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Decisions in Global Sourcing and Supply: Deep Red Canning Co.

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Abstract

The case is written for a senior undergraduate agribusiness course. Based on collaboration between The Ohio State University and Sokoine University of Agriculture in Tanzania, the case addresses the instructional needs of agribusiness students in both the US and in the developing world setting. For instance, in the US scenario, the case explores global procurement strategies and the interactions and decisions necessary in implementing alternative sourcing strategies. From the Tanzanian perspective, the case examines Africa's capacity building problem and the transition from home based cottage industries to competitors in the global market place.

Key words: global procurement, capacity building, honey

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Introduction

In August 2004, Earl Romp, Supply Chain Manager at the Deep Red Canning Company (DRCC) was considering alternative sourcing strategies for natural honey, a key ingredient in their manufacturing process. Declining domestic production of natural honey as well as growing demand by the local food processing industry had necessitated a rethink on their sourcing strategies. Earl had been collecting information on the project for the past 6 months and had even been on a fact-finding visit to Tanzania. Two years ago, Earl had visited several East African countries on a church mission tour. In Tanzania, he was impressed with the variety of fruits being produced and the honey bee population supporting that industry. Of particular interest to Earl was the discovery that in 1991, Tanzanian honey won by 100% the quality test for organic honey in the United Kingdom. On this sunny August afternoon, Earl sat at his desk contemplating how to present his findings at the Company's board meeting scheduled for September 15.

The Company

Dave T. Schuster founded the Deep Red Canning Company in 1934, in Wauseon, Ohio. The Company's first product was sauerkraut, which was sold in wooden kegs and barrels. Soon, DRCC started canning the sauerkraut as well as whole tomatoes.

DRCC has grown steadily over the years and is currently run by third and fourth generations of the family. There are three processing plants with extensive greenhouse and farming operations that produce some of the raw materials for the processing operation. In addition to these farms, DRCC contracts over 30 independent growers to supply fresh tomatoes.

A variety of styles of canned tomatoes and tomato products account for the majority of the present production. A complete assortment of over 100 items is available in both retail and foodservice packs. Sales of Private Label, Deep Red™ and Homegrown™ brands of canned tomato products and Glacier™ brand Sauerkraut extend out over a 2000 mile radius from Northwest Ohio.

DRCC's customer base consists of retailers, wholesalers, retail distributors, foodservice distributors, the U.S. Government and re-manufacturers. The business is divided into three major segments: retail, foodservice and industrial accounts with the following distribution:

- 45% Retail
- 25% Food Service
- 30% Industrial

Table 1: Profile of Deep Red Canning Company

| | |
|---|---|
| General information | |
| Product | A range of canned Tomato and Cabbage products (Sauerkraut) |
| Market | Most products are sold to the retail market. Other markets include foodservices as well as institutional customers |
| Ownership | Deep Red Canning Company is a Private Limited Liability Company |
| Financial Information | |
| Turnover | \$ 18,300,000 |
| Marketing | |
| Marketing strategy | Most products sold through wholesalers, but now also using local retailers and a farm shop as a local niche market. |
| Average market growth over last 5 years | The market has grown very slowly at approximately 1% per year over the last five years. |
| Market prospects | It is a mature market, but the new developments on the health benefits of tomatoes (Lycopene) create opportunities for growth. |
| Types of marketing used | No advertising or any other promotion. |
| Product | |
| Characteristics | Basic essential necessities. |
| Price elasticity of demand | Very low - consumers need these basic products and so they are price-inelastic. |
| Income elasticity of demand | Also very low, though the regional producers would have a product which is perhaps more income-elastic and they are more expensive than national brands |

Honey in Processed Tomatoes

Honey is used in processed canned tomatoes for various reasons, the primary reason being adding the sweetness attribute to the product. Honey also has its own unique flavor, which is desirable in a variety of tomato products. Natural honey has a buffering effect on sourness: of particular importance is the fact that increasing levels of honey decrease the sourness response despite increasing acidity. In products such as salsas, increased levels of honey have been found to reduce the burn intensity. Another attribute of honey is the reduction in textural viscosity. Honey is hygroscopic in nature (water extracting) and therefore causes a decrease in viscosity

The Company's current demand for natural honey is 200,000 pounds annually. Currently all the honey is sourced locally with a lead-time of 10 days from order placement to delivery.

Other Uses for Natural Honey

Honey has a variety of uses. It is widely used in the food industry from baking to beer making.

Some of the characteristics that honey provides include humectancy, viscosity, flavor, color, hygroscopicity, miscibility and spreadability. It is increasingly gaining popularity as an energy source and is widely used in the manufacture of energy drinks targeting the sports market.

It is reputed to have various health benefits, which include:

- Coats the throat and reduces throat irritation
- Is effective when used in the treatment of gastric or peptic stomach ulcers
- Is effective in the treatment of various wounds and infections because of its antimicrobial (antibacterial, antiviral and antifungal) properties.
- Is considered an antioxidant because it allows the blood to circulate better and provide more oxygen to areas of the body such as the brain.
- Can be used externally to promote healing when applied to wounds, even postoperative wounds
- Has been effective in the treatment of burns
- Contains a variety of sugars and minerals and has been shown to be low in calories and useful as a sweetener for diabetics, people with heart disease or those who are overweight.

The Honey Industry in the US

The U.S. Department of Agriculture has estimated that there are between 139,600 and 212,000 beekeepers in the United States. The vast majority (95%) are hobbyists with less than 25 hives. Commercial beekeepers are those with 300 or more bee colonies. There are approximately 1,600 commercial beekeeping operations in the

Table 2: Honey Production, by State, 2002

| | Pounds | Dollars |
|--------------|---------------|----------------|
| California | 23,320,000 | \$30,083,000 |
| North Dakota | 24,000,000 | \$34,080,000 |
| Florida | 20,460,000 | \$22,915,000 |
| South Dakota | 11,475,000 | \$16,065,000 |
| Montana | 8,442,000 | \$11,397,000 |
| Minnesota | 8,541,000 | \$12,128,000 |
| Texas | 7,638,000 | \$8,325,000 |
| Wisconsin | 6,650,000 | \$8,645,000 |
| Michigan | 5,544,000 | \$7,429,000 |
| New York | 5,880,000 | \$6,880,000 |

United States, which produce about 60 percent of the nation's honey. Since 1980, U.S. honey production has averaged around 200 million pounds per year. In 2002, over 171 million pounds of honey were produced in the United States. The average annual yield per colony was 67.8 pounds of honey. This represents a drop of 8% from the previous year when it stood at 74 pounds. Producer honey stocks stood at 39 million pounds at the end of 2002, a 40% reduction from the previous year. Honey is produced in every state.

Honey Prices

Table 3: US Honey Prices, 1995 – 2002

| Prices in US Cents/Pound | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|--------|
| 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| 68.50 | 88.80 | 75.20 | 65.50 | 60.10 | 59.70 | 70.40 | 128.60 |

Source: National Agricultural Statistics Services of the USDA

In 2003, honey prices rose to a high of \$1.75 per pound. This is largely attributed to the poor 2002 crop occasioned by the drought and the imposition of import tariffs on China and Argentina, the largest exporters of honey to the US. While this has positive tidings for beekeepers in the US, it has many in the food industry weighing their options on alternative cheaper sources of honey.

The demand for honey in the U S has been growing. This growth is largely attributed to human population growth. Consumption is currently estimated at 382 million pounds in 2002, compared to 300 million pounds a decade ago. Current per capita consumption stands at 1.31 pounds.

The major price driver is the supply of Chinese honey. In 2002, honey imported from China into the European Union was found to be contaminated with chloramphenicol, an antibiotic and unapproved food additive. The US halted imports of Chinese honey in response to this finding. There are fears that Chinese honey may still find its way to the US market through other countries. However, if the ban stays and compounded by the unusually high rainfall experienced in the Midwest in 2003, the reduced size of the honey crop will result in continued high prices.

The Food Processing Industry in Ohio

Ohio's Food Processing industry in 1999 was ranked fifth among the 50 states. The big advantage the State offers is its strategic location between the grain belt and the populous Eastern markets. A more telling statistic is that the State is within 500 miles of 60 percent of the Nation's population as well as population centers of Canada. The food processing industry in Ohio is growing at about the same pace as

its national counterpart. During the decade of the 1990s, Ohio's Food Processing industry grew by 5.8 percent, after adjustments for inflation. By comparison, the U.S. industry grew 6.9 percent.

Tanzania

Tanzania is located in the Eastern part of Africa, bordering the Indian Ocean between Kenya and Mozambique. Climatic conditions vary from tropical along the coastal regions to temperate in the highlands. The Country's population is estimated at 34.5 million people and has a growth rate of about 2.9% . The official languages are English and Kiswahili.

Political System

The political system in Tanzania is a multi-party democracy. The Constitution of the United Republic of Tanzania in its preamble provides that Tanzania aims at building a democratic society founded on the principles of freedom, justice, fraternity and concord, in which the executive is answerable to a legislature composed of elected members and representatives of the people. The constitution also provides for a judiciary that is independent and dispenses justice without fear or favor.

Economy

Tanzania's gross domestic product in 2000/2001 was estimated at US \$7 billion. The economy is predominantly agriculture based and this accounts for 50% of the GDP. The inflation rate has come down from a high of 35% in 1996/97 to a low of 4.6% in 2002. With the decline in inflation, there has been pressure to reduce interest rates, which remain at 12-15%.

Table 4: Key Economic Indicators¹ Tanzania, 2000 – 2002

| Indicator | Government Targets 2000/2001 | Actual to June 2001 | Actual to June 2002 |
|---------------------------|---------------------------------|------------------------|------------------------|
| Real GDP growth rate | 5.8% | 4.9% | 5.6% |
| Inflation Rate | 4% | 5% | 4.6% |
| Broad money supply growth | 8%- 10% | 7.8% | 12.2% |
| Foreign exchange reserves | 20 weeks of imports | 25 Weeks | 20 Weeks |
| Revenue to GDP ratio | 11.7% of GDP | 11.9% | 12.3% |

¹ Budget Speech 2001, 2002 Ministry of Finance, Monetary Policy Statement 2001,2002 Bank of Tanzania

External Trade

Tanzania's balance of trade is consistently negative. The Country's export earnings rose by 17% from US\$663 million in 2000 to US\$ 776.4 million in 2001. This growth was largely driven by non-traditional export sectors and in particular by the mining sector. Traditional export crops have performed poorly in the recent past due to the drastic fall in world commodity prices and low and variable product quality

Investment Incentives

The Tanzania investment council is the primary government agency with the mandate to encourage, promote and facilitate investment in Tanzania. Currently, it offers a certificate of incentives for foreign and local investors with a minimum investment capital of US\$300,000 or US\$ 100,000, respectively. The certificate guarantees:

- Against expropriation
- Fiscal stability i.e. protection against adverse changes in taxation legislation;
- The right to transfer outside the Country 100% of foreign exchange earned, profits and capital;
- Automatic permission to employ 5 foreign nationals on the project holding certificates of incentives.
- Assistance in processing of registrations, permits and licenses by various government agencies;
- Assistance with allocation of land and issue of derivative titles under the land act of 1999
- In addition to these incentives various tax incentives are offered. These include:
- Write-off for income tax of 50% of expenditure on plant and machinery in the first year of use;
- The immediate write-off of certain agricultural costs;
- Investment deductions in certain cases;
- No customs duty on capital goods;
- No VAT (Value added tax) on capital goods.

Agriculture Sector Performance

Much of the investment potential in Tanzania is related to agriculture. In 2001, food production grew by 5.9% in contrast to agricultural exports, which declined. In the past five years the value of agricultural imports have dropped by 21 % due to the decline in the world commodity prices.

The government has recently approved an agriculture strategy that recognizes the need to change the structure of agricultural production from subsistence agriculture to a more commercial farming system. In recent years, the Government has

increased spending in the agricultural sector in particular so as to improve rural infrastructure. The 2002/2003 budget saw the agricultural sector budget increased by 101% from the previous year.

Forestry

Tanzania has about 33.5 Million Ha of forests and woodlands. Out of this total area, almost two thirds consists of woodlands on public lands. About 13million Ha's of this total forest area has been gazetted as forest reserves.

One use of the potential of these vast woodlands is the establishment and ownership of bee reserves by private operators. The potential for bee products is estimated to be about 138,000 tons of honey and 9,200 tons of bee wax per annum from an estimated potential of 9.2 million honey bee colonies. Secondary investment opportunities include manufacturing of beekeeping equipment.

Tanzanian Government Beekeeping & Regulatory Framework

Policy Objectives are:

- Sustainable maintenance of honey bees and adequate bee reserves under effective management
- Improved quality and quantity of bees products on a sustainable basis
- Increased employment opportunities and foreign exchange earnings
- Ensured ecosystem stability and biodiversity conservation
- Enhanced national capacity to manage and develop the beekeeping sector.

The Africa Growth and Opportunity Act (AGOA)

The African Growth and Opportunity Act (AGOA) is an Act passed in the United States that significantly liberalizes trade between the U.S. and 38 designated Sub-Saharan African (SSA) countries. The Act covers the 8-year period from October 2000 to September 2008.

AGOA significantly liberalizes access to the U.S. market for the 38 SSA Countries (out of a total of 48) deemed to be eligible to benefit from AGOA. These countries have been chosen according to various pre-determined criteria, including progress made towards a market-based economy, respect of the rule of law, the embracement of general democratic principles and human rights issues.

AGOA builds on existing U.S. trade programs by expanding the duty-free benefits previously available only under the Generalized System of Preferences (GSP) program. The total number of products now qualifying for duty-free access to the U.S. market now stands at approximately 6,500 product lines, Natural honey is one

of the exempt products and Tanzania is AGOA eligible. Honey imported from Tanzania would thus attract zero duty as opposed to \$1.9 per kilogram from countries that are classified as having normal trade relations with the US and \$6.6 per kilogram for countries that do not enjoy NTR duty status

Managing the Supply Chain

The Deep Red Canning Company was founded on the premise that putting their focus on servicing the customer, to the best of their ability, will not only create the opportunity for success, but also ensure the future. The Company has thrived on a partnership philosophy, working together with suppliers to ensure consistent quality, competitive product pricing and delivery.

Earl is very excited about the possibility of importing organic honey from Tanzania. He is, however, cognizant of the fact that he has to fit this project into DRCC's supply chain strategy and its philosophy of developing partnerships with its suppliers. There are several questions that Earl needs to answer:

- What investment costs would be associated with this alternative sourcing strategy?
- What opportunity does the current legislation regarding trade between the United States and Tanzania offer?
- What additional staff resources will be needed to build and manage the required supplier relationship?
- What factors should be considered in order to deem the imported honey as organic?
- How does the current economic and political climate in Tanzania relate with the attractiveness of doing business with that country?
- What risks are associated with overseas sourcing?
- What are the key factors for the parties in this relationship to commit appropriate investment to sustain performance and a competitive edge?

While the benefits of acquiring a good source of organic honey are clear, one of Earl's major dilemmas is how to fit an overseas supplier into the organization's supplier strategy. DRCC's supplier strategy is geared towards 3 major points:

- Supplier Development
 - Development towards improving quality
 - On-Time Delivery
 - Involvement in new product delivery and other technical issues
- Supplier Performance reporting
 - Communicating with suppliers to provide subjective measurements on quality, delivery and cost performance
- Information systems

Vertical Integration

Another possibility that Earl is exploring is for DRCC to become an importer of natural honey not only to meet its own processing needs but also to supply the growing honey demand in the United States. The potential for marketing organic honey in the US is immense and Tanzania has a large production potential. The combination of the two makes for a great business opportunity especially in view of the news that honey from other popular sources seems to be adulterated with food additives.

For this idea to be feasible the product must be of consistent good quality and there is need to ensure security of supply. Under what conditions is vertical integration a viable option for DRCC?

References

- Harling, K. & Misser, E. "Case Writing: An Art and A Science". *International Food and Agribusiness Management Review*, 1(1)(1998)., 119-138.
- Iqbal, Zubair and Kahn, Mohsin, "Trade Reform and Regional Integration in _____Africa". *International Monetary Fund Washington D.C* 1998
- ____ World Agricultural Supply and Demand Estimates. Ithaca, NY: Mann Library Database, 2000. (<http://usda.mannlib.cornell.edu>)
- ____ Annual Honey Report. Ithaca, NY: Mann Library Database, 2003 (<http://usda.mannlib.cornell.edu/reports/nassr/other/zho-bb/>)
- ____ 2003 Tanzania Doing Business Guide by Pricewaterhousecoopers, <http://www.pwcglobal.com/extweb/home.nsf/docid/B2D6A16A5AB1634080256D64002CCD65>
- ____ 2003 Tanzania Budget 2003 Commentary by Pricewaterhousecoopers, <http://www.pwcglobal.com/extweb/home.nsf/docid/B2D6A16A5AB1634080256D64002CCD65>
- ____ Pressure On Honey Prices May Sting Beekeepers In U.S., *The Wall street Journal* Friday August 8th 2003
- ____ US international trade Commission 2003 Tariff database, dataweb.usitc.gov/scripts/tariff.asp

____ Codex Alimentarius Organically produced food by the joint WHO/FAO food standards Program. <http://www.codexalimentarius.net/download/report/69/AI0138ae.pdf>

Westgren, R. & Zerring, K. "Case Study Research Methods for Firm and Market Research". *Agribusiness*, 14(5) (1998). 415-424.

Additional Resources

Tanzania Investment Centre www.tic.co.tz

Tanzania National website [www. Tanzania.go.tz](http://www.Tanzania.go.tz)

National Honey Board -- Information for the Honey Industry www.nhb.org

Africa - PI - Beekeeping Development And Resources

Production and Trade opportunities for Non-Wood Forest Products, particularly food products for niche markets. UNCTAD2001
www.fao.org/organicag/doc/unctad.htm

African Growth and Opportunity Act (AGOA) - Home Page www.agoa.gov

Appendix: Deep Red Canning Co. Honey Specification Sheet

Product Description

Honey is the nectar and saccharine exudation of plants, gathered, modified and stored in the comb by honeybees. Liquid honey is honey that has been separated by filtering and is free from visible crystals. Honey is prepared and packed under sanitary conditions in accordance with good manufacturing practice (meets USDA Grade A filtered standards and complies with federal definitions and standards for honey).

Table 5: Physical Properties

| Attributes | Specification |
|------------|--|
| Color | Light Amber Color as defined by USDA Color guides 50-80 pfund |
| Form | Liquid free from visible crystals |
| Flavor | Sweet viscous no off odor/ flavor |
| Taste | Sweet |
| Defects | Shall be free of all substances degrading physical characteristics or deleterious to human consumption |
| Blend | Domestic/ Foreign sources |

Table 6: Chemical Properties

| Ingredients | Specification |
|------------------|------------------------------|
| Moisture | 18.6% Max |
| Soluble solids | 81.4 Min |
| Brix | 79.6 Min |
| Refractive index | 1.49 Min |
| Weight/Gallon | 11.75 Pounds at 68 Degrees F |
| Ash | NMT 0.25 |

Table 7: Microbiological Properties

| | |
|------------------------------------|--------------------|
| Standard plate Count | 5000 cfu's Maximum |
| Salmonella | Negative |
| Yeast/Mold | 100 cfu's Maximum |
| Coliform | Less than 10cfu's |
| E. Coli | Less than 10cfu's |
| Staphylococcus – Coagulase Postive | Less than 10cfu's |