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## MARKETS AND PRICING STRUCTURES IN THE CAPRIVI AND THE KAVANGO REGIONS OF NAMIBIA

A P Botes and D Metzger

### INTRODUCTION

The primary purpose of a marketing system has been assumed to be one of distribution - to distribute goods from those who produce to those who consume in an orderly manner consistent with the rules and preference of individuals, government and society.

Since most of the people in the Kavango and the Caprivi rely heavily on agriculture and practise subsistence farming, it has to be established whether a market is present and how well it functions.

Settlements in both the areas are located along the rivers, flood plains and the main roads. Since 1960 the population has increased as indicated in Table 1.

**Table 1**  
**Population growth for the Kavango and the Caprivi**

	1960	1970	1981	1987	Growth rate
Kavango	25 500	47 200	90 000	128 000	14,89%
Caprivi	15 825	26 000	37 923	47 000	7,04%

### CURRENT FARMING AND PRODUCTION SYSTEMS

Land in the Kavango and the Caprivi is controlled by a communal land tenure system. Communal land is controlled by individual tribes while the tribal chief assumes responsibility for the land that his tribe occupies. In agronomic regions the tribal chief will allocate a specific stretch of land to a family or an individual who can utilize the field at their own discretion. The area of arable land and estimated yields per ha are indicated in Table 2.

Livestock is raised on extensive rangelands which are allocated by the tribal chief to a group of people who will utilize the land communally. Cattle play an important role in these rural communities because they are an indicator of wealth and the sole source of protein.

On average, the livestock population has grown by 25,4 % in the Caprivi and by 2,7% in the Kavango. These figures are given in Table 3.

### THE AGRICULTURAL MARKET

A market is neither a place nor a centre, area or sphere. A market is a group of people, a group of buyers and sellers with facilities for trading with each other. The important factor that defines a market is the quality of communication among those involved (Sheppard & Futrell, 1982).

During the last decade several efforts were started to establish a market infrastructure in the Caprivi and the Kavango. The question arises whether these efforts have been successful. Since circumstances differ for each region, they will be discussed separately.

**Table 2**  
**Land under tillage and the respective yield**

	ha land	Yield	Avg. tot. production
Kavango	80 000	0,33 ton/ha	26 400 ton
Caprivi	9 000	0,45 ton/ha	4 050 ton

**Table 3**  
**Livestock population**

	Caprivi		Kavango	
	Cattle	Goats	Cattle	Goats
1984	40 667	476	84 007	16 750
1985	56 211	534	84 567	18 832
1986	64 189	986	83 881	23 056
1987	76 101	1 512	75 023	28 160
1988	78 879	1 832	78 117	32 773
1989	92 511	7 801	82 163	32 010

### **CAPRIVI**

The Caprivi is seen as an island and there is no way that one can prohibit movement over the borders. Due to the remoteness from any other formal market, it is quite expensive to provide any processed food to this area from the rest of Namibia. To help the Caprivians process their maize, the First National Development Corporation (FNDC) decided to start a project in the Caprivi, namely a mill.

The subsistence farmers soon discovered that they could sell their whole production at once and that they could use this money to buy maize meal and other food. They still cannot be described as commercial farmers, but they do have the advantage of a market.

Namib Mills Caprivi is operating a mill in Katima Mulilo with a capacity of 18 000 tons per annum which is considerably higher than the total annual production of the Caprivi.

There is, however, a limit to the consumer market, estimated to be between 2 000 - 2 400 tons per year. It is not possible to determine the exact demand for maize because of the free movement of people and products over the rivers. This limit was tested for the first time in 1988 and 1989 when the price for maize was drastically increased by the SWA Agronomic Board.

The market reacted as follows to the price stimuli:

- Deliveries of the product increased, i.e. the quantity of maize retained for own use decreased.
- Production increased by using existing technologies and by expanding land under tillage.
- Cheap maize was smuggled to the area from Zambia and sold at the mill for the higher price, thus increasing the amount of maize in the Caprivi.
- Less maize meal was purchased because of the increase in price.
- Cheaper maize meal was smuggled into the area from Zambia.

Despite the fact that the Caprivians have adopted some technology changes and have

responded to the price incentive, they were not able to reap the full benefits from the increased output due to certain problems:

- The only delivery point is Katima Mulilo. This represents a problem in that many maize producers do not have their own transport. This hampers the timely delivery which in turn leads to crop losses, e.g. cattle eat the product, mice and rats carry it away and, in the worst case, a farmer may lose his crop in a veld fire. Thus, a transport monopoly exists.
- As a result of the high producer price, the consumer price of the meal is high as well and thus cannot compete with the cheaper meal from Zambia, i.e. quality demand of the fixed price is low.
- Furthermore, local meal not only has to compete with Zambian meal, but also against meal from Botswana and the RSA. Local dealers are responsible for this inhibiting practice.
- A lack of distribution centres characterizes the Caprivan situation. Not only do price and quality make Zambian maize meal an unwelcome competitor, but distance to the market is also an inhibiting factor.

Because of formula pricing, production of maize has risen considerably. The Agronomic Board also attained market control because they paid the price and the product had to come through their channels. However, the market stopped here: Consumers rejected the product, because it was not price-competitive nor quality-competitive with relation to all the substitutes imported into the region.

Grain sorghum and millet both are important crops to Caprivan farmers. They are mainly produced for own use. A formal market where these commodities are traded does not exist. Some of them, however, are used in barter trade. Millet is mainly used as a staple food whereas grain sorghum is used to brew beer.

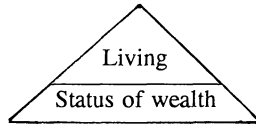
The major market development-inhibiting factor is that there is no technology available to process millet and no facilities in the Caprivi to process grain sorghum. Even if the technology is not available, production of these commodities will rise if a market exists which absorbs the quantity produced. The advantage of producing these commodities is that they are much more drought resistant and don't need a high level of management skills. A significant disadvantage is that both products are susceptible to bird damage.

An abattoir is available with a capacity of 12 - 15 carcasses per hour for 6 hours a day. Currently only 1 560 animals are slaughtered per annum at the local abattoir. This is about 50% of the total amount of animals slaughtered, the rest is slaughtered by bush butchering. The marketing process, from buying to retailing, is controlled by FNDC. Again, this enterprise is facing a monopolistic situation, especially if one looks at it vertically.

A seller will be paid in cash at his village, i.e. he does not receive remuneration according to the relative weight and quality. Carcass grading does not take place, not even at the abattoir. All the carcasses are automatically considered to be grade 4. During assimilation, the price per animal ranged from R230,00 to R400,00 per animal. This represents an average of R1,14 per kg beef on the hoof.

Marketing of beef is complicated by various factors:

- Culturally, the largest part of a cattle herd functions as a "store of wealth" and remains untouched. A smaller part represents the number of cattle required by people to make a living, as shown in the following diagram:



- Producers develop a resistance to deliver to the abattoir because of the vast gap between producer and consumer prices. Bush butchering is getting more popular, because the owner of the animal receives a higher price (R2,00/500g). In most cases the bush butcher is the owner of the slaughtered cattle as well.
- Distance to the market certainly plays a role, even though it is not insurmountable. It is more of a psychological barrier than anything else.

There are several factors influencing the demand for beef in the formal sector. There are only two retail outlets for beef, namely the supermarket and the butchery, both owned by FNDC and located next to each other. This market is only accessible to the population in and around Katima Mulilo, i.e. the market demand is limited due to the geographical location of the retail outlets and the limited mobility of the potential consumers.

Comparatively high produce prices and limited purchasing power also have an adverse effect on quantity demanded. The price of beef slaughtered by the bush butchers is much lower than the prices asked in the formal sector, i.e. the beef of the bush butchers is acting as a cheap substitute. Longevity of meat, together with the immobility of the potential consumer is also hampering demand. Competition from substitutes other than bush butchered meat is almost non-existent. The chicken, fish and pork market is limited and does not influence the beef market as such.

Bush butchering is getting more popular due to the factors mentioned above. About 50% of the total beef population available for slaughtering (3 600 head of cattle) is slaughtered by bush butchers in Musika, Mafuta, Bukalo and Linyanti. In the light of current hygienic standards, bush butchering should not be encouraged. However, since bush butchering is functioning as a perfect competitive market, it is growing. To develop entrepreneurship and bush butchering, it is wise to develop the basic infrastructure. This would include a concrete slab, a roof for shade, water for cleaning and a basic water cooler.

Currently a biltong factory is being built in Ngwezi. Once finished, the demand for beef should increase. Supply will depend on the price offered for cattle.

Vegetables are an economically viable enterprise and the market is quite active. This is also the sector that has received the least development aid and has mainly developed due to entrepreneurship and some help from the FNDC. Most vegetables are produced at the Kompano project and along the river near Katima Mulilo.

The consumer market is bi-articulate: on the one hand there is the European consumer market with its demand for all vegetables, on the other hand the African market which mainly has a demand for cabbage and tomatoes. The European consumer market has reduced dramatically with the withdrawal of the South African Defence Force (SADF) and the immobilization of the South West African Territory Force (SWATF).

The following problems are experienced with regard to the vegetable market:

- The consumer market is virtually limited to the population in and around Katima Mulilo because no distribution centres are available in the rural areas.
- Expansion of the vegetable market is limited because it is facing competition from the local supermarket, which is importing better quality vegetables from the Republic of

South Africa at competitive prices.

The Caprivi has the potential to produce more vegetables, if the market for its products can be expanded to the rest of Namibia where a great demand for vegetables exists. This would, however, necessitate the improvement of the infrastructure, especially the road between Kongola and Rundu.

## KAVANGO

Market infrastructure in the Kavango is much less developed than in the Eastern Caprivi. A few supermarkets and shops are present in Rundu and along the Kavango river. These, however participate very little in the marketing of the local products.

The only formal marketing structure is the abattoir, which supplies the local two butchers. No formal structures or channels exist for the processing and selling of agronomic products. Some millet and grain sorghum is marketed unprocessed through the 'cuca' shops.

A market place is available in Rundu, but its facilities are very poor and unhygienic. This market handles a few vegetables and some other foodstuffs.

Agronomic products are solely produced on a communal basis. Millet seems to be the most important product and is only produced for own use. Surpluses produced during the 1987/88 season were bought by the FNDC and the CCN and resold in Ovamboland and Windhoek respectively. Usually no surpluses are produced due to the unequal distribution of rain and the temporal variability of rainfall.

Only a few farmers produce grain sorghum and maize. Grain sorghum is mainly used to brew beer while maize is to a lesser extent used as a staple food. Some farmers would be interested in producing maize on a commercial basis should the necessary infrastructure exist, i.e. the farmers are looking for a delivery point where they can deliver their product and be remunerated immediately.

Even though the beef market is fairly well developed in comparison to the Caprivi, the local Kavango cattle producer is not really utilizing the facilities, mainly due to the fact that cattle are kept as wealth, used as draft-animals or as milk producers.

Currently the abattoir is processing approximately 20 - 30 cattle per week, representing about 1 040 - 1 560 animals per year. Before the withdrawal of the SADF and the SWATF this facility processed about 200 head of cattle per week. Processing 40 head a day is close to the abattoir's full capacity.

Beef is supplied to the abattoir by three sources:

- Cattle slaughtered to be sold in the butchery of the FNDC is supplied by the Mangetti farms, also owned by the FNDC.
- The privately owned butchery in Rundu receives its beef via the abattoir from Maroelaboom in the Grootfontein district.
- Local cattle are slaughtered and processed to polony at the abattoir.

The supply of local cattle to the abattoir is much less than the Kavango's potential, due to the following factors:

- The stock owners are not aware of the commercial power of their herds.
- The average herd size is only 18 cattle per farmer, i.e. there are enough cattle, but too many owners.
- More or less 3 million ha of pasture is unused because of a lack of infrastructure. Making funds available for the development of additional watering points would make an impact. However, the general tendency with this kind of aid is that there will not be a



## *Markets and pricing structures in the Caprivi and the Kavango*

redistribution of cattle, instead, herds will grow in numbers. The disadvantage is that the natural resources at a watering point will be exploited while the herds do not contribute to the growth of the region and the country.

A large variety of vegetables can be produced in the Kavango. However, the only fairly well-organised producers are the farmers at the Salem project and FNDC. Currently, the market for locally produced vegetables is limited mainly to the people in and around Rundu.

Marketing the locally produced vegetables has its own set of problems:

- The demand for vegetables around the Salem project is small and the farmers don't have transport to sell their products somewhere else. Thus, it is very easy to produce a surplus that normally leads to losses.
- The supermarket in Rundu buys limited amounts of products from Salem. This means that the inexperienced local producers have to compete against higher quality products produced on commercial farms.
- Entrepreneurship of the local farmers is being hampered by the economies of scale. FNDC delivers the same products at much lower prices than the Salem producers can.

However, if one has the determination and access to finance for transport, there is good money to be made from vegetables.

### **Pricing structures**

Prices are a form of communication signals that serve in various ways to coordinate market decisions, and have the following three major jobs to perform:

- They guide and regulate production decisions.
- They guide and regulate consumption decisions.
- They guide and regulate marketing decisions over time, form and space (Kohls & Uhl, 1980).

Few pricing structures are available, and they differ from product to product. This does not necessarily have to be a disadvantage. Beef, for instance, has a fixed price which is left to the discretion of the FNDC, i.e. it is traded in a monopolistic market and prices are determined in this way.

Even though there are two markets for beef, namely the bush butchering market and the formal market in Katima Mulilo, they do not compete with each other and thus don't have an effect on price discovery. Prices of meat from the bush butchers are determined by themselves and are usually considerably lower than prices in the formal market.

Maize is subject to formula pricing, which is administered by the Agronomic board. The local administration is also paying a subsidy to make up for the difference in the administered price between 1988 and 1989.

Prices for vegetables are more or less determined by a free market system and reacts to the law of demand, i.e. the larger the quantity produced, the lower the price. However, the price of vegetables in the supermarket is used as a ceiling. Normally, the vegetable dealer prices his goods at the market just below the price of the equivalent product of the supermarket. If he cannot sell his product at that price he will lower the price after one to two days.

Is the market infrastructure sufficient? The abattoir does not operate at full capacity, but at this stage the product quantity supplied seems to be sufficient. However, there is an enormous potential to increase the production of beef.

- The first step would be to turn the husbandry triangle upside down so that a larger part of the animals is being used to improve the standard of living.
- The second step would be to develop the unused areas.
- A third step would be to improve quality.

Currently the following factors hamper the increase of beef production:

- The local demand for beef is limited due to the low buying power.
- As a result of the occurrence of lung sickness, anthrax and foot-and-mouth disease, this area is subject to strict veterinary restrictions and neither animals nor fresh meat may be exported to the commercial area over the cordon fence.
- The processing of beef requires low producer prices.

The Kavango and Caprivi do have a high potential for agronomic production, but need the following developments:

- Adoption of new technologies.
- Availability of inputs like fertilizers and high quality seed.
- More delivery points.
- Processing facilities for millet.

To summarize, some basic market infrastructure is available but mostly the market is not functioning well. The market place at Katima Mulilo and possibly the abattoir at Rundu are exceptions. Since goods are sold, some kind of pricing structures have to be present. The maize price is determined by formula pricing and the whole supply is taken up by Namib Mills Caprivi. Kavango produces almost no maize. Sorghum and millet are mainly for household use and are hardly sold. If traded, it will be done by barter trade. Beef producers in the Caprivi are pricetakers and are facing a monopolistic situation if they market via the formula channel. Bush butchering is gaining momentum, and due to the location of bush butchereries, they have actually taken care of infrastructural constraints.

Prices are also competitive in the sense that they are established in a free market. There is, however, a limit to this market since it cannot expand vastly to supply the commercial market. Hygienic aspects and veterinary restrictions will put a cap onto the expansion. In the Kavango, the beef producers also have to deal with a monopoly, but meat is graded and paid for accordingly. Vegetable prices are determined by price discovery, which is working well. The price received for goods is the single most important incentive to produce more, to increase efficiency and to adopt new technologies. Therefore, the market infrastructure and the pricing structures need attention.

The Agronomic Board has proven that good prices and buyers will stimulate production. However, if institutions attempt to gain absolute control, they have to see to it that the product is not outpriced by the same product imported from elsewhere, i.e. prices of goods must be competitive. Directed markets can easily end in either producer or consumer rejection, as has happened in the Caprivi.

The abattoir prices in these regions should be established according to a grade and linked to the market prices of the commercial farming area which are more competitive (oligopoly). The improvement of the basic infrastructure for bush butchering will also enhance the enterprise. Assistance should take the form of financial aid and plans so that the entrepreneur can develop his butchery himself.

Sorghum and millet are more important as staple foods for the people in the Kavango and the Caprivi than maize. The advantages of producing sorghum and millet rather than maize are as follows:

## *Markets and pricing structures in the Caprivi and the Kavango*

- sorghum and millet are more drought resistant.
- soils and current production technologies are more suitable for sorghum and millet.
- with better quality seed, yields per ha for sorghum and millet are higher.
- the potential market for distributing the local production of sorghum and millet is bigger than for maize.

It is thus most important that a formal market be established for the handling, processing and distribution of sorghum and millet. There are possibilities to expand the production of vegetables in the Kavango and the Caprivi, but the potential local market is limited. A lack of infrastructure and the absence of a formal market for vegetables does not make the commercial production of vegetables in these regions profitable.

### **SOME DEVELOPMENT STRATEGIES**

Develop the people so that they can develop the land, rather than get somebody to develop the land for the people.

The development strategy must be focused on the emerging entrepreneurs like the small farmer, butchers, contractors and other small businessmen. The focus must be to promote sales of existing products and to create markets for existing products.

The ideal would be to finance the emerging entrepreneurs at market levels, but there are three reasons conventionally given for charging them rates below market levels, namely:

- they are inefficient;
- to induce farmers to invest in rational economic opportunities; and
- farmers cannot afford market rates.

It has been recognized lately that increased access to credit facilities is more critical than the levels of interest charged on loans. It is argued therefore that, as long-term strategy, farmers should rather be supported by the removal of institutional constraints than by reduced interest rates. Reduced interest rates also distort price signals, often subsidising non-agricultural activities rather than farming, and lead to overinvestment. However, considering the significant disadvantages emerging farmers face and the traditional approach to support these farmers by means of "soft" government loans, reduced interest rates may be considered as an appropriate first step, especially during the initial phase of development. Evidence from Africa showed that a broadly based small farmer approach directed at existing small farmers is the most effective way of promoting agricultural development.

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