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Market Access, Trade and Enabling Policies Project (MATEP)

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Quarterly Report #13

For the period: April - June 2009

June 2009

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INTRODUCTION

Background:

The MATEP project is a five year USAID economic growth project designed to increase Zambia's exports of agricultural and natural resource products into regional and international markets. It is a results-oriented project that is intended to *make exports happen*. Local demand, beyond basic food needs, is limited and only by exporting will Zambia be able to raise the incomes of its rural population.

The export baseline is \$405 million, and over the course of the project MATEP will contribute to raising these exports to \$600 million. To do so, the project focuses on value chains offering the greatest potential for growth over the project horizon, as well as for impact on Zambia's economy and population, owing to interventions of the project and on tourism. At project inception, eight product value chains, along with tourism services, were selected for attention. These were horticulture, coffee, livestock, cotton, honey, paprika, maize and cassava. During implementation, MATEP expanded this number to include seeds, chili, groundnuts and dry beans in response to newly arising market opportunities.

The project has five closely interlinked components to achieve its export objective: Market Access, Trade and Enabling Policy, Tourism, Finance and HIV/AIDS. The Market Access component focuses on identifying foreign markets into which Zambia can sell and on working with exporters to successfully complete transactions in those markets. MATEP targets both regional markets and more distant markets in Europe, America and Asia for Zambia's exports. The Trade and Enabling Policy component focuses on domestic policies and regulations that constrain Zambia's exports as well as on regional and international trade agreements under which export growth can expand. The Tourism component focuses on raising Zambia's profile as a premier, multi-faceted tourist destination in Africa, as a location for international conferences and on tourism training. With the Finance component, MATEP will use \$2 million in investment capital to create sustainable private sector investment funds that provide short-term export financing and medium-term investment capital to exporting enterprises. Finally, the HIV/AIDS component works to mainstream HIV/AIDS prevention activities into client business operations and, with its partners, designs and implements HIV/AIDS prevention programs.

Progress during the quarter:

Major accomplishments in the Market Access component during the quarter were in the groundnut value chain and in regional trade at the Copperbelt Agricultural, Mining and Commercial Show. In the groundnut value chain, MATEP organized a very successful regional meeting for the groundnut stakeholders in Chipata. The regional meeting and follow on Zambia Stakeholder meeting and Export Task Force meetings are resulting in significant groundnut exports to Europe this year. At the Copperbelt Show, MATEP and its client again won show awards and secured sales. MATEP also

continued work with Talier Trading, developing products for their Africa Set in various US supermarkets and in the honey value chain, provided client support leading to export orders in Botswana and Namibia.

Work in the Trade and Enabling Policy Component was principally in the area of value chain research. One major activity under the component has been drafting of a general report based on the 2007-8 Urban Consumption Survey data. Detailed reports on different sub-sectors such as maize, cassava, horticulture will be done by the various concerned MSU/FSRP teams. The report has been reviewed and is being finalized. Other regular planned activities under the component continued as reported below.

MATEP Tourism continued winding down its activities with the final Hotel and Caterers Association of Zambia (HCAZ) Customer Care Training with a total of 104 participants drawn from Solwezi, Chipata, Mansa and Kasama. During the quarter, MATEP also provided Business Skills Training for 16 participants drawn from Mukuni Park Curio Sellers Association in Livingstone. MATEP worked with the Zambia Tourism Board (ZTB) U.S. Office in finalizing the Marketing Database. MATEP continued finalizing the research on Domestic Tourism with ZTB and Tourism Council of Zambia (TCZ). MATEP worked on the final close out report. All component activities were completed by end of June 2009.

With the MATEP Investment Fund, total credit disbursements now stand at US\$ 3,226,744 (at current exchange rates). This figure includes lending from MATEP directly and loans originated by MATEP and financed out of ZATAC resources.

In HIV/AIDS, MATEP continued with the implementation of year four of the project's HIV/AIDS activities with the various implementing partners namely: Mazabuka District Business Association (MDBA), Hotel and Catering Association of Zambia, Zambia Export Growers Association, Ministry of Labour and Social Security and Michigan State University through the Food Security Research Project. MATEP has also developed plans for a major expansion of its HIV/AIDS program, replicating the program first designed for MDBA. Beginning in the next quarter MATEP will implement similar programs with six more DBAs in Eastern Province.

On the administrative side, Ngoma Hambulo, who has been an intern with MATEP while completing his studies at the University of Zambia, joined staff as a Market Access Associate. MATEP also provided positions for two additional student interns during the quarter, one who worked on the groundnut value chain and another who worked on exports to the U.S.

This Quarterly Report is divided into six sections. After the Introduction are five sections, one on each of MATEP's components: Market Access, Trade and Enabling Policy, Tourism, Finance and HIV/AIDS. Each section reviews progress achieved during the quarter based on activities listed in MATEP's Workplan. An Implementation Calendar for the upcoming period is presented for each component. An annex to the report contains an Environmental Review of a MATEP client.

MARKET ACCESS COMPONENT

During the quarter, market access activities centred on exporter services to our clients; this included participation in international and local exhibitions and buyer-seller meetings. MATEP also continued work with Talier Trading, developing products for their Africa Set in various US supermarkets. Developments in the value chain continued with a very successful regional meeting for the groundnut value chain and strengthening links with Twin Trading and other buyers for the European market. In the honey value chain our support to clients and collaboration with other stakeholders continued with MATEP playing a key role in changes to the organisation of the honey industry, financing for clients and market access into Botswana and Namibia. Our exporter services included product promotion and MATEP made significant headway in collaborating with the Zambia Development Agency in the development of promotional materials for Zambian exports.

Whilst still challenged by the effects of the global recession, the quarter saw heightened interest for Zambian exports from the DRC, Botswana and South Africa. The groundnut industry in Europe which had predicted low prices and excess stocks saw a slight price rebound and definite interest in Zambian product

MARKET DEVELOPMENT - REGIONAL TRADE

- **Democratic Republic of Congo:** MATEP worked with three clients to explore the possibilities of setting up an operational base in Lubumbashi to facilitate increased exports. This would enable Zambian companies to more successfully bid for large food contracts from the mines, international donor agencies and the DRC Government, whose tenders give preference to “local” suppliers. During the quarter, MATEP engaged a consultant to conduct a field survey and then hosted a meeting with clients to discuss the results and chart a way forward. The owner of Manoah Investments, one of the fastest growing food suppliers in Lubumbashi rekindled his interest in Zambia and is scheduled for an inward buyer meeting to Zambia during the coming quarter.
- **Angola:** Our new client Glymo Enterprises successfully exported her first 10mt of Zambian produced Maheu, a nutritional drink, during the previous quarter. MATEP had facilitated trade finance, which was promptly repaid during this quarter, and an order for a second 10mt was placed.
- **Botswana:** After successfully exporting a trial shipment of 1.2mt of retail packaged honey to Botswana, our client is in discussion to supply up to 2,000 cases (12mt) monthly to buyers in Botswana. During the coming quarter, this client shall travel to Botswana to finalize these arrangements. Another client has had very successful talks with various food distributors identified by MATEP in Botswana and they have since concluded a distributorship deal, and sent an initial 1mt supply.
- **Malawi:** Due to MATEP efforts to forge a regional approach to groundnut exports, a possible joint export with a leading groundnut producer and exporter in Malawi is being discussed. The orders for this years total 470mt of groundnuts to the UK with a sales value of US\$493,000
- **Trade Shows & Buyer-Seller Missions & Business Networking Opportunities:** During the quarter, MATEP continued to work with clients to prepare for their participation in selected exhibitions and shows. The targeted shows are: the Copperbelt Agriculture, Mining and Commercial Show, The Africa Big 7 and the ITC Agribusiness Forum.
- **Copperbelt Agriculture Mining and Commercial Show:** For a second year MATEP organized an exporters pavilion at the CAMCS. For MATEP clients, the show accords them an opportunity to widen their base within the local market and target the Democratic Republic of Congo market especially given that CMACS is one of the major local trade shows held close to the Congo DR. The MATEP pavilion was host to the twelve organizations, including: Freshpikt Limited, Meshearles Enterprises Limited, Ubuchi Capital Enterprises Limited, Mpongwe Beekeepers, Lumuno Organic Farm, African Joy, Hiwego Limited, Sylva Food Solutions, Zambia Agribusiness Technical Assistance Center (ZATAC), The Netherlanders Development

Organization (SNV) Zambia Honey Council (ZHC) and the Zambia Development Agency (ZDA). Most of the companies that attended the show sold off their products and made very good business linkages. Freshpikt received a lot of enquiries about their canned foods (i.e. baked beans, peanut butter, tomato paste etc, they used the opportunity to explain about their newly acquired agent for the Copperbelt Province who was also present at their stand), Sylva food solutions made huge sales from their dried and packaged Zambian vegetables, Meshearles sold off both their honey and peanut butter products, Ubuchi Capital enterprises also made significant sales of their honey. The mead wine produced from honey by Mpongwe Beekeepers was the most selling commodity especially after 5pm. Show goers were fascinated at the level and quality of Zambian Agriculture and Natural Resource Products on display at the MATEP pavilion. One remarked looking at the packaging and variety of Zambian products: *this makes you proud to be Zambian*. TV coverage of the Stand helped the participating companies market their products and two live radio interviews were also conducted. The MATEP pavilion won second best in the category 'Investment and other Information Advisors' while Meshearles Enterprises and African Joy won 2nd and 3rd best prizes under overall module exhibitor.

- During the quarter, MATEP continued preparations for participation in the 2009 Africa Big 7 Exhibition to be held from the 19-21 July 2009 in Johannesburg. 11 companies and organizations shall participate in this show, with product from up to 20 clients being displayed
- MATEP also facilitated the participation of clients in the International Trade Centre Agribusiness forum in Cape Town South Africa were possibilities for collaborating with the US Department for Forestry Services, SNV and Open Africa to promote community based tourism packages in Zambia in the Northern and Eastern provinces of Zambia. Other synergies developed from B2B meetings at this conference were financing opportunities for the Zambian and regional groundnut businesses

MARKET DEVELOPMENT - VALUE CHAINS

- **Regional Groundnut Value Chain Meeting:** MATEP organized a regional groundnut value chain meeting in Chipata in early May. A total of 58 participants attended with representation from: Zambia (seed producers, researchers, out-growers, traders and farmer groups), Malawi (researchers, growers and traders), Mozambique (traders, researchers and business people), South Africa (Engineers and traders) and the United Kingdom (traders). The main objective of the regional meeting was to formulate an action plan to improve the competitiveness of the Regional Groundnut value chain on the international market. Before the meeting, MATEP developed a database of the major Zambian, regional and international stakeholders in the groundnut industry including producer groups/organizations, processors, traders, seed companies, support organizations, and government. An important output of the meeting was formation of a Regional Task Force that will work toward meeting a prospective exports of 10,000mt per year by 2012.
- **Groundnut Industry Association of Zambia:** Immediately following the Regional meeting MATEP convened a Zambia stakeholders meeting with an objective of organizing and planning the Zambian input to the regional export target. An important output of the Zambian meeting was formation of the Groundnut Industry Association of Zambia (GIAZ). MATEP will continue giving support to GIAZ to facilitate registration and an initial action plan.
- **Regional Groundnut Task Force Meeting:** MATEP helped convene an initial meeting of the Regional Groundnut Task Force in Lilongwe on 24 June 2009. The Task Force resolved to form a regional company provisionally named MAMOZA (Malawi/Mozambique/Zambia) which would be headquartered in either Chipata or Lilongwe. Its role will be contracting international buyers for product from Zambia, Malawi and Mozambique and oversight of improved production, improved quality assurance and improved market access for the industry.
- **Twin Trading Ltd:** An output of the Regional Value Chain and Task Force meetings is that Twin Trading contacted MATEP to explore the supply of 350mt of chalimbana-type groundnuts to UK this year. The groundnuts would be procured in Zambia and exported to Malawi where the NASFAM grading and sorting plant is operational. Aflatoxin testing would be conducted by

ICRISAT in Lilongwe and PPECB in South Africa. The value of the potential order is US\$ 367,000

- **Trigon UK:** Another output of the Regional Value Chain and Task Force meetings is that Trigon UK requested 5kg samples of four groundnut varieties which is intended to lead to a supply contract of 60mt each of two of the varieties for the 2009 supply season. The 2009 shipment is worth US\$126,000.
- **Dry bean value chain:** During the quarter, MATEP continued monitoring and getting feedback from growers by way of asking them to send in their planting reports. In its continued effort to ensure appropriate white bean varieties be released in Zambia, MATEP initiated arrangements for a follow up meeting to the white bean stakeholders' meeting held in January 2009. This meeting is scheduled for 1 July 2009 during which results for the second year trials of the white bean varieties will be presented and hopefully lead to the white bean seed variety being available for commercial marketing in Zambia under one of the local Seed companies. An expected total number of 16 participants were invited and 13 have confirmed participation.
- **Seed Value:** MATEP is working closely to introduce new seed varieties for groundnuts and white beans in response to market demands. The companies involved in this include: Zamseed, SeedCo and Pannar Seed. These companies have the potential of annual supply contracts totaling US\$ 7.5m, to be supplied to commercial and small scale producers in Malawi, Mozambique and Zambia. During the quarter, MATEP communicated with Crop Science Department of North Carolina State University and also ICRISAT to identify preferred varieties and source groundnut seed.
- **Talier Trading:** During the quarter MATEP continued to work on the potentially lucrative deal to supply unique Zambian foods into the US in partnership with Talier Trading. From an initial three companies and seven products, two companies and 4 products are being focused on. During the quarter, progress included: selection of packaging; laboratory food analysis; technical support for compliance with US food safety requirements. A major challenge at this point is quality control in the production process of Sylva Foods and MATEP will work with Sylva to introduce improvements in the upcoming quarter. The cherry pepper product from Freshpikt is closer to export-ready, but will have to wait until later this year until adequate supplies of raw material inputs are ready. MATEP has organized with Talier a trip to Zambia in late August to further advance these export prospects.
- **Honey Value Chain:** MATEP continued support to the honey industry and during the month participated in the Zambia Honey Platform meeting in Kitwe. The meeting developed a three year work plan dealing with eight strategic areas: production, marketing, investment, research, information dissemination, strategic partners and organisational support for the industry. Many critical issues were discussed during the meeting including the organization of the industry, improved quality and marketing. Some of the likely follow up with MATEP is: a mapping exercise to provide detailed data on honey production areas and producers; support to improve visibility of Zambian honey on the international market by enhancing the Zambia Honey Council website; ongoing support for marketing Zambian honey at local and international fairs and conducting a survey to determine local demand for honey

CLIENT SERVICES: BUYER LINKAGES & ENTERPRISE SUPPORT

- **Leather Industry Association of Zambia:** MATEP supported LIAZ participation in the Meet in Africa leather exhibition held in Khartoum in April. The exhibition brings together tanneries, manufacturers, business houses and traders in Africa, Europe and the Far East. LIAZ sent Mr. David Daka, the LIAZ Coordinator.
- **Farm Foods Africa Ltd:** MATEP is helping Farm Foods Africa with establishment of a grading and sorting and peanut butter processing plant in Chipata. With MATEP support a business plan was concluded and FFA is now raising the capital to fund the business.
- **Zamseed:** Zamseed is the key client driving the activity to establish a business presence in the DRC. The Zamseed senior management has reviewed the information gathered with MATEP support and has proposed to their board, the registration in DRC of a new company local DRC

shareholding. Also during the quarter, MATEP assisted the participation of Zamseed in the Regional Groundnut Task Force Meeting in Lilongwe. Zamseed is working in close collaboration with ICRISAT in determining basic and certified seed requirements for 4 groundnut varieties already released in the region.

- **Kafakumbe Ltd:** MATEP continued to work with Kafakumbe to access financing for the development of a fingerlings hatchery. The only hatchery that is functional is in Chirundu and has stopped supplying fingerlings to the Zambian fish industry. A Concept Note was developed with MATEP assistance and submitted to MIIF this year.
- **EPFC Ltd:** With MATEP support, EPFC Ltd submitted a business plan to MIIF for MATEP for a loan of US\$ 90,000 which was approved during the quarter.
- **African Joy:** MATEP has played a major role in this company's growth, providing ongoing support in the form of market linkages, marketing and increased production capacity. African Joy has exhibited responsible use of this support, demonstrated by their growth. During the quarter MATEP concluded an assistance agreement to support African Joy's participation in the Fiera Del Levante 2009, an International Selling Trade Fair in Bari Italy.
- **Ubuchi Ltd:** With MATEP support, Ubuchi submitted a Project Concept Note to MIIF for US\$ 56,000 which was accepted. MIIF invited Ubuchi to submit a Full Business Proposal for this grant and with MATEP support it was submitted in June.
- **Capital Fisheries:** MATEP worked with Capital Fisheries to submit a concept note for the establishment of a canning factory for buka buka fish on the banks of Lake Tanganyika. This cannery would have provided increased supply of canned fish and enabled them to better supply export markets. The cannery would also have allowed increased storage and shorter distance & time between harvesting and processing of fish. This would have reduced the vulnerability of Capital Fisheries to price spikes during the season that fish harvesting is banned in Zambia. Although the concept note was approved, Capital Fisheries shareholders opted not to submit a business plan
- **General Mills:** During the month, MATEP Chief of Party met with Jeff Dykstra of General Mills to discuss support to various MATEP clients. Focus will be in the areas of food safety, quality, nutrition and processing. General Mills, one of the World's leading food companies, has a Science & Technology Transfer Initiative as a Corporate Social Responsibility programme. The initiative focuses on Africa to provide support of General Mills research and development and engineering expertise to offer knowledge, skills and expertise for African businesses.

TRADE AND ENABLING POLICY COMPONENT

Work in the Trade and Enabling Policy Component was principally in the area of value chain research. One major activity under the component has been drafting of a general report based on the 2007-8 Urban Consumption Survey data. Detailed reports on different sub-sectors such as maize, cassava, horticulture will be done by the various concerned MSU/FSRP teams. The report has been reviewed and is being finalized. Other regular planned activities under the component continued as reported below.

COTTON

Consistent with the overall MATEP objectives and approach, the objective of the cotton policy activities is to strengthen the link of smallholder farmers to a value chain with good potential for growth in volume and value. Our approach is to build on research and policy dialogue by engaging stakeholders in a broad-based consultation process that will lead to a sector development plan with buy-in from key stakeholders and then implementation of that plan.

During the quarter, the following was accomplished:

- Stephen Kabwe continued working with the Prof David Tschirley in reviewing the regulatory framework for the cash crops (cotton and tobacco) grown in Zambia. Reviewed the Tobacco Act and the revised Cotton Act and compared the two Acts to understand the differences and similarities of these two regulatory frameworks. Continued interacting with Tobacco Board of Zambia and Tobacco Association of Zambia in getting the data for the study. A report is being prepared as part of a regional study.
- Stephen Kabwe was appointed by International Cotton Advisory Committee to represent Zambia on a seminar on sustainable cotton production from 6th to 16th April 2009 in Washington DC United States. Stephen made a presentation on the Evolution of Cotton and Textile Industry in Zambia. A report highlighting important points that were discussed and recommendations based on the seminar was prepared and submitted to MACO.
http://www.aec.msu.edu/fs2/zambia/Zambia_Cotton_sector_ICAC_presentation_Final.pdf
- Attended a meeting organized by the Cotton Association of Zambia and the Cotton Ginners Association of Zambia to strategize on how the newly formed Cotton Board could start work as soon as possible for the benefit of the industry.
- Prepared a profile of activities MATEP/FSRP undertakes in the cotton value chain to the newly seated Cotton Board. The project was admitted as an Advisory member of the Board.
- Assisted MACO and CSO clean Crop Forecast survey data. The Crop Forecast survey is done every year to assess expected crop production in the country. From the forecast, cotton production has been estimated at 87,000MT, lower than the 120,000MT of seed cotton that the industry has estimated.
- Briefed an Integrated Pest Management Specialist of CDT on cotton work the project is conducting with a view to see how well it can fit with CDT's integrated pest management activities.

HORTICULTURE

Given the relative lack of information on Zambia's horticultural system, our strategy emphasizes applied analysis leading to a National Stakeholders' Workshop, formation of a Horticultural Supply Chain Task Force and implementation of action plans developed by stakeholders.

During the quarter, the following was accomplished:

- *Wholesale market monitoring:* Continued work in horticultural wholesale market monitoring and development of quality standards. Good quality pictures of different standards of tomato, rape and onion have been developed and are being arranged into a brochure for discussion with

stakeholders. This brochure will be used to raise awareness of quality standards among farmers and traders, at the same time that prices are reported on the basis of these standards once transmission of SMS prices commences.

- *Tomato value chain:* Work involving characterization of tomato production and marketing system serving Lusaka and comparative analysis of Soweto price behavior and assessment of price variability on the level and variability of farmer returns has been completed as Mukwiti's M.S. thesis. Additional work on tomato price variability in Zambia has continued and will be presented as an FSRP policy Synthesis.
- *Mobile phone based horticultural price and supply information system:* Consultations continued with ZNFU on the implementation of the mobile phone based horticultural price and supply information system. A follow up on feed back on when this can be implemented has been followed up with ZNFU.
- *Horticultural price dynamics and trade flows:* This work has continued and is focusing on main sources (districts) and volume flows, price variations, season effects, quality and broker effects, linkages to retail systems in terms of sources of produce and price linkages (differentials) among others for rape, onion and tomato. A working paper entitled "The Structure and Behavior of Vegetable Markets Serving Lusaka" is being developed and will be ready in Q3 of 2009.
- David Tschirley worked with Munguzwe Hichaambwa and other colleagues from MSU and Kenya to produce a paper entitled "Modernizing Africa's Fresh Produce Supply Chains without Rapid Supermarket Takeover: Towards a Definition of Research and Investment Priorities". This paper was presented at the conference "Towards priority actions for market development for African farmers", sponsored by International Livestock Research Institute, Nairobi. May 13-15, 2009 and will also be put out as an FSRP Working Paper. The presentation can be downloaded at: <http://www.aec.msu.edu/fs2/zambia/index.htm#pp> or <http://www.aec.msu.edu/fs2/zambia/presentations.htm>
- Mukwiti Mwiinga and David Tschirley participated in a conference on "Socio-Economic research in vegetable production and marketing in Africa", organized by ICIPE in Nairobi, Kenya. The two presented work from Ms. Mwiinga's M.S. thesis and are working now to develop a paper for publication in a CABI Science monograph.

MAIZE

To address technology development and dissemination, public/private investment in input markets and high marketing costs that reduce farm level profitability and effective demand, our strategy emphasizes better informing on resource allocation decisions, redefining the role of government and international trade.

During the quarter, the following was accomplished:

- Continued monitoring the maize grain and mealie meal prices in Zambia. Despite the government subsidy to millers, maize grain prices remained high. For example, in Lusaka, the retail maize grain prices in January was K1756/kg, February K1803/kg, and March K2017/kg. The new crop has begun to come on the market though moisture content is still high. There are reports that farmers in Southern Province are selling early maize grain at K25 000 per 50kg bag (approx K500/kg), whilst some farmers in Chipata in the Eastern Province are said to have found a lucrative market in Malawi selling their grain at 95 000 Kwacha per bag (about K1819/kg). If these reports are true then it provides FSRP with yet another opportunity to provide wise counsel to MACO and the Stocks committee not to take this as a threat but a market opportunity that should be harnessed. The current thinking is to set a very high floor price to discourage sales of grain to Malawi.
- Chapoto, Jayne and Weber collaborated with Dr. Gelson Tembo, Lecturer from the University of Zambia on a paper entitled "[Fostering Agricultural Market Development in Zambia](#)". Presented at the Zambia National Symposium, Harnessing the Potential of Agriculture to Meet the Increasing Demands from a Growing Population at the University of Zambia, Lusaka, Zambia. April 7-8, 2009. Presentation has been posted on the FSRP website and the paper is currently

being formatted to become an FSRP working paper. The presentation by Dr. Tembo attracted some local press coverage and a report can be found at <http://www.lusakatimes.com/?p=10911>

- FSRP outreach team met with the Minister of Agriculture and Cooperatives, Dr. Brian Chituwo to provide him with some basic information on: likely maize supply and demand in the Southern Africa region in the forth-coming marketing season; why it was important for FRA to set policies consistent with protecting some potential export options, and to especially, not announce any FRA indicative prices until the crop forecast is finished and balance sheet announced.
- Jan Nijhoff is assisted MACO with generating more accurate maize grain utilization estimates. This information will feed into the food balance sheet.
- Mason et al, circulated a draft report on “Are Staple Foods becoming more expensive for urban consumers in Eastern and Southern Africa? Trends in Food Prices, Marketing Margins, and Wage Rates in Kenya, Malawi, Mozambique and Zambia” This paper will be presented at the Institute for African Development Conference, “Food and Financial Crises and their Impacts on Achievement of the Millennium Development Goals in Africa” on May 1-2, Cornell University, New York. A final version of this paper was also published as an FSRP working paper: [Are Staple Foods Becoming More Expensive for Urban Consumers in Eastern and Southern Africa? Trends in Food Prices, Marketing Margins, and Wage Rates in Kenya, Malawi, Mozambique, and Zambia.](#) Nicole Mason, T.S. Jayne, Cynthia Donovan, and Antony Chapoto. IDWP 98. June 2009.
- Chapoto and Jayne worked on analysis of the impacts of FRA operations and government trade policies on the level and volatility of maize prices in Zambia. They are close to finalizing a working paper on this topic and plan to use it in future outreach events in Zambia to apprise MACO colleagues of how certain trade policy changes could help stabilize maize prices, especially in years of production shortfalls.
- THE MATEP/FSRP Team spent the first half of May helping MACO and CSO clean the CFS data before the announcement of the crop forecast by the Minister of Agriculture. The exercise was time consuming because of many issues regarding data collection and entry which affected the quality of the data. Our Trainer, Margaret Beaver, had to delay her return to the USA by one week and Chapoto had to cancel a planned trip to Nairobi, Kenya because of the delayed completion of CFS data cleaning exercise. MACO and CSO greatly appreciated our assistance but promised to work with FSRP research team in order to improve future data collection activities.
- Weber, Kabaghe and Chapoto met with the Chief Executive of FRA to share with him some insights on issues to consider when dealing/discussing the maize indicative price or rather maize floor price for marketing season 2009/10, stocking up of FRA strategic reserves, maize production costs and Zambia National Farmers Union (ZNFU) and private sector participation. Most of the stakeholders were happy with the announcement of FRA buying price of K65, 000 per 50kg bag. Unfortunately, ZNFU still persists that this price is low compared to farmers production costs and is advocating for an increase in the floor price up to K85,000. We trust that the notes FSRP provided to the FRA Chief Executive will continue to be handy as the issue of maize pricing is being discussed.
- FSRP encouraged dialogue between the stocks committee and MACO early warning unit responsible for the CFS and proposed a lock up session to discuss and agree on the estimates before the minister announces the crop estimate and food balance sheet. We are please to report that for the first time in the Zambian history the crop estimate was announced by the Minister after a 3 hour lock up of the stocks committee. The committee we only allowed to leave the room after the food balance sheet was announced. MATEP/FSRP was part of this history making event and the Minister acknowledged our assistance.
- As a result our MATEP/FSRP continued effort in highlighting the problems with the MACO/CSO data weighting files due to enumerator under listing, we are please to report that finally CSO agreed to review the weighting procedures. Chapoto and Kabwe attended a meeting at CSO were CSO and MACO reached an agreement to update the weights for 2008/09 crop estimates. As collaborators, MATEP/FSRP provided technical assistance to the discussion.

- MATEP/FSRP is currently working with MACO team to make public the district crop forecast estimates. So far these estimates have been sent to the Grain Traders Association of Zambia and ZAMACE. MATEP/FSRP is encouraging MACO to disseminate this information widely to help FRA and private buyers have ideas as to where to go to get maize tonnage.
- Jayne and Chapoto worked on finalizing the working paper on analysis of the impacts of FRA operations and government trade policies on the level and volatility of maize prices in Zambia. Results of this study indicate that certain government trade policy actions, while intending to stabilize maize prices, actually appear to destabilize them, e.g., export bans and delays between announcing intentions to import and actual timing of import. These findings will be shared and discussed at future outreach events in Zambia to apprise MACO colleagues of how certain trade policy changes could help stabilize maize prices, especially in years of production shortfalls. A report was completed from this work: [Effects of Maize Marketing and Trade Policy on Price Unpredictability in Zambia](#). Antony Chapoto and T.S. Jayne. FSRP Working Paper No. 38. June 2009.
- Chapoto was invited to share some insights from the cross-country price instability study at the FAO Regional Expert consultative meeting on the use and impact of trade and domestic policy interventions on cereal value chain in Eastern and Southern Africa to be held in Tanzania June 3-4, 2009. So Jayne and Chapoto are working on getting the presentation ready and the IDWP completed after getting feedback from the workshop participants. This work contributes to Zambia-specific market development objectives under MATEP/FSRP by making the case to a range of government officials in eastern and southern Africa for reduction of food trade barriers to promote the functioning of informal cross-border trade in the region, which would bring strong benefits to Zambia in terms of greater food price stability. The Tanzania workshop presentation was: [Measuring the impacts of trade barriers and market interventions on maize price instability: Evidence from Eastern and Southern Africa](#). A. Chapoto and T. S. Jayne. Presentation at the Regional Consultation Workshop on: “The Use and Impact of Trade and Domestic Policy Interventions on Cereal Value Chain Stakeholders in Eastern and Southern Africa”. Dar es Salaam, Tanzania, June 3-4, 2009.

FERTILIZER

This subcomponent deals with the issue of subsidy distribution by the state vs. development of a sustainable private sector distribution system within the context of the Agricultural Input Marketing Plan (AIMDP). The pace of work during this period was very active as a continuation of work the prior quarter to inform GRZ policy discussions on fertilizer support programme reform.

During the quarter, the following was accomplished:

- ACF/FSRP staff continued active efforts to inform FSP reform options in Zambia in April, May and June.
- Meeting with Donor Cooperating Partners for preparation of background materials to be used in Donor discussions with GRZ on FSR reform.
- ACF/FSRP prepared written and oral testimony (presented on April 4, 2009) on FSP reform to be presented at the invitation of the Parliamentary Committee on Agriculture and Lands. Written materials and the oral presentation were also published on the ACF and FSRP web sites.
- ACF/FSRP researchers also reappeared a second time at the Ag and Lands Committee (on May 5, 2009) to continue the discussion of FSP reform.
- FSRP researchers (Weber and Chapoto) did additional work with Donor CP in preparation of a second round of written communication between Donor CP and GRZ on FSP reform options. This involved preparation of additional analysis from the Crop Forecast data for 2008/2009 on fertilizer use and source by District. This information was incorporated into Donor CP communications with GRZ.
- ACF/FRSP researchers (Kabagahe, Nijhoff, Jayne) prepared outreach materials and made presentations at a COMESA sponsored AAMP meeting at Victoria Falls organised under the theme ‘Getting Fertilisers to Farmers: How to do it, who should do it, and how it should be done’.

- ACF/FSRP materials published during this reporting period on fertilizer reform are as follows:
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 - [Factors Influencing the Profitability of Fertilizer Use on Maize in Zambia](#). Zhiying Xu, Zhengfei Guan, T.S. Jayne, and Roy Black. FSRP Working Paper No. 39. Lusaka, Zambia. June 2009.
 - [Agricultural Consultative Forum \(ACF\) & Food Security Research Project \(FSRP\) News: Information on the Fertilizer Support Programme \(FSP\) Review 2009](#). ACF and FSRP. June 2009
 - [Coming Policy Attractions – An Overview of On-Going Research & Potential Outreach](#). Presentation for Discussion at a Meeting of Donor Cooperating Partners and The ACF/ FSRP Research/Outreach Team. By the ACF/FSRP Team. ACF Offices, June 2, 2009.
 - Comments and Handouts to Inform Discussion of Rural and Urban Food Security Issues in Zambia. By The ACF/ FSRP Research/Outreach Team, Presented by Michael Weber & Hyde Haantuba. Presentation at a Meeting To Introduce the EU Food Facility For Rapid Response the Soaring Food Crisis- Chrismar Hotel, 6 May, 2009
 - [Comments to Inform Discussion of Rural and Urban Food Security Issues. PowerPoint presentation.](#)
 - [Characteristics of Small and Medium-Scale Crop-Growing Households in Zambia: Preliminary Comparison of Results from CSO/MACO/FSRP National-Level Supplemental Surveys in 2003/04 and 2007/08 Crop Marketing Seasons](#). Tadeyo Lungu, Antony Chapoto, Margaret Beaver and Michael Weber. (Draft for Review, 4 May, 2009). Handout 1.
 - Testimony to the Parliamentary Committees on Agriculture and Lands on Performance of the Fertilizer Support Programme in Zambia. Hyde Haantuba and Nawiko Masiye, Agricultural Consultative Forum, and Antony Chapoto and Michael Weber, Food Security Research Project. National Assembly, Parliament Building, Lusaka. 22 April 2009
 - Written Submission - 1) [On Fisheries](#); and 2) [On Performance of the Fertilizer Support Programme](#)
 - Oral Presentation - [On Performance of the Zambian Fertilizer Support Programme](#)
 - [Fostering Agricultural Market Development in Zambia](#). Gelson Tembo, Antony Chapoto, T.S. Jayne and Michael Weber. Presented at the Zambia National Symposium, Harnessing the Potential of Agriculture to Meet the Increasing Demands from a Growing Population. Held at the University of Zambia, Lusaka, Zambia. April 7-8, 2009
- Press coverage on ACF/FSRP and Donor CP input and discussion of FSP reform during this reporting period was as follows:
 - [COMESA bemoans poor attention to agriculture - Post June 27,2009](#)
 - [Zambian Economist FSP Reform](#)
 - [MACO Sent Packing on FSP April28 09 Times of Zambia](#)
 - [ACF on-FSP April28 09 Zambia Daily Mail](#)
 - [OpenFSPtoCompetition Times 42609](#)
 - [FSP Post Daily Mail April28 09](#)
 - [Crop Forecast Kickoff Times Ap_17_09](#)
 - [Crop Forecast Kickoff Daily Mail Ap_17_09](#)
 - [Minister Chituwo on Food Costs and FSP](#) - Post, April 8/09
 - [Editorial - On Fertilizer Support Programme](#). Times, April 8

TOURISM COMPONENT

MATEP Tourism continued winding down its activities with the final Hotel and Caterers Association of Zambia (HCAZ) Customer Care Training with a total of 104 participants drawn from Solwezi, Chipata, Mansa and Kasama. During the quarter, MATEP also provided Business Skills Training for 16 participants drawn from Mukuni Park Curio Sellers Association in Livingstone. MATEP worked with the Zambia Tourism Board (ZTB) U.S. Office in finalizing the Marketing Database. MATEP continued finalizing the research on Domestic Tourism with ZTB and Tourism Council of Zambia (TCZ). MATEP worked on the final close out report. All component activities were completed by end of June 2009.

IMPROVE INTERNATIONAL MARKETING

- **Zambia International Travel Show:** Working with cooperating partners, MATEP participated in the AFRICAST organized Zambia International Travel Show (ZITS) at Mulungushi International Conference Centre. In addition, the MATEP Tourism Advisor moderated the seminars organized by HCAZ under the theme “Is Zambia ready for the World Cup 2010?”
- **ZTB/USA marketing database:** MATEP worked the ZTB U.S. office in finalizing development of the client–enquiry database. This will enable easy data entry, storage of key information about an organization and also easy dissemination information to contacts listed in the database. The database will also assist with tracking updates on organizations and search key words for easy matching and subsequent follow up with the American and Zambian tour operators. In addition to the database, the consultant assisted the ZTB U.S. office address marketing materials issues still outstanding so as to make the operation of the database easy.

RESEARCH AND POLICY CHANGE

- **Domestic Tourism Market Research:** MATEP provided ZTB with STTA to undertake market research on domestic tourism in Zambia aimed at enabling ZTB create focused and cost effective marketing strategies for this segment of the market. The field work and stakeholder consultations were conducted and a final draft report is being prepared by the consultant.

IMPROVE TOURISM SKILLS

- **HCAZ Customer Care Training:** The final HCAZ Customer Care training was conducted in Solwezi from 16 – 18 March 2009 with 30 participants. The training in Chipata was held from 26– 28 March 2009 at Luangwa House with a total of 12 participants attending. Mansa was held from 30 March – 1 April 2009 at Murundu Guest House with a total of 33 participants attending and the final one was held in Kasama from 1 – 4 April at Sinamu Lodge with a total of 29 participants attending. The HCAZ training has now covered all nine provinces in Zambia with 1,344 people trained in hotel management and customer care over a three year period from April 2006 to April 2009.
- **Business Skills Training for Mukuni Park Curio Sellers:** Training in business skills was conducted for Mukuni Park curio sellers in Livingstone from 6 – 10 April with a total of 16 participants taking part. MATEP also held a debriefing meeting with the SEED project Livingstone Tourism Advisor to provide guidance on the way forward. The curio sellers will require training in product development and later on in market access.

ADMINISTRATIVE

- **Component close-out final report preparation:** IESC continued preparing a Component Close-Out Report for the Tourism Component. Meetings were held with the prime stakeholders and client firms. The draft report structure has been developed. The final draft will be submitted in July 2009.

FINANCE COMPONENT

This section of the report outlines progress for the quarter in implementation of the MATEP Investment Fund through the Zambia Agricultural Technical Assistance Centre (ZATAC). Total MATEP credit disbursements now stand at US\$ 3,226,744 (at current exchange rates). This figure includes lending from MATEP directly and loans originated by MATEP and financed out of ZATAC resources.

- **Short-term credit** to export-oriented agribusinesses and tourism enterprises:
 - Total short-term disbursements stand at US\$ 2,296,607.
 - Total disbursements made under the MATEP/ZIF Short-Term Credit Facility stand at US\$1,623,753.
 - Total disbursements made under ZATAC Ltd loans initiated by MATEP stand at US\$672,854.
 - Glymo Enterprises paid back in full the US\$10,500 facility they had obtained.

- **Medium-term credit** for export and tourism enterprises:
 - Total disbursements made under the MATEP/MIF stand at US\$ 930,138.
 - Ubuchi Enterprise paid US\$4,200 towards their facility during the quarter.
 - A payment of US\$1,900 was made by Mushitu Safaris.
 - Chimwemwe Lodge made a payment of US\$7,700 towards their facility.

- **Remediation**

The following remediation activity took place:

 - ZATAC staff had a meeting with Ubuchi Managing Director, Mr. James Mwenya, to discuss the outstanding facility. The Managing Directors outlined some of the difficulties the company was facing and that efforts were being put top ensure that operation are normalized and regular payment made.
 - ZATAC lawyers have been engaging the clients with delinquent and non-performing loans;
 - A meeting has been set up with ZEOCo management to address the matter of the cheques that were surrendered to ZATAC as commitment.
 - The caveat and mortgage agreement were drafted for Rijays Farms and presented to ZATAC for signing and presentation to the proprietors of the Company. Rijays was asked to officially write giving consent to the change of ownership of the Canter truck that was part of the collateral declared. All the documentation was dully signed by all concerned parties.
 - The documentation required to restructure the Freshpikt and ChoiceNuts collateral coverage was worked on and awaited directive from ZATAC to be acted upon. ZATAC have concluded the preliminary ground work needed to proceed and the instructions have since been give to proceed with the action.
 - The follow up efforts with Global Export Bureau continued.
 - Clients were called and reminder letters written to that effect.

- **Leveraging resources**
 - Leveraging activities were summarized in the Market Access section above.

- **Due diligence**
 - ZATAC staff made a site visit to a client Cris-B-Cucs to assess the business operation and identify possible redeemable assets. The client has since left the country and the property repossessed by the absolute owner.

- A MATEP/ZATAC hired consultant and ZATAC staff conducted an evaluation assessment of the Cheetah paprika processing equipment. A report has since been presented to both ZATAC and MATEP.
- **Investment Fund Valuation and Audit**
 - MATEP intends to conduct a valuation and audit of the Investment Fund in the upcoming quarter in preparation for inventory disposition as part of project close-down. A scope of work and list of audit firms was prepared during the last quarter.

HIV/AIDS COMPONENT

In Zambia, the prevalence rate of HIV/AIDS still remains a major threat to continued new export growth. MATEP, through funds obligated from the President's Emergency Program for AIDS Relief (PEPFAR), is conducting community outreach HIV/AIDS prevention programs that promote abstinence and/or being faithful with its export and tourism clients. In the quarter under review, MATEP continued with the implementation of year four of the project's HIV/AIDS activities with the various implementing partners namely: Mazabuka District Business Association (MDBA), Hotel and Catering Association of Zambia (HCAZ), Zambia Export Growers Association (ZEGA), Ministry of Labour and Social Security (MLSS), Michigan State University (MSU) through the Food Security Research Project (FSRP).

MDBA HIV/AIDS Activities

- **MDBA HIV/AIDS awareness program:** During the quarter just ended MATEP focused on direct message delivery of HIV/AIDS awareness and prevention messages to Mazabuka-based individual entrepreneurs. The number of message recipients totaled 1,548 individuals in sessions conducted in groups of 25-30 individuals per session for approximately two hours. A total of 41 sessions were conducted during the quarter with two sessions per day in the morning and afternoon. HIV/AIDS prevention and awareness brochures were also distributed and each individual is required to share the information with at least 5 other individuals in their workplace or community. This program has been developed to cater for the Mazabuka DBA SMEs which has a membership exceeding 6,000 individuals.
- **Translation and printing of HIV/AIDS brochures into Tonga:** MATEP in the quarter under review, completed translations into Tonga of the English HIV/AIDS awareness and prevention brochures selected for use to implement the HIV/AIDS program. The translated materials were printed and distribution to the message beneficiaries commenced. The need for the Tonga translations was prompted by the fact that MDBA is located in the Southern province of Zambia which is predominately a Tonga speaking area and also the high demand for HIV/AIDS materials in the local language.
- **MDBA HIV/AIDS sustainability plan:** In the quarter just ended, MATEP commenced discussions with MDBA in order to develop a sustainability plan for the HIV/AIDS activities. Both MATEP and MDBA agreed that services of a full-time HIV/AIDS focal person to be based in Mazabuka should be engaged. The proposed assistance agreement for the program will be finalized in the coming quarter.

HCAZ HIV/AIDS Activities:

- **HCAZ Workplace Policy Development:** MATEP during the previous quarter compiled the comments that the HCAZ Executive committee made to the draft HIV/AIDS workplace policy developed for the industry in the second quarter of the year. The comments were sent to the MATEP HIV/AIDS consultant for inclusion and finalization of the document. This was after a workshop that took place on Thursday 28th May, 2009 at the Belvedere Lodge. A total of 22 HCAZ executive members from Lusaka, Central, Eastern, Southern, Copperbelt and North Western provinces of Zambia participated in the workshop to finalize their comments. The final policy is expected before the end of July, 2009.
- **HCAZ rollout program:** During the last quarter, MATEP continued with preparations for Phase III of the HIV/AIDS prevention and awareness training programs with HCAZ members. A list indicating establishments and contacts of HCAZ members interested in participating in Phase III of the program was used by MATEP to identify and contact the establishments to ensure that each participating member selects individuals/employees that will undertake the training in HIV/AIDS awareness and prevention.

ZEGA HIV/AIDS Activities

- **ZEGA HIV/AIDS program:** MATEP followed-up with some ZEGA member farms that expressed interest in training and retraining of their farm workers as HIV/AIDS Awareness Educators. Due to labour turnover, most of the ZEGA member farms included in the first phase of MATEP's HIV/AIDS activities have had changes in their staffing, meaning both that trained Awareness Educators may no longer be with the farms and new employees on the farms have not received HIV/AIDS prevention messages. MATEP has commenced preparations to include some ZEGA member farms HIV/AIDS focal persons in a Training of Trainers workshop to ensure continuity of HIV/AIDS activities in the ZEGA farms.

MLSS HIV/AIDS Activities:

- **MLSS message roll-out program:** MATEP followed-up with the MLSS on delivery of HIV/AIDS awareness and prevention messages by MLSS labour inspectors in the course of their inspections of business enterprises in Zambia. The MLSS has further proposed a half day's refresher training in HIV/AIDS awareness and prevention which is scheduled for July, 2009.
- **Workplace Policy Checklist:** MATEP followed-up with the MLSS HIV/AIDS contact person on the use of the HIV/AIDS policy checklist by their labour inspectors. Discussions were also initiated on the possibility of revising the checklist to incorporate current HIV/AIDS information.

Central Statistical Office (CSO):

- During the quarter under review, MATEP followed-up with CSO regarding any possible collaboration into their various upcoming CSO national workshops and surveys.

MSU/FSRP Marketer's survey:

- MATEP followed up with the two FSRP enumerators that are conducting the marketer's survey in the Lusaka based markets. Delivery of HIV/AIDS awareness and prevention messages as part of their survey is an on-going exercise. HIV/AIDS awareness and prevention brochures are also handed out and during the last quarter a total of 300 individuals have benefited from the exercise.

Zambia Chamber of Small and Medium Business Associations (ZCSMBA):

- MATEP commenced discussions with ZCSMBA for possible collaboration in replicating the Mazabuka DBA HIV/AIDS awareness and prevention program with DBAs in Eastern Province. Six Eastern Province DBAs have been provisionally identified for this activity: Chipata, Sinda, Lundazi, Katete, Chadiza and Nyimba. The program will be implemented in the following phases; i) Phase I - identifying and recruiting a focal person in each of the 6 districts, identifying and recruiting two trainers of trainers in each district and providing Peer Education training for the three selected individuals; ii) Phase II - selection and training of awareness educators in each of the districts; iii) Phase III - roll-out of HIV/AIDS awareness and prevention messages by Awareness Educators to other DBA members of each district. Each district is anticipated to train at least 150 Awareness Educators and target at least 15,000 direct beneficiaries and an equal number of indirect beneficiaries.

ANNEX: ENVIRONMENTAL REVIEW REPORT

FOREST FRUITS LIMITED

(Bee Product Company)

June 2009

1. Background and Activity Description.

1.1 Purpose and Scope of Environmental Review Report:

Regulation 216, which is the commonly used shorthand term for the Agency's Environmental Procedures, is codified in the code of Federal Regulations (CFR) as 22 CFR Part 216 (also referred informally as Reg. 216 or Reg. 16). Regulation 216 makes it mandatory that an environmental review or initial environmental examination be undertaken for a client that has received assistance from USAID in order to:

- Ensure that environmental consequences of USAID-funded activities are identified and considered in the design and implementation of activities prior to final decisions to proceed;
- Assist countries in strengthening their environmental evaluation capabilities;
- Define limiting environmental factors that constrain the environment; and
- Identify activities that assist in sustaining or restoring the natural resource base.

Market Access and Trade Enabling Policies (MATEP) personnel undertook a site visit to a client, Forest Fruits Limited, to conduct an Environmental Review (ER), a formal process of providing information and analysis of the overall effects on environment, human health and welfare and means and measures to mitigate and monitor these impacts.

1.2 Background

Forest Fruits Limited is a bee product Company that has been in existence for the last ten (10) years. It is a privately owned Company that is run by the sole owners, Daniel Ball and his wife Barbara Johnstone. At inception the Company mainly concentrated on the bulk supply of honey for export to the European market. They then embarked on value addition activities that have since seen the Company product range grow to all organically certified beeswax, raw propolis and honey. As an organization Forest Fruits export 350tons of organically certified honey and also 15tons of organically certified beeswax into Europe. They also produce 2000kgs of certified organic raw propolis. Forest Fruit is the largest producer of honey on the African continent. They were awarded ECOCERT certification as organic producers of honey.

1.3 Description of Activities

Forest Fruits has a network of 6,000 traditional beekeepers that supply the honey. These beekeepers keep their hives in the Miombo Forest of the North Western Province of Zambia in Mwinilunga District. The Company carefully monitors the activities of the growers and also offers some technical assistance in the form of training and the handling of the bee hives and primary care of the honey before it is supplied to the plant that is located in the same District for processing. Once the honey has been supplied, it is then processed by various processes of squeezing it from the honey combs and graded according to quality.

The honey is refined, removing all foreign particles that generally are bio-degradable in nature. This honey is then packed in steel drums that are vacuum sealed and moved to Lusaka where the administrative offices are situated. The plant in Lusaka has a total storage capacity of 120tons of honey and equipment with the capacity of processing up to 1500 liters.

Once the honey is received at the Lusaka plant it is received at the receiving bay and off loaded into the storage area where it is allowed to settle and stored in the warehouse at bee hive temperatures of

between 38° and 40°C to avoid crystallization. The honey is sold either in bulk or pre-packed for retail.

1.3.1 Bulk Honey

The bulk honey is exported in the same steel drum. On arrival it is received and allowed to settle and keep in the same drums until an order is received. Once an order is made, the honey is then inspected to see if it has crystallized and if found to have crystallized it is warmed up and then shipped out for sale with the relevant supporting documentation.

1.3.2 Retail Honey

Retail honey undergoes some further processing once in Lusaka. It is also received in the same kind of drums and kept under the same conditions. When production is on, it is done in batches. The honey is pumped into a large steel tank that can hold a maximum of 1500lts and allowed to homogenize (process of blending the honey to have a uniform texture, quality and taste). The tank is located on an elevated platform to capitalize on gravity to aid in the packaging process.

Once the honey has settled and homogenized, it is further purified and pumped through filters that remove any impurities that may be present. This honey is then pumped down to the filling line where it is filled into the various sized bottles that are used to sell the honey. Forest Fruits honey bottles come in 200mls, 250mls and 350mls sizes. Before the bottles are filled they are inspected together with the seals. The rejects are carefully stored away and sent back to the suppliers. The bottles come in hygienically sealed packs that are kept under lock and key in the warehouse store room.

The filling line is a basic not very complicated piece of equipment that is manned by one individual at a time. After the filling, the line then leads to the labeling machine which is also not very mechanized but manually operated, also by an individual. When the labels have been put and the shelf life indicated, the bottles are then packaged according to the Company prescribed pack sizes. The honey is sold across the country in all leading supermarkets.

The working environment is well organized with each employee wearing protective clothing and a head net for hygiene purposes. The work force remove their outdoor footwear at the entrance to the processing plant to put on rubber footwear provided. They then have to scrub their hands up to the elbow level and before they assume operations. The work force is medically well taken care of and periodically have medicals done.

All the gray water that comes out of the process is pumped into a waste water system that is located behind the plant and not connected to the main sewer line.

2. Country and Environmental Information

2.1 Locations Affected

The company is situated approximately 7 kilometers east of central town of Lusaka in the Roma area of the city on plot 34, off Zambezi Road. The packaging plant is located in the heart of Roma residential area and the other residential area close by is Ngombe compound.

The plant construction was designed in such a way that it did not lead to;

- a) Any displacement of people or farm plots
- b) Affect quantity, quality, reliability and accessibility of water
- c) Cause erosion or salinity in nutrient concentrations of the soil
- d) Affect populations and habitats of fauna
- e) Spread diseases and pathogens on environmental health
- f) Affect composition and density of natural vegetation, productivity and key species and
- g) Affect the key species of special ecosystems

2.2 National Environmental policies and Procedures

Zambian environmental policies and procedures are enshrined in the Environmental Protection and Pollution Control Act (EPPCA) No.12 of 1990. The Act provides for the protection of the environment and the control of pollution; to establish the Environmental Council and to prescribe the functions and powers of the Council; and to provide for matters connected with or incidental to the foregoing. The EPPCA defines environment as "...land, water, air and other external influences and conditions which affect the development and life of all organisms including man"

The following statutory instruments under the Environmental Protection and Pollution Control Act have been passed for the purposes of enhancing implementation and effectiveness of the EPPCA:

- The Waste Management (Licensing and Transporters of Waste and Waste Disposal Sites) Regulations, Statutory Instrument Number 71 of 1993
- The Water Pollution Control (Effluent and Waste Water) Regulations, Statutory Instrument Number 72 of 1993
- The Pesticides and Toxic Substances Regulations, Statutory Instrument Number 20 of 1994
- The Ozone Depleting Substances Regulations, Statutory Instrument Number 27 of 2000 and
- The Hazardous Waste Management Regulations, Statutory Instrument Number 125 of 2001

In addition, the Environmental Council of Zambia assigns inspection and other implementation roles to all District Councils through the Local Government Act of 1991 that covers the establishment of local authorities and local government administrative system associated with waste management in Zambia.

3. Evaluation of Potential Environmental Impacts.

Based upon the plant conducted tour and discussions with management of Forest Fruits Limited, three possible sources of potential negative environmental impacts were identified and these were:-

- The Waste Management (Licensing and Transporters of Waste and Waste Disposal Sites) Regulations, Statutory Instrument Number 71 of 1993; in particular the management of solid waste.
- The Water Pollution Control (Effluent and Waste Water) Regulations, Statutory Instrument Number 72 of 1993
- The Pesticides and Toxic Substances Regulations, Statutory Instrument Number 20 of 1994

3.1 Waste Management.

Management of various types of waste in Zambia continues to pose a big challenge. This is evidenced by the perennial recurrence of disease such as cholera, dysentery and in some cases the contamination of water resources, air and soil/land.

Potential negative environmental impacts from solid waste management activities will include:

1. Increase in disease transmission or threaten public health
2. Contaminate ground or surface water
3. Create greenhouse gas emissions and other air pollutants
4. Damage ecosystems
5. Injure people or property
6. Discourage tourism and other businesses

At Forest Fruits Limited, solid waste is created in the form of the cardboard boxes and the plastic used for packaging. Other waste that is created is mostly biodegradable such as the remains of the comb that are filtered out of the honey. This is all disposed of at the government dump site situated in Chingwere near Matero using trucks that have high drop sides to avoid any spillages when moving the waste materials. The rejected bottles go back to the suppliers. The water used to clean the pipes goes directly into the gray water disposal system network on the plant that has its own soak away. No amount of waste is allowed to remain on the plant premises for long; it is disposed of as soon as it can

be moved. Working areas are very well ventilated and kept clean with the use of “SureClean” a bio degradable detergent that is produced by Johnson diversity and distributed in Zambia by ENP International.

3.2 The Water Pollution Control

Water is one of the essential elements important to the good health of humans. The safety of these water sources is very important for humanity to survive. Water is one medium through which disease can be spread. Contamination/pollution of water sources is a concern for all due to the impacts this can have to the environment and public health, which are as follows:

- a) Debilitating disease and death, loss of drinking water sources and increased costs
- b) Native plants and animals harmed and associated land, water and coastal ecosystems degraded
- c) Fresh water resources depleted
- d) Increased disease transmission from standing and stagnant water.

At Forest Fruits Limited the water that is used generally is the warm water that is used to clean the piping in case of crystallization or blockages due to the same. The rest is used for cleaning of the working areas. This water, as earlier alluded to, has its own separate network that is not connected to the sewer system as the waste is not sewer waste but gray water.

3.2.1 Air Pollution

Air pollution includes the release of dangerous gases into the atmosphere. The effects of this may be to human health from breathing polluted air, depletion of the ozone layer leading, global warming and/or general climatic changes.

At Forest Fruits Limited there are no processes that have emissions. There are times however, when the backup generator is used in the event of a power outage. The emissions here are minimal

3.3 The Pesticides and Toxic Substances Management

Uncontrolled pesticide use can lead to several unintended and harmful environmental effects. These include:

- a) Contamination of soil and water
- b) Contamination of surface and ground water
- c) Pesticide drift from intended target
- d) Effects on non-target organisms
- e) Disruption of natural control
- f) Pesticide resistance
- g) Externalities, accounting for economic costs of human health and environmental impact.

At Forest Fruits, there is no toxic chemical agent employed for anything, not even to ward off the bees that may stray into the plant because protective netting is used to help guard against any major flow of the bees into the plant and working areas.

4. Recommended threshold decisions and mitigation actions.

Forest Fruit has a very high sense of hygiene and it is evidenced by the way that the work environment is maintained and the way the work force operates. Because there has been no major attack by bees, it does not imply that preventative measures should not be taken. Chances are that it may occur in future. The protective netting may not be adequate. There should be some eco- friendly agents that can be used to ward off bees in the event of an attack. This should be sort by management to safeguard the lives of the workers.

4.1 Recommended threshold of disposal of solid waste

Due to the nature of the Zambian weather (high temperatures for most of the year), solid waste can pose a major threat to public health. We recommend that the use deep land fills continue being used

and covered to avoid scavengers from sifting through the garbage. Land fills are easier to manage. Considering the bio-degradable nature of most of there waste, this is the best method.

5. Mitigation and Monitoring Guidelines

We recommend the following mitigation and monitoring guidelines:

- Collect and transport solid waste in containerized trucks to avoid spillage. The Plant Manager should monitor this activity.
- Establish sound administrative management that will implement environmentally sound activities in its operations to minimize accidents at place of work.

6. Conclusion

We take note and commend management efforts to see through the Hazard Analysis of Critical Control Points (HACCP) certification as this will help mitigate some low-risk environmental impacts. A number of HACCP trained employees are available and should be made good use of by the organization.

Given the findings and mitigations recommended, Forest Fruits Limited operations will not have adverse effects on environment.