



Australia Awards



Australia Awards – Africa
2017 Agribusiness Short Course Award

PEANUT BUTTER IN ZAMBIA



AWARDEE: MUMA BWALYA MUNANSANGU

Muma Bwalya Munansangu is a development specialist working for the Citizens Economic Empowerment Commission, a government agency aimed at providing broad based empowerment to citizens. Her role primarily involves facilitating market linkages, policy advocacy and regulatory assessment for business growth. Her focus is on unlocking the growth potential of the SME sector through business development support and the implementation of empowerment initiatives. Her experience includes performance monitoring for results, project strategy and development of smallholder agriculture along various value chains, whilst ensuring the uptake of women and youth in job creation and ensuring their effective participation in the economy.



Muma with a groundnut farmer

VALUE CHAIN APPROACH

A value chain approach means taking a whole-of-chain perspective from primary producers and their input suppliers, through every stage until the product reaches the end consumer. It examines the flows of products, money and information, with a focus on how these are influenced by the relationships among chain members. Of particular importance is the need to understand markets and consumers, and the state of collaboration among chain members.

A value chain approach highlights how effective partners can align better their skills, resources and behaviour to deliver products and

services to different market segments and to reduce waste, with the resultant financial returns being distributed equitably so as to sustain partnerships within the chain. This improves the competitiveness of each business and helps chain members to recognise their interdependence, and the consequent benefits of solving shared problems.

Detailed advice on adopting a value chain approach is provided in *A Guide to Value Chain Analysis and Development for Overseas Development Assistance Projects*, by Ray Collins, Benjamin Dent and Laurie Bonney, available free at <http://aciar.gov.au/publication/mn178>.

CONTEXT

Groundnuts are a staple Zambian food, often eaten raw, roasted or boiled, but also processed into peanut butter. This is added to infants' mealie porridge, which is consumed daily for most children under 5; made into sandwiches for school children, and used in main meals mixed with vegetables and staples like Nshima and Samp. Imports have been growing, yet products from countries like South Africa are using Zambian groundnuts. Hence there is an opportunity for expanding domestic production, and so alleviating rural poverty, as well as improving nutrition because groundnuts are a source of protein, edible oils, energy, minerals and vitamins. Muma's project investigated a local peanut butter value chain to understand consumer preferences and market trends as well as the material and information flows and relationships across the chain from farmers to shoppers. This analysis led to recommendations for improving the chain's competitiveness by creating value and reducing waste.

DATA COLLECTION AND ANALYSIS

"I used several methods for rapid, low cost data collection, including a literature review; observations, intercept interviews and focus groups with consumers; and semi-structured interviews with all chain members, from input suppliers through to retailers. This allowed me to analyse the material flow, and how information could be used better to deliver the product attributes sought by consumers, and reduce waste, delay and distortion, or improve advance planning and performance measurement. I also evaluated relationships' strategic alignment, trust, commitment, balance of power and conflict resolution."

"Resources limited the sample size to 42 people, so the results are only an initial diagnosis, but they reveal the insights this approach can generate."

HOW CONSUMER RESEARCH LED TO CRITICAL CONTROL POINTS OF VALUE

"My consumer research found that the most influential product attributes are taste, consistency of the mixture, colour, nutritional value/protein content and how well packaged it was, especially no leakage or dents on the container. Interestingly, price was not very influential, with shoppers remaining brand loyal even when alternatives were on sale at lower prices, with some consumers choosing the 'It's Wild' brand because it supports both wildlife conservation and smallholder farmers."

"Next, I traced which activities along the chain were most important in creating these attributes." These Critical Control Points of Value are shown in Table 1.

Table 1: Critical Control Points of Value

Product Attribute	Critical Activities	Responsible Chain Members
Taste	Improve the seed variety	Input Supplier
	Proper drying methods	Producer
	Careful sorting to reduce waste	Producer/Processor
	Ingredients to be mixed properly	Processor
	Roasting groundnuts to the right standard	Processor
Consistency	Grinding to achieve the desired texture	Processor
	Ensure adequate mix to avoid separation of ingredients	Processor
Color	Good seed variety	Input Supplier
	Well roasted groundnuts	Processor
	Proper mixing of ingredients to maintain good colour	Processor
Nutritional Value	Ensure adequate land preparation with good nutrients	Producer
	Supply of the right chemicals e.g. inoculants, lime	Input Supplier
	Good certified seed	Processor
	Good harvest techniques	Producer
	Aflatoxin Management	Producer/Processor/Retailer
	Certification of processed product	Processor/Retailer
	Adherence to food and safety standards	Processor/Retailer
	Good storage for a prolonged shelf life	Processor/Retailer
	Ensure a good shelf-life	Processor/Retailer
	Packaging	Packaging
Good handling to minimise spillage and container deformation		Input Supplier/Processor/Retailer
Ensure good sealing to avoid spillage		Processor
Ensure supply of good quality container		Input Supplier

VALUE CHAIN RECOMMENDATIONS

Based on her analysis, Muma developed a range of recommendations, and then prioritised them on the basis of impact and difficulty. An illustrative selection is shown in Table 2.

Table 2: Recommendations

Impact	Difficulty			
	LOW	MEDIUM	HIGH	
<p>↑</p> <p>HIGH</p> <p>↓</p> <p>LOW</p>	<p>Improved transportation and storage of peanut butter</p> <p>Import better seed</p> <p>Construct drying podiums</p> <p>Improved mixing of peanut butter</p> <p>Eliminate sprinkling of water during shelling</p>	<p>Construct storage sheds in central locations for ease of collection</p> <p>Use mechanised equipment for production e.g. use of animals to plough, to reduce labor inputs</p>	<p>Introduce controlled production to ensure throughout the year produce. i.e. greenhouses</p> <p>Research high yielding seed varieties</p> <p>Seed multiplication of certified seed for more accessibility</p>	
	<p>Post-harvest handling for aflatoxin management training</p> <p>Improve packing and seals</p> <p>Tighten onsite supervision and security</p>	<p>Provide government extension services support based on value chain principles</p> <p>Introduce new contract buying framework</p>	<p>Awareness campaign on quality and food safety certification systems</p> <p>Establish a farmer organisation/cooperative</p>	
	<p>Capacity building on managing agriculture as a business</p> <p>Training on best farming practices</p> <p>Establish stocking rate reporting mechanisms</p>	<p>Provide funding to agro- dealers for the sale of certified seed</p> <p>Introduce appropriate low cost, water efficient irrigation techniques e.g. treadle pumps</p>	<p>Construct roads in the rural areas</p>	
		<p>Do it now (short term)</p>	<p>Do it soon (medium term)</p>	<p>Do it later (long term)</p>

SEEDS

Nearly all groundnuts are produced from farmer-retained seed, which are recycled over several generations because farmers are unused to agricultural practices needed by certified seeds, and often also lack suitable equipment. In addition, some improved varieties have been developed for drier climates, and so require irrigation which the farmers do not have. However, recycled seed has low oil content that detracts from peanut butter's consistency and taste, and also produces lower yields. "The processor [Community Markets for Conservation, or COMACO] adopts an outgrower scheme where farmers are provided with some inputs free. This includes working with ZAMSEED to distribute new seed only to newly recruited farmers, but this needs to be expanded to cover seeds supplied to all farmers. Perhaps the Citizen Economic Empowerment Commission could provide loans for agro-dealers to enable them to stock improved certified seed. The Zambia Research Institute could also coordinate seed multiplication, and advise smallholders on exploiting the benefits of using certified seed, and thus ensure sustained demand. In the short term, simply importing better seed would help improve drought-resistance, as well as the taste and oil content of the final product."

Muma learnt that many farmers were very loyal, selling to COMACO even when they didn't offer the best price. "Both parties could leverage this strength more through joint initiatives to ensure better access to vital inputs such as inoculants, lime etc.; and the construction of simple drying podiums off the ground to avoid the wind blowing foreign matter onto the nuts which currently are dried on the ground. They could even seek funding to build storage sheds in central locations to make collection easier, and to reduce transportation costs."

Muma made a number of recommendations across the chain focusing on the **critical product attributes**. "Consistency is a key product attribute. The processor needs to ensure that during the mixing process, the correct quantities of emulsifiers are used to avoid separation of oils and the paste. I also found that when exposed to heat, peanut butter can separate, impacting color, taste and shelf-life, so the merchandiser needs to maintain cool storage in both transportation and warehousing. Packaging is also important, and the processor needs to monitor more closely how the product is transported and stored beyond the factory gate, because the retailer reported receiving deformed and leaking containers. I also suggested the processor investigates stronger plastic bottles, because consumers prefer plastic to glass bottles because they're safer for children."

As part of improving communication between the processor, merchandiser and retailer, Muma proposed a new stock rate feedback mechanism to **improve replenishment** by helping forward planning and alerting when stocks run low. "I also found the retailer receives valuable **shopper feedback** but it is not passed on, so there needs to be formal system to relay this to the processor, such as a monthly report which includes copies of feedback forms."

Groundnuts are highly prone to **aflatoxin contamination**, significantly limiting potential export markets. "It's caused by farmers' poor drying and storage methods, and sprinkling water on the groundnuts during shelling to soften them and ease the shelling of the covers causing moulds containing aflatoxins that introduce a bitter taste to the groundnuts, are carcinogenic and can even be fatal. I recommended that farmers need more education on preventing aflatoxin, and there needs to be investment in detection equipment and establishing standards for production and processing."

Lastly, farmers' disorganisation negates their production capacity and market knowledge, so Muma recommended **establishing a farmer body**. "One role would be to coordinate a production strategy and to facilitate uptake of low cost, water efficient irrigation techniques so the processor could be supplied year-round. The organization could also work with research bodies over introducing higher yielding varieties, and the Zambia Bureau for Standards over certification. Careful selection of board members and involving external authorities such as the Zambia National Farmers Union will be essential to ensure effective management and controlling member recruitment." Muma also suggested broader **capacity building for farmers**. "Current training focuses on production, but farmers would benefit from business and postharvest skills."

HOW THE COURSE BENEFITED MUMA

"While in Australia, we were shown the importance of understanding the consumer first, AND identifying opportunities for value creation, waste reduction, improving relationships in value chain, and I learnt how to translate this into our Value Chain Development Programme. By walking an entire organic value chain in Toowoomba, we got insights into the softer aspect of how value chains thrive: communication; trust; strength of relationships between actors; the importance of succession planning; and engaging chain members for effective collection of data. It set a benchmark for me for value chain development for Zambia."

"Our sessions on public speaking, pitching and gender mainstreaming have been very helpful in building my leadership skills."

"In Ghana, we conducted a rapid Value Chain Analysis ourselves, which exposed us to the realities of doing this in a developing country, and I gained experiences that I have replicated in my own country."

"Successfully completing my own in-country project meant research, research and more research! The lessons and practical experiences provided during the course provided a lot of advice to assist me, and I learnt that the importance of understanding what consumers want and are willing to pay more for is as relevant in Zambia as it was in Australia."

It's Wild Peanut Butter





AUSTRALIA AWARDS – AFRICA

Australia Awards – Africa is delivered under the Australian aid program managed by the Department of Foreign Affairs and Trade, are prestigious scholarships offered by the Australian Government to individuals who have the greatest potential to drive development in their country and become leaders in their chosen field. The Australia Awards contribute to the achievement of development objectives across a range of sectors and are a feature of nearly all of Australia's bilateral aid programs. The Australian Government works closely with its partners in developing countries to ensure that Australia Awards support the development priorities of each country.

They aim to:

- develop capacity and leadership skills so that individuals can contribute to development in their home country;
- build people-to-people links at the individual, institutional and country levels.

Australia Awards – Africa Short Courses are a tailored program that aims to create skills development through short-term post-graduate training courses of three months or less that are delivered in Australia and/or the country or region specific to the course.

Australia Awards – Africa: www.australiaawardsafrica.org

AUSTRALIA AWARDS – AFRICA 2017 AGRIBUSINESS SHORT COURSE AWARD

The Agribusiness Short Course Award, designed by UQ International Development (UQID) specifically for Awardees from African countries, provided learning experiences related to Agribusiness to enhance participants' ability to engage with and influence challenges regarding sustainable economic development in their home country, profession, workplace and community. Key features included using Value Chain methodology as the context around which the curriculum is delivered. The program balanced content and experiences to maintain engagement and interest, and enabled Awardees to access value chains of major Australian agricultural industries from a South-East Queensland training base. Furthermore, the course collaborated with African partners' during the course design phase to ensure participants were supported upon their return to Africa.

The course comprised of 8 x 1 week long learning modules: Week 1 – The Value Chain in Context; Week 2 – Value Chain Innovation in Practice; Week 3 – Smallholders and Small Business; Week 4 – Public Sector Perspectives; Week 5 – Analysing and Improving the Value Chain; Week 6 – Professional Skills for Agribusinesses; Week 7 – Business Development; Week 8 – Rapid Value Chain Analysis.

Awardees developed a Reintegration Action Plan (RAP) which detailed a unique project outlining an area of change that they will be addressing when returning to their organisation. These projects are devised with the expert knowledge and learnings gained from the course and enable the Course Leader, UQID and Australia Awards to monitor and provide feedback during various stages of the project.