suitable, modern technologies and smallholder inclusive business models. The project is considered to be a pilot to a subsequent value chain program. Activities in Kenya have been developed to cover the following subjects:

- Improvement of the seed potato sub-sector (preparation of import of potato varieties already in Kenya list, evaluating pest risk analysis, setting up import conditions, import seed)
- Crop Management & Mechanisation (selection of test field sites – no processor sites so far planned – selection of managing institute for demo sites, different soil/disease related tests, import of nutrients/ fertiliser blending, soil preparation, harvest, evaluation...)
- Processing and Storage (market study on demand for processed potato products, proposals for suitable processing lines/applicable financial proposals, decision on investments, capacity building measures)
- Finance (Identify needs and chances for financial product adjustment/development/ information management along the value chain as starting point for suitable training concepts/ cooperation with financial institutions; investments in improved processing technologies at the selected processors could support economic production of crisps and fresh and frozen chips and contribute to increase/stabilise the smallholders' farm income)

Need to select new potato processing partners and selection criteria

Towards the end of March, 2014, and after the GFP PIA kick off workshop, it emerged that the previously selected potato processor in the project was no-longer tenable and had to be dropped beginning of April, 2014. Therefore it was agreed that other potato processor(s) shall be selected. The selection of the new processor(s) will be based on the following criteria:

1. The processor shall be also one of the major potato consumers in the catering industry (hotel or restaurant) and they shall all have strong linkages to the consumer market in the country. This is to have a continuous ongoing project even if 2 processors drop out due to not-foreseen or non-project-related reasons as well as to include the consumer-related market in the findings of the GFP-PIA project from the beginning on.
2. Willingness to engage with and to enter into a legally binding contract with the target group of GFP-PIA, the small-scale farmers in the production of the specific potato varieties that will be selected for processing, i.e. Jelly and Caruso.
3. The processing activities of the processors engaging must be in line with the use of minimum one of the varieties that will be used for the GFP-PIA project for
 - 3.1 Chips (fresh, blanched, chilled) and/or
 - 3.2 Crisps (fried) and/or
 - 3.3 Starch (for different purposes)
4. Adequate processing capacity
 - 4.1 Readiness to process and test/sell samples of the offered varieties by GFP-PIA project partners and share the findings with GFP-PIA project partners (time frame in 2015 to be fixed and corresponding to planting/harvesting cycles).
 - 4.2 Adequate capacity per day/year to process and market potatoes that will be produced by small-scale farmers after the first samples' production (within 18 months after samples' production).
 - 4.3 Willingness to scale up the production with regard to the envisaged increase in production as the GFP-PIA project moves forward (expected scaling up project after this pilot project).

The parameters to be investigated include:

1. Name, kind , history , of the company as well as details for contact persons
2. Ownership structure and percentage of ownership; relation to small-scale farmers within the locality of the processor
3. Number and age range of employees
4. Start of company operation, years of experience in potato processing
5. Variety and portion of different products in company portfolio (chips, crisps, starch and sub-products and other crops)
6. Type and portion of customer base; kind of (legal) relationship to customer base (market linkages); market share in potato processing
7. Varieties and type of potatoes processed (check, if Jelly and Caruso) and how/from whom supplied

8. Per variety/product features: Actual production and available capacity in tons per hours/day/week/year, input-output-relation of potato processing
9. Productivity per employee, profitability, return on investments
10. Willingness and capacity to engage with small-scale farmers
11. Willingness and capacity to process samples, later bigger quantities and invest in production lines
12. Challenges/risks facing the processing company and the probable solutions
13. Willingness to be GFP-PIA potato processing partner in the pilot phase 2014/15 and participate in the follow-up project later on

Objective of the consultancy

The main objective of the consultancy is to provide the GFP-PIA project partners via GIZ-Kenya with the company profiles of the 10 most promising potential potato processors in Kenya, which would meet the selection criteria. Additionally, a ranking of the pre-selected processing companies is to be developed and reported according to the selection criteria (guiding questions: who fits better and best of different criteria and within one category of criteria). Finally, the consultant shall establish a proposal which the potato processing companies would fit best in the project.

Preparatory tasks

1. Prepare (tools) questionnaires for the interviews
2. Design the working methodology, action plan and timetable
3. Identify and select a sample size by determining whom to contact and when
4. Collect and analyse data
5. Prepare a report and a presentation, based on analysed data

The consultant will examine specific information from potato processing companies through interviews based on a questionnaire to be developed on the criteria and parameter mentioned here.

Deliverables

The report is expected to be clear and precise in elaborating

- Potato processing company's profile including the criteria
- Ranking of pre-selected companies according to the criteria
- Proposal for the companies based on analytical justification

Time lines

8 - 30 April 2014, total of 15 days



giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Deutsche Gesellschaft für Internationale
Zusammenarbeit (GIZ)
Food Security and Drought Resilience
Programme
PO Box 41607
00100 – Nairobi, Kenya
T +254 20 340 520 /221 1659
F +254 20 221 8765
M +254 724 256939
E jackson.muchoke@giz.de
I www.germanfoodpartnership.org