



JUANCO SPS ON THE CROSS ROADS

Introduction

In March 2011, Junghae Wainaina, Chairman and CEO of Juanco Group, a diversified company based in Ngong in the out skirts of Nairobi, was a worried man. Juanco SPS was facing production problems of its bio-pesticides due to dwindling supplies of pyrethrin – a naturally occurring active ingredient extracted from pyrethrum that is used in production of pesticides. He had discussed the persistent shortages of this critical ingredient with the other three directors; namely Hannah W. Junghae, Wainaina Junghae and Dr. Muthoni Junghae, and was now left to deliberate on the measures the company should consider in the next meeting to ensure continuity in the production of biological based pesticides.

Due to the heightened concern for safe and environment friendly pesticides in the 90s there was marked shift in preference and demand for natural based pesticides over synthetic based pesticides globally. Many manufacturers of chemicals used in agricultural production found themselves in difficulty given the huge investments already made in developing and production of synthetic chemicals. To develop a successful product in this category took between USD 20 – 50 million and many years of research. “Further, multinational companies are known not to promote products that are easily accessible even if such products have proven ability to address farmers’ needs – take the example of generics” asserted Junghae.

Juanco SPS had already developed four biopesticides which it rigorously promoted to create a preference for natural pest control to its clients over the past 5 years. Juanco SPS Limited, a subsidiary of Juanco Group now faced a dilemma, whether to abandon its biopesticide line or look for alternative means of increasing access to pyrethrin. Junghae needed to critically examine the most plausible alternatives and provide leadership on the way forward to the other directors in the next meeting.

Global Concerns for Safety and Quality of Agricultural Produce

The agribusiness industry as a whole is very conscious of food safety and quality. Good agricultural practices (GAP) are encouraged by international organizations and governments all over the world to promote proper production and management of agricultural produce. This approach is based on the premise that food safety should start from the farm. However, farmers

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driven by the need for good yield, “quality of produce” and good returns from farming activities applied pesticides to kill insects, diseases or weeds indiscriminately without due consideration of pesticide residues.

In the era of industrialization, modern agriculture had promoted the use of new agricultural techniques with the aim of boosting agricultural productivity. Hence most farming communities perceived that without use of agrochemicals they would make less profit due to either low yield or poor product quality. However use of agrochemicals resulted in chemical residues or traces that remained in, or on, treated produce after some time. Improper application of non-degradable pesticides in particular could result in toxic residues that are harmful to humans and animals, if consumed beyond some established limit.

Stakeholders in the agri-business sector promoted proper management and use of chemicals in growing crops. Producers of agro-chemicals trained farmers through demonstrations and provided information on proper handling, application and disposal of the chemicals. Governments, through their agencies, also provided extension services to farmers. Crop management involved the entire gamut of activities from planting, weeding, spraying, to harvesting once the crops were ready. In the process of crop production, proper management of the process was critical for a good yield of quality agricultural produce. In particular use of pesticides for vegetables, for example, involves using synthetic pesticides in early season followed by applying biological pesticides after flowering and at harvesting. Proper handling was also imperative during harvesting including cleaning, sorting, packaging and dispatching to the market. Manufacturers of pesticides insisted that use of chemicals according to instructions on the label could minimize pesticide residues.

Like farmers in other parts of the world, Kenyan farmers applied various chemicals in the production of agricultural produce. Farmers sourced hybrid seeds from seed companies such as Kenya Seed, Syngenta and Monsanto for various food crops. Some farmers used organic manure to boost productivity while others applied fertilizers imported mainly from industrialized countries. The farmers sprayed the crops with herbicides, fungicides and insecticides to improve the quantity and quality of the produce.

Heightened Concern for Health and Environmental Protection

The challenge for safe and environmental friendly farm produce and farming practices was a concern at global, national and even at the farm level. In agricultural and horticultural production, most of the pesticides used were synthetic chemicals which had proved to have unintended consequences on the environment and human health. Moreover farmers applied several different toxic chemicals in the production of most farm produce that consisted of a combination of herbicides, pesticides, fungicides and synthetic fertilizer compounds. Thus most foods contained a cocktail of traces of these toxic chemicals, which were absorbed when farm produce was consumed.

It is this situation that raised concern over food safety necessitating the establishment of quality standards by Governments, buyer groups, regional economic blocks and UN agencies such as United Nations Conference on Trade and Development (UNCTAD), Food and Agricultural Organization (FAO), World Health Organization (WHO), and other international organizations

including World Trade Organizations (WTO) and Europe Good Agricultural Practices (EuroGap) among others. For example for most pesticides UNCTAD had established a Maximum Residue Level (MRL). This limit referred to the maximum concentration of a chemical residue that was legally permitted to be present in a food, agricultural commodity or animal feed, and was expressed in milligrams per kilogram (mg/kg) of the food. It was believed that food with residues below this MRL was safe to consume.

Several standards and safety guidelines have been developed to safeguard the interest of the consumers as well as minimize environmental pollution. These include the following: Codex Alimentations Commission (CAC) for food safety; International Plant Protection Convention (IPPC) for plant health; World Organization for Animal Health (OIE) for Animal health; ISO 22000 Global standard for food safety; Euro GAP for food safety and Hazard Analysis Critical Control Point (HACCP) for food safety.

In the 2000s trade and export of fresh produce required adherence to quality and food safety standards set by various organizations and as regulated by individual markets. In Kenya various players in the agricultural sector including the Ministry of Agriculture, Horticultural Development Authority (HCDA), Kenya Agricultural Research Institute (KARI), Kenya Plant Health Inspectorate Service (KePHIS), Agrochemical Association of Kenya (AAK), Fresh Produce Exporters Association of Kenya (FPEAK) among others, put concerted effort in educating and informing farmers on standards and regulations on food safety (**See Exhibit 1**). Compliance to set market standards was a determinant of market access and acceptance of the agricultural produce. In many countries, there were significant penalties imposed on growers found selling produce contaminated with unacceptable chemical residue levels. Thus training in crop and animal husbandry encouraged producers of agricultural products to be conscious of the concerns for food safety.

This drive put attention on agricultural chemicals used and the harm or unintended consequences on the users and the environment. Research findings on residue level on agricultural products, majorly fresh fruit and vegetables, had sounded alarm on the use of synthetic pesticides sparking a vigorous search for natural products as alternative means of controlling pests.

At the global level, international organizations added their collective voice in the debate to safeguard the planet and the consumers. These included UNCTAD to promote trade and development by developing countries, WTO to encourage much more free flow of trade, FAO to promote food sufficiency and safety and WHO to promote human health agenda. The guardians of the ultimate consumers were the trade groups (retail chains) who bought fruit and vegetables from farmers or imported them from other countries and placed them on shelves for consumers. For example trade organizations in Europe formed EuroGap and mandated it to set standards for food safety.

In Kenya EuroGap measures posed a threat to horticultural farmers who did not meet set conditions for producing and marketing horticultural products such as snow peas, French beans, tomatoes, onion, coriander, capsicum, cabbages, carrots, asparagus, broccoli, baby cobs, cucumber, bananas, pawpaw, oranges, mangoes, pineapples, watermelon, for fresh foods and a variety of flowers for the export market. Product quality was a prime criterion in gaining access to

Europe's competitive markets where commercial markets required a stable supply and consistent quality

The concern for food safety made it an imperative for producers to manage chemical residues in the harvested produce. Growers across the globe had to be trained and sensitized on the importance of food safety. Indeed food safety started at the farm; hence it was the farmers' responsibility to ensure that chemicals were used correctly to minimize any chance of unacceptable chemical residues occurring.

The Pest Control Products Industry in Kenya

Pesticide use in Kenya has developed correspondingly with cash crop and food production since the advent of colonialism. For decades, the agro-chemical industry remained fragmented and largely unregulated. The agrochemicals imported into the country were not rigorously inspected due to lack of a proper regulatory and legal framework. In the absence of punitive policies, unscrupulous traders frequently took advantage to make quick money by selling fake products that were either ineffective and or harmful. For example, an inert substance such as chalk had been sold to unsuspecting farmers as a fungicide, and as chlorine for purifying water to a municipality in the 80s. There were rampant cases of fake chemicals in the market making it difficult for those conducting genuine business to operate.

These challenges within the industry made the industry players come together and form an association that would restore sanity in the industry. Junghae was among the founding members of the Association serving as the first Secretary to the Association - the Pesticide Chemicals Association of Kenya (PCKA). Through lobbying by the Association, the government enacted a law known as the Pest Control Products Act in 1982, to regulate the agro-chemical industry. A government agency, the Pest Control Products Board (PCPB) was established to regulate the manufacture, importation, exportation, repacking, distribution, sale and use of pesticides while mitigating the risks to man and the environment.

PCKA whose membership included manufacturers, formulators, re-packers, importers, distributors, farmers and users of pest control products (pesticides) later changed its name to Agrochemicals Association of Kenya (AAK). Owing to his long-standing experience in the agribusiness sector, Junghae was invited to serve as AAK's chairman primarily to help set up the policy and structures required for it to achieve its mandate. He served for three years as chairman and provided leadership in the formative years of the association. It was during his tenure that the Association, in addition to representing member interests in policy making processes, undertook activities including 1) Promoting public education concerning the use of pesticides safely 2) Providing a secretariat for liaison with government and other stakeholders 3) Dealing with matters relating to customs duty, registration and labeling of pesticides, setting of standards in pesticides, following safety codes and promotion of the FAO Code of Conduct on distribution and sale of pesticides and 4) Protecting the common trade interests of its members concerning manufacture, formulation and distribution of pesticides. Further, the association collaborated with all agencies seeking improvement of Kenyan Agricultural and Pastoral Production and Environment, promoting just, fair and honorable practice. It worked to minimize malpractice and illegal practices in the agrochemical industry.

History of Juanco SPS

The roots of Juanco SPS go back to 1984 when Junghae Wainaina and his wife Hannah Wanjiku Wainaina decided to operate a petrol station in Nairobi. The decision to venture into business was as a result of lack of a suitable position in a school within Nairobi for Hannah, who was a trained teacher, after she graduated from Nairobi University. She first got posted to Nakuru High, then Maryhill Girls and then Moi Forces, but after two terms, quit due to difficulties in commuting to and from school every day. That is when the family decided to establish a business to keep Hannah busy. They got a dealership from Total Petroleum Company to run a petrol station on Mombasa Road. The station had high turnover in volume but a large percentage of sales were on credit to corporate clients. Collection issues and terms of trade caused misunderstanding between the dealer and the petroleum company, prompting the family to relocate to Ngong Road where they opted to construct their own petrol station (see **Exhibit 2**). Juanco Petrol station started operations in 1992 under Juanco Investment Limited.

Junghae started work with Total in the 70s and later joined FMC Corporation, an American Conglomerate as a Marketing Manager. His work involved travelling all over East, Central and Southern Africa promoting the company's products. He became conversant with the challenges farmers faced in crop and animal husbandry in the region. With insights that he could do better if he worked on his own, Junghae left gainful employment in 1996 and started a consultancy under the name of Juanco SPS Ltd offering farmers training and advice on Integrated Pest Management System (PMS).

In 1998 FMC faced tremendous pressure at home and abroad due to a highly diversified portfolio that included military hardware, gold mining, farm machinery and chemicals. The company adopted a consolidation strategy to regain competitiveness in the industries it operated in. One of the casualties was FMC office in Nairobi. The company decided to close the regional office, and offered Juanco SPS an agency to distribute the company's products. Juanco SPS (specialized products and services) was registered in 1996 as a subsidiary of Juanco Investments and took over distribution of FMC's pest control products in Eastern and Central Africa. The company provided synthetic pest control products demanded by farmers for livestock, floriculture, horticulture, coffee and cotton.

In mid 2000s Juanco embarked on a diversification strategy to expand its product portfolio and territorial reach. The company set its long term strategy with a focus on building strong business relationships with its suppliers and consumers. It embarked on developing local and international partnership to facilitate in the innovation and distribution of relevant and efficient products to achieve business success. Using this strategy, Juanco SPS expanded its operations by tapping on local and regional opportunities to respond to consumer needs. The company forged close relationships with global suppliers and gained sole distributorship and agency for multinational manufacturers of agricultural chemicals including, J H Biotech Laboratories (USA), FMC Foret (SPAIN), Almandine Corporation (Switzerland), United Phosphorous (India) and Biological Control Products (Pty) Ltd (BCP), South Africa in addition to that of FMC Corporation (USA).

To accommodate the expanding business Juanco Investments decided to build a business centre from where to run the company's operations. An ultramodern complex called Juanco Centre was

completed in 1998 (see **Exhibit 3**). The Centre housed Juanco Investments head office, and provided a hub for business and services to the local community.

Junghae believed in delivering solutions that impacted on people favourably. The company had a policy on quality that guided research work and the decision on who to partner with in developing and delivery of quality products that addressed the needs of its customers. Every product developed by Juanco's Research and Development team underwent rigorous laboratory and field tests both locally and internationally to guarantee the quality, efficacy and effectiveness of the products. A product could only be released to the market after passing international standards. Junghae knew that good quality products, especially the bio-products specialty range could easily go for a premium price. He did not need strong justification for premium pricing on account of environmental friendly tag they bore. Further, the company had invested a lot on R&D and the quality of the products was beyond reproach. While it was fairly logical to take that route, Junghae did not. His travels across the continent, early on in his career had exposed him to the poverty arising from food insecurity. This kindled in him a passion to be part of the solution and not to benefit unduly from people's suffering.

The company took upon itself the task to educate the farmers on proper use of pesticides. By 2010 the company had over 18 technical sales personnel and a fleet of pickup vans which were used to deliver products to far flung areas in Kenya and to hold special farmer training seminars on GAPs (see **Exhibit 4**). It was in the company's interests to ensure that the farmers' produce got certified as safe for human consumption when it got to the market, hence the emphasis on training on the safe use of chemicals through the crop growth cycle. In this way Juanco supplanted Government effort where there was scarcity of agricultural extension officers.

Developing Biopesticides

The debate on food safety and environment preservation had gained momentum throughout 2000s. There was increased concern on chemical residue on agricultural products globally. In Kenya, Juanco responded by searching for biological pest control products through R&D. The company set a goal to support farmers to produce safe-to-consume products.

Junghae was convinced that more safe and environment friendly agricultural chemicals could be developed by extracting natural pesticides from plants. This was informed by existing literature, for example natural insecticide could be extracted from tobacco, tea, Pyrethrum, and Neem tree. However the challenge was to produce these on commercial scale. Juanco invested in research to determine the composition and concentrations that could work under normal conditions. The research focused on how to combine pyrethrin with other naturally occurring pesticides to develop a compound that was stable and effective. The choice of pyrethrin as a core ingredient in natural pesticides was informed by the fact that it was the most effective, was readily available in large quantities but needed to be fortified to enhance residual control of pests.

Junghae approached the Pyrethrum Board of Kenya with the idea of producing crop and livestock biopesticides in Kenya. They were skeptical about the proposal but gave him access to data and technical material on pyrethrin as an active ingredient in pesticides. Next he looked for possible research scientists to collaborate with in the search for bio-pesticides.

Jomo Kenyatta University of Agriculture and Technology (JKUAT) agreed to collaborate with Juanco together with an expert from Israel to develop possible biopesticide. Under the leadership of Prof. Gachanja, a team of postgraduate students at JKUAT worked to get the right composition of pesticide from pyrethrin. It took some time to get necessary approvals from the PCPB. In 2005 the company got a breakthrough in developing natural based pesticides. The first product was 'Pyerin' followed by 'Pyegar' and then 'Pyeneem'. (See **Exhibits 5 & 6**).

Diversified Juanco Group

By 2010, Juanco Group had nearly one billion Kenya Shillings sales turnover with an asset base running to millions of shillings (see **Exhibit 7**). The company operated in various sectors of the Kenyan economy and had transformed into Juanco Group; the holding company for all its subsidiaries that included:

1. Juanco SPS was involved in development, promotion and distribution of agricultural and veterinary products (100% shareholding). The group's interests covered agro-vet inputs and agro-processing. The company had become a leader in innovative products and a pioneer in biological pesticides.
2. Juanco Pharma was involved in human medicine and nutrient supplements (40% shareholding). The company had developed products for use in public health and continued to invest in research on human medicine in a fully integrated process comprising extraction of botanical active ingredients, formulations and clinical tests.
3. Juanco Trading was involved in petroleum retailing, hospitality (restaurant) and general trading (100% shareholding).
4. Juanco investments TZ was involved in the promotion and distribution of agricultural and veterinary products (100% shareholding)
5. Juanco Contech was involved in road construction, building construction, water works and marketing of CON-AID (100% shareholding). The group had a partnership with a South African technology firm to market CON-AID used in construction of earth roads to make them all weather roads.
6. Beberu Fashions Ltd was involved in design and production of sales promotion materials. (40% shareholding)
7. Juanco Investments UG was involved in the promotion and distribution of agricultural and veterinary products (100% shareholding)

All the businesses except Juanco Investment TZ and Juanco Investments UG were located at Juanco Centre near Ngong.

Juanco on Corporate Social Responsibility

From its inception, Juanco Investment Company created a special relationship with the local community. Juanco Centre was built on a piece of land that had been purchased from a predominantly pastoralist community in the suburbs of Nairobi. There were no significant services available in the area. The opportunity was not lost to Junghae who set up basic services to increase access and convenience to the locals. He knew the importance of making the company a good corporate citizen since the community constituted a significant constituent to the company.

In the mid 2000 the company directors identified four areas that were of interest to the community and set to address those through the company's corporate social responsibility programs.

First was to make employees have a sense of ownership to the company; thereby escalate their commitment to the company. To achieve this goal Juanco offered company shares to employees in 2007 through private placement. The employees were facilitated to purchase the shares through loans from Juanco Savings and Credit Cooperative (SACCO).

Second was to provide a forum for development for the community. Around the community there were no financial services that encouraged savings and access to credit. Since the company had actively promoted frugality among its employees, it helped set up a SACCO through which employees made regular savings and borrowed loans for developmental and short term obligations such as school fees. The Board saw this as an opportunity to support the community by promoting Ngong Residents Development Forum (NRDF). The forum attracted membership from both the employees and community members in providing services including savings, credit and front office.

And thirdly, the Centre served as a mini mall to the community. There was a service petrol station, a supermarket, butchery, chemist, financial services (SACCO Front office) with Mpesa facility and a Restaurant. Junghae saw the business as serving a greater role in fostering community development as well as contributing to national development. Collectively the businesses hub, i.e., Juanco Centre provided employment to over 300 people, mostly from the community. At the Centre Junghae was referred to simply as Chairman, a title of respect. Indeed the company's value system that guided employees' relation with the stakeholders was crafted by Junghae, and served as a credo for the company which was stated as:

- We honour patriotism, integrity, courage and hard work
- We revere the communities amongst which we operate and consider social responsibility an obligation
- We believe in teamwork but respect the individual
- We consider the customer king and the force that guarantees our success

These guidelines had served the company well but now Junghae was wondering how best the company should approach the current dilemma.

Juanco's Dilemma in Production of Biopesticides

The current problem was as a result of historical developments in the production and use of pyrethrum. In the 60s onwards, pyrethrum was grown in Kenya and a few other countries and was used as a natural pesticide. Kenya became the largest producer of pyrethrum globally in the 70s and 80s. Because it was a well-paying cash crop, the government established a policy to regulate its production and distribution. Under this policy, a board was set up to be the exclusive buyer of pyrethrum from farmers with a mandate to process and market pyrethrin locally and internationally. The Pyrethrum Board of Kenya (PBK) thus was a quasi-government and farmer monopoly in which the government appointed the CEO and directors. Pyrethrum production and marketing was controlled by the Pyrethrum Board. Farmers in the highlands grew the crop, picked the flowers, dried them and sold the dried flowers through local cooperative societies. The

cooperative societies in turn consolidated the pyrethrum and delivered it to PBK. Payment to the farmers was made by the cooperative societies after one month. The board extracted pyrethrin and exported the ingredient to pesticide manufacturers all over the world.

In the seventies, synthetic pyrethrin was developed and marketed as a substitute to the natural pyrethrin. Chemical manufacturers soon turned to the synthetic cousin since it was cheaper and easy to process into pesticides. This and other factors slowed down the uptake of pyrethrum making the crop less attractive to farmers. The nineties and 2000s were difficult times for pyrethrum farmers due to none payments of their delivered crop to the Pyrethrum Board of Kenya. Farmers were disappointed with meager returns, leading to abandoning of the cash crop. Despite several changes in leadership in the board to address farmer problems, the situation did not improve. Programs to revive the industry had not borne any fruits. Other pyrethrum growing countries like Tanzania, Rwanda, Papua New Guinea were not fairing any better either, moreover in many of those countries the flowers were grown on contract and therefore could not be a source of supplies to Juanco.

Now faced with severe shortage of pyrethrin, Juanco needed to identify the best alternative to ensure the company's continuity. After reviewing the three options before him, Junghae needed to decide on the best way forward for Juanco.

Option 1: Juanco found itself between a rock and a hard place. Without the supply of pyrethrin, the business' future was threatened. Junghai was considering purchasing pyrethrum from famers and processing it into pyrethrin. This option needed an additional investment in an extraction plant, although the company would face a hurdle in securing an operating license. In addition the company could engage in the production of pyrethrum on its own farm land in Nyandarua. This would also encourage development of out-grower farmers by virtue of an assured market by Juanco.

Option 2: Junghae believed that farmers will readily supply pyrethrum if they were assured payments for their delivered produce. He made personal efforts to meet with policy makers including the minister for agriculture to lobby for change of legislation to liberalize the pyrethrum sector. A bill was pending in parliament to amend the Pyrethrum Act, but will the parliamentarians pass the amendment? Pyrethrum Growers Association (PGA) had been registered to represent the interest of pyrethrum farmers many of whom had not been paid for almost ten years. If indeed the sector was liberalized then Juanco's problems of accessing the key ingredient in processing its biopesticides would be history.

Option 3: The third alternative was to discontinue the production of biopesticides all together and concentrate on distributing synthetic pesticides from partners. From the economic standpoint, this option made sense, since the rest of competition was offering synthetic pesticides. But would the board members agree since their credo emphasized the supremacy of the community? Junghae wondered.

Discussion Questions

1. Who are the 'partners' and stakeholders in the agribusiness sub-sector and what are their complementary and competing interests?
2. How has Juanco tried to leverage on complementary interests as well as address the competing interests among the three preoccupations, i.e. demand for environmental friendly products that work? High costs of R&D in production of bio-pesticides? Stockholder interests?
3. If you were Junghae, what would you do differently to assure Juanco's business sustainability?
4. Who among stakeholders has '**voice and will**' to push for safety standards in agricultural produce?
5. Identify and briefly explain various global standards and guidelines for producing and offering safe fresh agricultural produce.
6. What is the response from the industry players – who will meet the costs for better and safe products in the agribusiness value chain?
7. Does being compliant to law, ethical and social considerations come at the expense of competitiveness (short and long run)? What are the benefits of being a good corporate citizen?
8. What option or options would you recommend to Junghae? Justify your answer.

Exhibits

Exhibit 1: Warning carried by Newspapers in Kenya on use of pesticide (Dimethoate) on vegetables and fruits

WARNING TO ALL VEGETABLE AND FRUIT FARMERS:
Spraying DIMETHOATE has been banned by the markets

SOMA LEBO
IF THE INSTRUCTIONS CONTAIN DIMETHOATE, DON'T USE ON VEGETABLES

MISUSE OF DIMETHOATE CAN BE HARMFUL TO YOUR HEALTH

DIMETHOATE HAS BEEN BANNED BY EUROPEAN MARKETS

Although popular with farmers due to its effectiveness against insect pests in fruit and vegetable production, the use of Dimethoate poses serious risks to fresh produce and therefore human safety, and has been banned by markets in Europe.

Dimethoate use was restricted in the European Union directive 994/434 of 2009. EU revised the allowed Maximum Residue Limit from the previous 0.2 ppm to 0.02 ppm, which is effectively the Limit of Detection (LOD) in other words a technical ban.

European Supermarkets followed up this action with a direct ban on any use of Dimethoate on vegetables marketed in the EU.

In 2011, several consignments of Kenyan vegetables were refused entry into the market because they contained dimethoate, and the company's contracts terminated.

The Ministry of Agriculture and FPEAK in conjunction with HCDA, KeFHE, PCFB, KARI and AAK therefore wishes to discourage all farmers against use of ANY dimethoate containing pesticide on vegetables and fruits. Currently there are about 25 products containing dimethoate in the Kenyan market. Farmers can easily verify if a product contains dimethoate by reading the label.

STOP THE USE OF DIMETHOATE ON VEGETABLES AND FRUITS TODAY!

To get your farm KenyaGAP Certified, visit FPEAK Practical Training Centre (PTC), Thika, or call the number below. Certification will ensure you meet the market requirements.

For more information, contact your local agricultural officer, or FPEAK at info@fpeak.org, Tel: 0204451488/9

Logos at the bottom include: Ministry of Agriculture, FPEAK, HCDA, PCFB, KARI, AAK, KenyaGAP Certified, and USAID.

Exhibit 2: Juanco Petrol Station

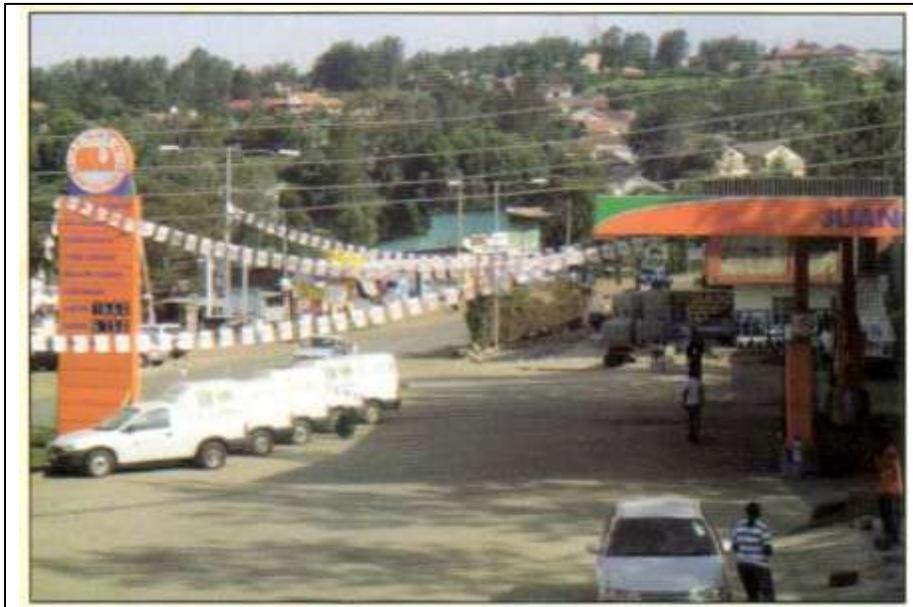


Exhibit 3: Juanco Centre



Exhibit 4: Juanco Delivery Pick up Vans and a Demonstration Plot



Exhibit 5: Biological Products

Products	Application (Use)
Pyerin	Insecticides
Phosgard plus	Foliar feed fertilizer
Pyerin turbo	Insecticide
Pyegar	Insecticide
Pyeneem	Insecticide
Fosphite	Fungicide
Rootgard	Soil fumigator
GC-3	Fungicide
PL plus	Nematicide
Larvex	Mosquito Larvicide
Pygrease	Acaricide- Ticks/mites control

Exhibit 6: Juanco SPS Revenues 2008 to 2010 in Ksh. Millions

Product category/year	2008	2009	2010
Synthetics	300	350	400
Biological	50	75	100
Fertilizers	10	12	15
Total	370	437	515

Exhibit 7: Juanco Group Profit and Loss Account (2006 -2010) Ksh

	2010	2009	2008	2007	2006
Turnover	1,159,610,150	913,145,827	519,452,341	496,263,642	319,824,512
Cost of Sales	809,876,332	653,092,129	398,919,838	375,254,096	265,037,623
Gross Profot	349,733,818	260,053,688	129,523,503	121,009,546	126,786,889
Establishments and Administration	89,035,509	78,292,771	59,423,987	73,085,001	67,553,776
Selling and Distribution	38,691,708	31,835,889	26,207,272	30,537,387	22,684,385
Financing Costs	3,962,323	3,830,934	3,624,759	2,370,131	1,910,961
Total Operational Costs	131,689,540	113,959,594	89,256,018	105,992,519	92,149,122
Profit Before Tax	218,044,278	146,094,094	40,276,485	3,017,027	34,637,767
Tax	25,950,494	13,710,025	6,530,001	3,047,951	2,798,885
Net Profit after tax	192,092,784	132,384,069	33,746,484	11,969,076	31,838,882