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DEVELOPMENT POLICY ANALYSIS*

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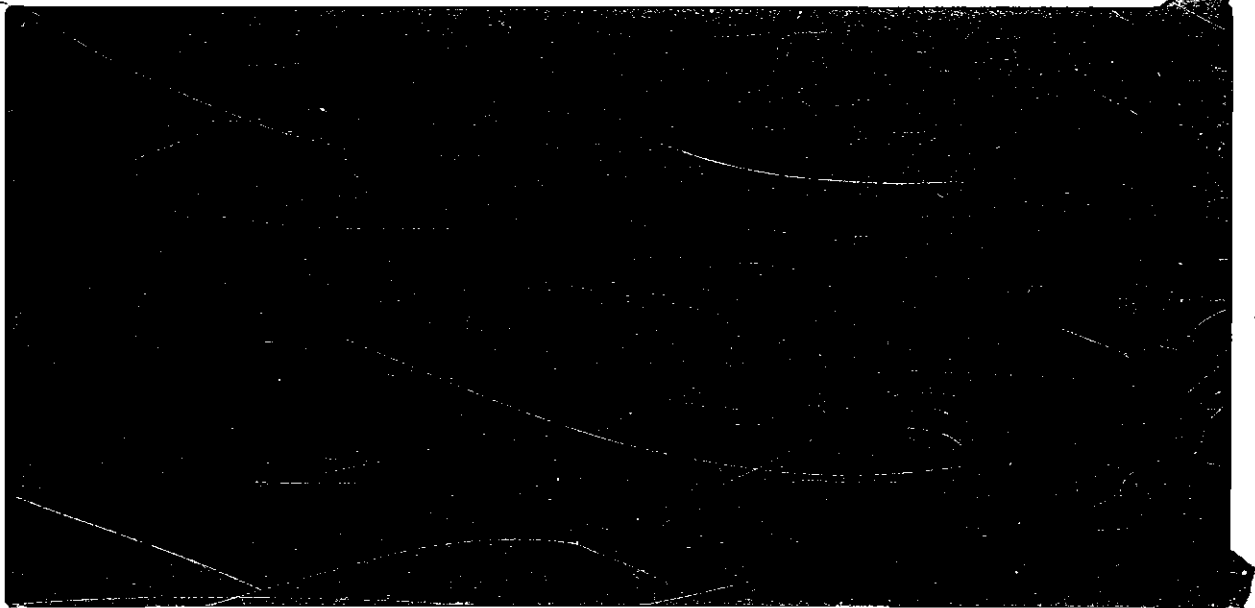
**The Impact of Trade Liberalization on Botswana's Beef
and Maize Sectors Prepared for Botswana Institute of
Development Policy Analysis.**

by

N.H. Fidzani, P. Makepe and J. Thalefang

BIDPA Working Paper No.7

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Impact of Trade Liberalization on
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Abstract

This paper takes a broad view of liberalization which encompasses both multilateral market Liberalization and internal market liberalization policies that affect the beef and maize sectors. The paper first looks at the sectors in terms of structure, main activities and market distortions. The origins and sources of these market distortions are then analysed with a view to identifying how their removal would bear upon the different stakeholders in the sector. The final section attempts to sketch implications of regional integration.

Keywords

Beef
Maize
Liberation

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1.0 INTRODUCTION

According to New-Classical Economics, scarce resources are allocated to their best use through the market. Failure to allow the market to allocate resources will result in price distortions. A distortion, by definition, can be any governmental or institutional intervention that causes the production and consumption of a good or service to diverge from its optimal level, Helmers and Harberger (1982). These distortions can take the form of government taxes, tariffs, price controls etc. They can cause the market price of the good in question to diverge from its true price or opportunity cost. The net effect of such a diversion is that producers and consumers of the concerned good receive wrong signals resulting in the misdirection of resource allocation.

In developing countries, distortions particularly in the Agricultural sector, are very common. According to Helmers and Harberger, these distortions normally take the form of underpricing of agricultural products. Common distortions in developing countries are: taxes on output and exports, compulsory sale of agricultural products to government at lower prices and subsidised sale of these products to consumers through government channels.

These actions are usually taken on the belief that:

- Urban dwellers need to be protected by keeping agricultural prices low.
- Keeping prices low will boost the badly required industrial investment.
- Once the industrial sector grows it will provide a boost to the agricultural sector by providing a strong market for its goods.

There exist enough empirical evidence to show that this approach has not been successful in that it has actually driven a lot of African countries into stagnation and balance of payment problems. These have in some cases resulted in Structural Adjustment programs that were targeted at correcting the prices.

This paper seeks to identify the extent to which market distortions have occurred in the beef and maize sub-sectors in Botswana. The paper further analyzes the possible effects of liberalization on these two sub-sectors in terms of who is likely to win or lose.

The paper takes a broad view of liberalization which encompasses both multilateral market liberalization (such as the GATT renegotiation) and internal market liberalization policies that affect these two sectors. Although, Botswana has not yet been placed under the Structural Adjustment programme, she has programmes that seek to liberalise her internal markets.

Botswana's case of beef and maize market liberalization is very interesting for a number of reasons. First, whereas beef is predominantly an export good, maize is a net-import good for Botswana. This affords us an opportunity to examine both the export and import aspects of market liberalization. Second, these two products are linked and depended, in one way or the other, on the Sub-Saharan economic giant, South Africa. This enables us to assess the extent to which the expectation that South Africa will boost the economies of the region is realistic. Botswana imports maize from and exports beef to South Africa. Third, whereas the discussion about agricultural sector distortions always centres around the under-pricing of agricultural goods, the Botswana beef case gives us the very rare opportunity of analysing an over-priced agricultural good.

The remaining part of this paper is organized as follows: It first looks at the livestock sector in terms of its structure, main activities and market distortions. The origins and sources of these market distortions are then analysed with a view to identifying how their removal would bear upon the different stakeholders in the sector. The section that follow tries to look at the maize sector in a more or less similar format. The final section attempts to sketch implications of regional integration.

2.0 CATTLE SUB-SECTOR

As alluded to, this section looks at the livestock sector in terms of its structure, main activities and market distortions. The origins and sources of these market distortions are then analysed with a view to identifying how their removal would bear upon the different stakeholders in the sector.

2.1 *THE ECONOMIC IMPORTANCE OF THE CATTLE SECTOR*

In a general rural Botswana setting, cattle play different roles. They are a source and store of wealth; they constitute a hedge against inflation, are convertible into cash in times of need and are privileged currency in such important transactions as bride-price dowry (Carl Bro Internal, 1982). As producer goods, not only do they provide draught power to arable agriculture, but reproduce themselves. As consumer goods, they produce milk, meat, hides and cash. As will be demonstrated later, cattle ownership in Botswana attracts a wide range of subsidies from government.

Data from the National Accounts reveal that the traditional sectors production activities are dominated by livestock production. Cattle sales alone contribute 50 percent of the sector's output. The remaining 50 percent which constitutes own-use production, according to the National Accounts, is dominated by milk, draught power from cattle and the value of meat from fallen animals. This places the overall contribution of the livestock sector output to the traditional sector at well over 70 percent. Furthermore, the livestock sector also dominates the capital formation of this sector. Capital formation mainly comes from the increases in the value of livestock.

Table 1 indicates the importance of beef production to Botswana's agricultural sector in terms of the percentage share that beef production contributes to Agricultural value added (AgGDP). Due to data constraints the data used for the tabulation was obtained for the period between 1979 and 1987. To determine beef production as a percentage of AgGDP, a summation of cattle sales, the net increase in livestock and the beef production kept for own use was done and then the percentage of AgGDP was calculated for each year. To determine the amount of beef production kept for own use, it was assumed that beef production kept for own use constituted not less than 50 percent of this component since cattle production is the most predominant activity. Using this assumption we obtained an estimate figure of beef production's contribution to AgGDP to be around 70 percent in good years. It is expected that the actual figure is higher than this.

TABLE 1:

BOTSWANA BEEF PRODUCTION AS A PERCENTAGE OF AGGDP (1979-1987)

Year	Sales of Cattle (P million) 1	Net Increase in Livestock 2	Agric. GDP. Share 3	Sales and Stock as a % of of AgGDP $4=(1+2)100$	Beef prodn for own use 5	Beef prodn as a % of AgGDP $6=(1+2+5)100$
1979/80	38.3	10.7	95.3	51.4	20.3	72.7
1980/81	45	6.4	104.1	53.9	23.5	71.9
1981/82	47.1	1.5	104.0	50.9	24.6	70.3
1982/83	60.7	(15.1)	100.0	47.8	25.1	70.6
1983/84	51.7	(15.6)	98.9	37.8	23.1	59.8
1984/85	62.1	(33.3)	110.9	30.2	35.8	58.2
1985/86	58.4	(22.1)	119.6	38.1	36.4	60.7
1986/87	55	(15.8)	128.5	41.1	36.8	59.1

In drought years beef production's contribution to AgGDP declined significantly as shown by the drop from 70.6 percent in 1982/83 to 59.8 percent in 1983/84. This also shows the vulnerability of the sector to drought.

The above table reveals that at a macroeconomic level, the livestock sub-sector has made a significant contribution. At independence in 1966, agricultural sector was dominated by the livestock sub sector, which contributed up to 40 percent of the GDP, 60 percent of foreign exchange earnings and 100 percent of value added in the manufacturing sector was in meat processing. However, the discovery of minerals, especially diamonds deposits, after independence and the boom that resulted there from greatly diminished the macroeconomic importance of this sector. Consequently the contribution to GDP has fallen from 40 percent in 1966 to 4 percent in 1996. Similarly, contribution to foreign exchange has fallen from 56 percent in 1971 to 5 percent.

TABLE 2:

AGRIC. SECTOR'S CONTRIBUTION TO GDP AND BEEF'S CONTRIBUTION TO EXPORT

Year	Agric. Va as a % GDP	Beef Prodn in tonnes	Beef Exports in tonnes	Beef Exports in value (P'000)	Beef exports as a % total exports
1990	6.3	12 463	11 366	105 455	4.2
1991	6.2	18 834	17 278	123 410	3.9
1992	6.1	24 122	22 855	129 753	5.3
1993	6.3	45 261	42 108	160 556	4.7
1994	6.2	22 460	19 089	172 749	4.2
1995	5.9	-	-		

As far as formal employment creation is concerned, the agricultural sector as a whole disappointingly contributes only 6 percent to formal employment creation. This suggests that livestock sub-sector is not contributing much to formal employment creation. This is because cattle keeping in Botswana is more land intensive and less labour intensive. At a subsistence level in rural areas, employment has however been significant. One other important aspect of this sector that is pertinent to the current topic is the way in which the national herd is skewely distributed. It has been claimed that 5 percent of the household own 40 percent of the national herd and 40 percent of the households do not own cattle

2.2 *THE INSTITUTIONAL ORGANIZATION OF THE CATTLE SUB-SECTOR.*

The cattle sector in Botswana consists of two main sub-sectors, namely the communal sector, which holds 80 percent of the national herd and the commercial sector, with the remaining 20 percent. These two sectors differ in a number of ways. In the former, cattle are kept and grazed on unfenced open rangelands while in the latter they are on enclosed freehold land. The management practices obtaining in these two sectors differ considerably, causing technical efficiencies to vary significantly between the two sectors.

TABLE 3:**COMMUNAL AND COMMERCIAL TECHNICAL EFFICIENCY RATES**

	Communal Sector	Commercial Sector
Mortality Rates	11	5
Calving Rates	50	70
Off take Rates	8	17

Table 3 reveals that the mortality rates in the communal sector are double that of the commercial sector. Similarly off-take rates in the commercial sector are more than double those of the communal sector. Furthermore, calving rates for the commercial sector surpass those for the communal sector. This clearly shows that the commercial sector is by far more efficient than the communal sector.

TABLE 4:**NATIONAL HERD SIZE AND OFFTAKE**

Year	National Herd Size	Number Slaughtered	CDW in kgs	Offtake rate (%)
1986	2 332 000	232 081	189.41	9.9
1987	2 640 000	180 606	197.10	6.8
1988	2 408 000	162 539	208.09	6.7
1989	2 528 000	168 901	216.52	6.7
1990	2 616 000	195 955	214.01	7.5
1991	2 844 000	218 884	201.79	7.7
1992	2 220 000	265 080	187.90	11.9
1993	1 821 000	257 718	181.05	14.2
1994	-	147 911	-	-
1995	-	-	-	-

CWD: Cold Dressed Weight

Table 4 shows the rapid growth in the herd size accompanied by very low offtake rates. The communal sector is characterized by the multifariousness of cattle ownership ranging from small herders whose paramount objective is to build their herd sizes to economically viable herd sizes to large herders

whose main difference with commercial farmers is that they operate on communal land. This is the group that wields a lot of power and control over policy formulation in this sector.

2.2.1 *Small Herders*

This group's herd size ranges from 1 to 40. This group accounts for 32 percent of the national herd size. The distinguishing features of this group are that it depends more on the product from the herds rather than on the sale of the animals. For example, there is greater dependence on milk, draught power and security that is derived from the herd than from cattle sale revenues. Cattle are only sold in cases of emergency or when there is a specific need. The groups management of its herds is very basic as there is very little expenditure on herd maintenance. The group waters its herd either from public water sources or through begging for water from those with private boreholes. These herds will normally not be located far away from the main villages as the group is too poor to afford travelling expenses.

2.2.2 *Medium sized herders*

The next group is the medium sized herd one whose herd ranges from 41 to 100 and it accounts for 30 percent of the national herd. This herd size is considered viable in that it can survive a major drought. Animals are sold in a regular manner both for household expenditure and for herd maintenance. This group depends on public water sources as it also can not afford its own water sources. In cases where herds are watered from private sources a fee has to be paid because the group can no longer plead poverty to beg for water.

2.2.3 *Large sized herders*

This group has herds that are above 100 and accounts for 38 percent of the national herd. The size of the herd dictates that a borehole must be owned and this is usually in remote areas where there is plenty of open space. Travel expenses, wages and borehole drilling and maintenance dictate that a significant part of the herd must be sold on a regular basis.

TABLE 5:

SUMMARY OF TRADITIONAL, COMMERCIAL AND TOTAL CATTLE ESTIMATES

Type	Traditional	Commercial	Total
Total Farms	100927.0	507.0	101434.0
Cattle Farms	53897.0	452.0	54349.0
Total Cattle	1562.2	258.2	1820.4
Bulls	29.1	5.7	34.8
Oxen	173.2	17.5	190.7
Cows	655.7	108.5	764.2
Tollies	205.9	38.3	244.2
Heifers	249.7	39.3	289.0
Calves	248.6	49.2	297.8
Births	373.9	60.8	434.7
Deaths	499.5	17.4	516.9
Sales	149.3	81.6	230.9
Purchases	13.2	76.5	89.7
Home Slaughter	23.5	7.1	30.6

Source: Botswana Agric. Census, 1993

TABLE 6:

FARMS: TOTAL CROP FARMS AND CATTLE FARMS BY REGION

Region	Total farms	Crop Farms	Cattle Farms
Southern Region	16 094	6 835	9 564
Gaborone Region	24 099	13 077	10 649
Central Region	31 391	19 483	17 006
Francistown Region	16 728	11 763	8 574
Maun Region	9 431	4 788	5 949
Western Region	3 184	268	1 703

Source: Botswana Agric. Census, 1993

Table 6 shows the regional distribution of cattle farms in Botswana. It can be seen from this table that while cattle are concentrated in the central region they are spread right through the country.

2.3 *CATTLE PRODUCTION*

Cattle production expands at a dramatic rate, to the extent that the total national carrying capacity is exceeded. The national herd increased from 1.2 million at independence to about 3 million just before the mid 1980's major drought. Meanwhile, total national carrying capacity was estimated at 2.5 million. This means that by 1980 the national carrying capacity was exceeded by half a million. This dramatic expansion of the cattle sector was mainly attributed to the borehole technology which turned areas which were hitherto inaccessible, available for livestock keeping. However, other government policies, which are discussed below, also contributed to this rapid herd growth. The rate of growth has, however, varied with drought episodes.

A map of the cattle producing areas in Botswana indicates that cattle production is widely dispersed throughout the country. In fact, all land under freehold tenure (commercial farms) and communal tenure (communal areas, TGLP Ranches and leasehold farms) is categorized as a cattle producing area. Only state land (national parks, game reserves and wildlife management areas) is categorised as not being a cattle producing area. Approximately 72 percent of the land is communal, 5 percent is freehold and 23 percent is state land. Therefore cattle production takes place on 77 percent of all national land.

Since most of the cattle population is found in communal areas, most livestock farming systems in Botswana are characterized by low input, low output per flock/herd. This is mainly due to poor access to marketing infrastructure such as communications networks including railways, roads and telephone in major livestock producing areas. The wide geographical dispersion of communal producers throughout the country makes the provision of such facilities expensive. In comparison, freehold farms are located in areas which have relatively better access to marketing infrastructure. Socioeconomic and institutional factors such as limited investment opportunities and the land tenure system; lack of feed, water and poor nutrition during the dry period; health and disease; disincentives particularly the tax system; poor animal husbandry methods and lack of farm management also contribute to low output per herd in the communal areas.

Despite the above livestock production, in particular cattle production, dominates farm activities in terms of labor used, capital invested, gross output and income (Botswana Farm Mgt. Survey, 1988). Table 1 indicates average cattle numbers, costs, returns and gross margins by herd size from the 1988 farm management survey.

TABLE 6B:

CATTLE FARMS; AVERAGE CATTLE NUMBERS, COSTS, RETURNS AND GROSS MARGINS (in Pula) B

Item	All Cattle Herds	Herd Size 1-10	Herd Size 11-20	Herd Size 21-40	Herd Size 41-60	Herd Size 61-100	Herd Size >100
Farms (No.)	127	55	26	22	10	6	8
Cattle (No.)	35	7.5	19.5	37.9	60.9	105.5	181.9
Sales Revenue	992.73	449.36	526.15	797.48	3975.2	2954.75	1582.11
Appreciation	-1461.51	-466.97	-313.99	-1023.6	-6232	-6478.22	-3505.72
Cattle Purchases	8.08	2.85	15.77	20.85	0	0	0
Variable Costs	156.03	12.61	31.03	240.89	450.52	545.6	654.69
Gross Margin	-632.89	-33.07	165.36	-487.87	-2708.3	-4069	-2578.3
Per Herd	-18.08	-4.41	8.48	-12.87	-44.47	-38.57	-14.17

Source: Farm Mgt. Survey Results, 1988

Representative samples were taken from each category in terms of herd size. The analysis indicated a positive relationship between revenue from cattle sales and herd size. Appreciation figures were determined by computing the increases or decreases in the value of the herd from the beginning and ending inventory. The table indicates that these were negative for all herd sizes with larger herd sizes recording more losses. This could be attributed directly to the drought which occurred over this period. Cattle purchases were recorded for smaller herd sizes in the survey period however for larger herd sizes there were no cattle purchases. Commercial farmers purchased no cattle because it was a drought year. Variable costs were also found to vary directly with increases in the herd sizes indicating that cattle producers (commercial) with larger herd sizes tended to use more inputs in their production systems. Due to the cumulative effects of the drought, cattle recorded their lowest cold dressed weight during the early months of the 1987/88 cropping season. As a result the majority of cattle farm strata recorded negative gross margins. Data limitations for the current period made a

comparison of the current period and that of 1978-88 impossible. However, a comparison was made for the 1978-84 period to determine whether gross margins for goods years are positive.

TABLE 6C

CATTLE FARMS: AVERAGE CATTLE NUMBERS, COSTS, RETURNS AND GROSS MARGINS (Pula) IN HE

Item	All Cattle Herds	Herd Size 1-10	Herd Size 11-20	Herd Size 21-40	Herd Size 41-60	Herd Size 61-100	Herd Size >100
Farm No.	140	51	26	33	13	9	8
Cattle No.	40.7	7.7	19.3	40	59.7	96.9	229.3
Sales Revenue	1076.3	361.76	355.48	1130.06	1160.7	2146.3	6387.8
Appreciation	-428.71	-291.64	228.56	-568.58	428.1	399.04	-5156.2
Cattle Purchases	24.85	6.57	12.27	17.30	9.33	15.78	250.0
Variable Costs	86.31	19.29	25.83	121.30	103.47	122.91	473.7
Gross Margin	536.39	44.26	545.94	422.88	1476	2406.65	507.95
Per Herd	13.18	5.75	28.29	10.57	24.8	24.84	2.22

Source: Botswana Farm Mgt. Survey, 1984.

The above table indicates the profitability of cattle production in good years as indicated by positive gross margins for each herd size. Revenues from cattle sales increased with increases in herd size. Despite recording the highest revenue from cattle sales the category with 100 cattle and above recorded the lowest level in appreciation of stock. In response to this more cattle were purchased by this group than any of the other groups and this meant that gross margins for this group were also less than expected although they still remained positive. Results from the survey indicate a positive relationship between variable costs and herd size for all herd sizes. The average gross margin for all cattle herds was positive indicating the profitability of cattle production in good rainfall years as compared to its sensitivity to drought.

2.4 BOTSWANA MAJOR BEEF EXPORT MARKETS

Table 7 indicates that the EU market is Botswana's single most important export market. It is important to note however that lucrative as the EU market is, it is a very expensive market to maintain. Botswana

has had to put up a very costly infrastructure in terms of cordon fences which are a requirement in order to maintain its access to the EU market.

TABLE 7:

BOTSWANA BEEF SALES (VALUES) BY MARKET 1989-94 (IN PERCENTAGE TERMS)

Market	1989/90	1990/91	1992/93	1993/94
United Kingdom	30.0	34.0	31.4	31.3
Germany	16.0	17.6	25.1	19.5
Holland	9.0	7.9	9.2	6.7
South Africa	14.0	13.6	9.2	16.8
Reunion	14.0	12.5	10.2	8.8
Botswana	7.0	6.1	7.0	6.8
Italy	-	5.0	7.3	7.4
Other	10	6.1	0.6	2.7
Total	100	100	100	100

Source: BMC Reports Various

This table indicates that less than 10 percent of the Botswana Meat Commission's output was consumed locally. In fact, about 90 percent was exported with the bulk (around 60 percent) going to the EU and the rest to South Africa and Reunion Island. These figures and the fact that the EU only accepts beef from foot and mouth disease free areas within Botswana, highlights the dependency of the Botswana beef export industry on the European market. Botswana does not export beef to emerging markets in Asia such as Japan and Korea because these countries do not accept beef from countries in which foot and mouth disease is endemic.

2.4.1. Type of product

The Botswana beef export industry has evolved from the export of live animals to South Africa in the 1920s to the export of more differentiated beef products in the 1990s. The main product of the Botswana Meat Commission is boneless beef which is chilled or frozen; canned meat products such as corned beef and canned tongue; bone, carcass and blood meals, pet food and hides (Botswana Meat Commission, 1994).

Table 8 indicates the type of product sold by the Botswana Meat Commission in percentage terms from 1989-94. The strong demand for lean manufacturing boneless beef in Europe, especially the high demand for top quality rump and loin cuts that cannot be supplied from European cattle, has enabled the Botswana Meat Commission to secure a niche within the European market for Botswana beef. In addition, Botswana beef is raised on chemically free rangelands compared to beef from other major exporting countries improving its competitive position.

TABLE 8:

TYPE OF PRODUCT VALUES SOLD BY THE BMC FROM 1989 - 94 (IN PERCENTAGE TERMS)

Product	1989/90	1990/91	1992/93	1993/94
Boneless Chilled Beef	38.0	41.6	44.7	37.8
Boneless Frozen Beef	42.0	39.4	38.7	41.8
Canned Products	4.0	7.0	4.7	5.6
Hides	7.0	5.5	7.3	7.8
By-products	-	3.7	4.4	4.0
Other	8.0	2.8	0.2	3.0
Total	100	100	100	100

Source: BMC Reports Various

The bulk of the beef produced by the Botswana Meat Commission is boneless beef; chilled and frozen. During the period 1989-94 boneless beef consisted of about 80 percent of the total beef produced by the Botswana Meat Commission. Other products such as canned products, hides and by-products made up the remaining 20 percent.

Table 9 indicates price comparisons for Botswana's boneless beef from 1989 - 94 in foreign currency. In general, boneless chilled beef fetches a higher price than boneless frozen beef. The Pula earnings from the EU countries; the UK, Germany and Holland are higher per kilogram because these currencies are stronger than the Pula. However export earnings are subject to the fluctuations of the foreign currencies of these countries since about 90 percent of the Botswana Meat Commission beef sales are destined for these markets.

TABLE 9:

PRICE COMPARISONS FOR BOTSWANA'S BONELESS BEEF 1989-94 IN US\$

Foreign Currency	1989/90		1990/91		1992/93		1993/94	
	Chilled	Frozen	Chilled	Frozen	Chilled	Frozen	Chilled	Frozen
U.K.	7.38	3.66	6.51	3.27	5.63	2.90	5.41	3.11
Ger.	8.01	4.06	6.86	3.63	5.48	3.17	5.63	3.22
Hol.	-	4.85	-	4.85	-	3.45	-	4.85
Reu.	7.83	4.41	6.75	4.07	5.87	3.33	6.03	5.77
RSA	-	2.52	2.74	2.34	-	2.39	3.45	1.911
Bots.					1.86	1.75	1.83	1.54

Source: BMC Reports Various

2.5. INTERNAL MARKET DISTORTIONS IN THE CATTLE SUB-SECTOR SECTOR

When Botswana attained its political independence in 1966, the cattle sector was thought to be the only economically viable sector for the country and this came to influence the government's attitude towards this sector in a major way. For one thing, it influenced the Government's investment policy into the sector as it was believed that as the only viable sector resources should be pumped into it. This investment took the form of making water drilling funds available so that hitherto unused virgin lands could be opened to increase the national herd. Even when a much more viable sector (such as the diamond sector) was established, the bias in favour of the cattle sector still continued. Actually the sector changed its role to that of a conduit through which revenues from the booming diamond sector could be drawn by those in economically and politically powerful positions (Parsons, 1979; Picard, 1980). Many scholars on the political economy of Botswana concur with this view (Hubbard, 1986; Hudson, 1981; Perrings et al, 1990; Harvey and Lewis, 1990). These scholars further noted correctly that the siphoning of revenues from the mineral sector into the cattle sub-sector has taken the following forms:

- artificially high producer prices
- heavy direct subsidies into the sector
- a very lenient tax system
- provision of heavy livestock-specific infrastructure.

It is further argued that all these have made this sector artificially attractive. As stated in the introduction, artificial attractiveness is a distortion in that it interferes and misguides resource allocation. Our task in this paper is to discuss how the liberalization of the beef market, both nationally and internationally, will impact on the above list of distortions. In other words will it make their effect worse or better? In order to answer this question adequately we need to briefly discuss this list and demonstrate how these fit to be called distortions.

2.5.1. Artificially higher producer prices

This distortion originates from two sources namely the monopoly power on the exportation of beef held by the BMC and Botswana's preferential access to the EU market which itself is a highly protected beef market.

Under the monopoly arrangements, beef producer prices are fixed by the BMC Board of Directors which is made up of big cattle owners and senior civil servants most of whom are also cattle producers. Picard argues that the Board's vested interest in this sector has elevated prices in two ways. First, the quest by the board to keep producer prices as high as possible resulted in the tailoring of slaughter capacity (in the past and not now) to the EU quota market. Harvey and Lewis (1991) have explained that there was fear that selling of beef outside of the EU would pull the average producer price down .

This tailoring of the slaughter capacity to the EU quota produced a lot of market distortions. For one thing, it meant that there was only one abattoir which was placed at the Southern end of Botswana, Lobatse which made it difficult for northern farmers to market their cattle. Those who tried to sell, their animals lost a lot of weight and value en route due to long trekking distances. For another, constrained slaughter capacity produced an internal slaughter quota system which was very complicated especially to small farmers, Hubbard (1986). This resulted in farmers reticence to market their cattle. This is, no doubt, is a resource allocation problem. It must be mentioned however that the slaughter capacity constraint has recently been sorted out by establishing two abattoirs in the Northern part of the country.

The second way by which prices were kept artificially high was discovered by The Presidential Commission on Economic Opportunities (1981) which reported that EU levy rebatements which were made with the understanding that they were to be used to improve the sector's infrastructure were actually directly paid to producers. That this has misguided the farmers' incentives is obvious.

2.5.2. High subsidies and low taxes

In addition to heavy infrastructural investment, subsidies in livestock sector take the form of free vaccines and drugs, price supported stock feed; bull subsidy and free artificial insemination schemes; and borehole drilling subsidy. Indirect subsidies come by way of interest subsidized loans from the National Development Bank. Occasionally, interest payments are cancelled as a drought relief measure. The government estimates that subsidies constitute 55 percent of the sectors's input costs. These subsidies account for 44 percent of the Ministry of Agriculture's development expenditure and 13 percent of recurrent expenditure, (Fidzani 1993).

In addition to high subsidies, a generous tax system has contributed to making the cattle sector artificially attractive. For example, farmers are allowed to write off their livestock losses against profits from none-livestock related activities. The spatial scatterdness of the livestock sector and the frequency of drought makes it difficult for the Tax Department to verify the authenticity of livestock losses. This has made the cattle ownership a sanctuary for tax avoidance. Hence, it is attractive and strategic for most businessmen, real estate investors and those in formal employment to hold cattle for purposes of tax evasion.

It is evident from the preceding discussion that heavy subsidies and a lax tax system, have resulted in this sector being a fiscal drain on the government budget. The inappropriateness of this situation has been pointed out by the Report of the Presidential Commission on Economic Opportunities which state that;

- No other productive sector in Botswana has received a larger subsidy and although it increases economic opportunities for cattle owners, it is clearly unfair and it inhibits other industries. It could be argued that a major industry such as this should be required to make a net contribution to government revenues instead of detracting them (1990, p.41)

In conclusion, it can be noted that artificially high prices and heavy subsidies coupled with low taxes have made the cattle sector highly profitable and artificially attractive to invest in. This has resulted in the concentration of local private investment in the livestock sector at the expense of the manufacturing sector. More importantly, concentration of investment in this sector has resulted in the over-expansion of the livestock industry.

The artificial attractiveness of this sector culminated in the over expansion of the cattle sector as shown in Table 4 which shows that the expansion in the national herd has not been accompanied by an increase in the offtake rate. This clearly implies overstocking and range-degradation have occurred. Range degradation implies that the long term economic viability and sustainability of the sector is doubtful. This is the ultimate effect of the distortions outlined above.

While some of these distortions such as limited slaughter capacity have been eliminated this sector still remains the most favoured sector by the Government. The fiscal policy still under taxes the sector and heavily subsidises it.

2.5.3. *The Botswana Meat Commission (BMC)*

Central to the cattle industry in Botswana is the BMC. This is a statutory body wholly owned by Government which has the monopoly power on the exportation of beef, its by-products, processed meat and live cattle. The enterprise is statutorily bound to buy all cattle that are available for sale in the country from all producers in all parts of the country. The BMC accounts for 79 percent of the national off take with the remaining 21 percent split between municipal abattoirs and home slaughter. The fact that Botswana's beef is produced mainly for exports is epitomized by the exportation of 93 percent of the BMC's throughput. This places the percentage of the national herd that is exported at 85 percent. Botswana is therefore one of Africa's major beef exporters. Any changes or liberalization in the beef international markets are therefore bound to affect Botswana's beef sector in a major way.

The BMC Act stipulates that the commission's responsibility is:

“To carry on business efficiently and economically in such a manner as to promote the interests of livestock producing industry in Botswana, and in particular to insure that as far as possible all livestock offered or available for sale in Botswana to the commission are purchased and that prices paid therefore are reasonable”.

The government has control over the Commission through the President's powers to hire and fire commissioners and to veto any change of policy directions (Hubbard 1986). It is clear from this that the BMC is equivalent to a state enterprise.

World beef prices are usually very unstable. Any organization that ventures into this business is most likely to run into viability problems. At independence, as a price taker in the world market faced with a situation in which the internal beef market was limited, the BMC had to be given the domestic monopsony power so that it could use these powers to cushion itself against any world price decrease thereby enabling the commission to pass an export price decrease to farmers which in turn ensured its long term financial viability, Hubbard (1986).

Hubbard (1986) argues that this monopsonistic power had profound effect on the BMC conduct and performance. As a price taker in the world market, the BMC has had to work hard to ensure its product's acceptability. This, it did by establishing the Allied Meat Importers company in Britain and charged it with responsibility of ensuring the penetration of the European meat market. However, its domestic monopsonistic power did not produce similar enthusiasm in promoting internal marketing. For a long time it faced constrained slaughter capacity that led to an inefficient internal quota system. According to Hubbard, it was even reluctant to take over the responsibility of over-seeing both the Botswana Livestock Development Cooperation (BLDC) and the Grazier Scheme. These were programmes intended to promote internal cattle marketing systems. This reluctance resulted in low national off takes.

Harvey and Lewis (1990) attribute this reluctance to the fact that the EEC had highest world prices which meant that selling outside the EEC would mean lower producer prices at home. Since most Board members were and are usually big cattle owners and cattle owning civil servants, there was some reluctance to sell outside the EEC as producer prices would have to decrease. The BMC slaughter

capacity was then designed around the EEC market. The result of which was an internal quota system. It took fifteen years to convince the BMC to establish another abattoir in the north.

The main point from this is that being a price taker in the world market, the BMC has behaved in a very efficient manner at international market level. Domestic monopsonistic powers have however, made it function at substandard level in the internal market. The overgrazing and range degradation that comes out of this have adverse implications for the sector's long term sustainability.

The performance of a public organization such as the BMC is usually measured by the extent to which it has succeeded in meeting its stated objectives. As already stated, the BMC act requires that it should buy all the cattle that are available for sale. The existence of a quota system suggests a failure to achieve this objective. Performance according to Hubbard can also be measured by sales effectiveness. While the BMC sales performance has been impressive, the proportion of net sales absorbed by production and administrative costs has been continuously increasing. This prompted one consultancy firm (ANZDEC) to recommend that BMC's accounting and management information system should be reviewed. This view was echoed by the report of The Presidential Commission on Economic Opportunities (1982) when they commented that:

"We recommend an urgent investigation of why this has happened, followed by sustained efforts to reduce BMC's costs. The key is to ensure that BMC's management structure and practices are conducive to efficiency and accountability p42".

This coincidence of a strong sales performance with weak economic performance is indicative of the problems of being a world price taker and a domestic monopsony. This weak economic performance is further illustrated by the fact that over the years the BMC's throughput has increased by only 114% while the national herd has increased by 127%.

A lesson to be drawn from the foregoing discussion is that the identification of good export markets can not by itself ensure efficient allocations of domestic resources. The nature of the market in which the export firm operates plays a major role. From this discussion, it is clear that the monopsonistic BMC has failed to ensure an efficient internal market. The end result of this has been allocative inefficiency which now threatens the sectors long terms sustainability.

PRICING POLICIES IN THE CATTLE SUB-SECTOR.

This section of the paper examines BMC's pricing structure as it relates to the limited slaughter capacity. Emphasis is placed on identifying the instruments that have been used, their rational and an assessment of how successful these instruments have been in increasing offtake and general technical efficiency of the sector.

THE BMC'S PRICE STRUCTURE

As Statutory Corporation, BMC is not supposed to make profits. Once its operation costs and relevant capital charges are met the commission is required to pay all its proceeds to cattle producers who will have sold animals to it during that financial year. These are paid in bonus form.

Another important feature of the BMC price structure that originates from the limited slaughter capacity that existed in the mid 1980's is the use of *seasonal pricing*. The slaughter capacity constraint that existed in the 1980s meant that there were some farmers who could not market during the period when their cattle were in their peak condition. Selling after this period meant real losses to these farmers since their animals would have lost weight. To compensate them, prices for the periods during which animals were not in their peak conditions, prices were increased to levels above those for the peak condition periods. Although this policy is still being practised, it is not for slaughter capacity reasons, but for the inducement farmers to sell during the dry season.

A third feature, which is also based on the assumption that high prices do encourage farmers to market their cattle when they are still young, is a *grading system* that is based towards young animals. There are five grades ranging from super to grade 4. Young animals are most favoured to obtain the super grade and older animals to get grade 4 depending on the animal's condition. Also built into this grading system is the aspect of *conformity*. There exist a prescribed body structure based on the breed type. The conformity aspect is supposed to encourage people to buy improved breeds.

A fourth aspect of price structure is the *cross subsidization* that exists across regions. On account of Foot and Mouth disease, there are regions that can sell to EC and there are some that can not. While

it should be expected that the EC area will receive their full EC price, on social justice and equity considerations the government has decided that there should be *cross subsidization* between regions.

Now coming to specific policies, while the seasonal pricing system has the good intentions of encouraging farmers to market at a time they otherwise would not have wanted to, it has the flaw of assuming that all farmers are price responsive and overlooks the multifariousness of cattle ownership in Botswana. For example, prices are highest just before the rainy season, a period during which farmers are preparing to plough. This means that only those who do not need cattle for draught power will be willing to take advantage of this price hike. To the extent that big farmers are the only group that will be in that position, the price system has adverse equity implication. McGowan et al have actually found that only 20 percent of cattle sold during the highest priced period come from the traditional sector. This calls for a need for a wide sector study on price elasticities for different groups and for the targeting of policies to specific groups.

The bias in favour of large commercial farmers is further accentuated by the grading system. On examining the marketing of Botswana beef in the world market, McGowan found that there is very little product differentiation in terms of the type of meat. Indeed, lean meat is the most preferred type of meat by the EC. When they used the product differentiation information according to the types of cuts to compute the return from different types of animals, they found that the correct differential grading as compared with the actual to be as shown in Table 10.

TABLE 10
INTERGRADE RELATIVE PRICE DIFFERENTIAL
CARCASE GRADE

	SUPER	GRADE 1	GRADE 2	GRADE 3	GRADE 4
EXISTING PRODUCER PRICE	1.10	1.0	0.91	0.83	
END PRODUCT VALUE	1.02	1.01	1.0	0.99	0.93

This table reveals that the super and grade 1 and grades are 19% and 9% over paid respectively and that grades 3 and 4 are 8% and 10% under paid. To the extent that larger traditional farmers and commercial farmers are the ones who are most likely to attain these grades due to their ability to supplementary

feed and to buy improved breeds, this grading system suggests a cross subsidy from small farmers to large and commercial farmers. The extent of resource misallocation that arise from such distortion have been captured by McGowan by stating that:

“It is clear from the analysis carried out, that the BMC’s price structure substantially distorts the EEC price signals, in relative terms penalizing the suppliers of lean grades of meat preferred by the EEC and those who produce fatter carcasses which are less in demand. It is fair to say however that the major impact of the price signals emanating from the EEC is disguised by the BMC pricing structure”.

They further argue that this allocative inefficiency is much more serious than this if it is considered that this policy has encouraged fattening lots which now compete for scarce imported feeds with the more deserving poultry and piggery sub-sectors.

This section has shown that the limited slaughter capacity which resulted in a quota system led to distortions caused by the inefficient allocation of resources in the sector. The result of which has been overstocking, range degradation and increased inequities.

The treatment of the sector as a homogeneous sector has also led to these misguided policies. There is a need to recognise the fact that the Botswana livestock sector is made up of different actors who cannot uniformly respond to blanket policies. Targeted policies are therefore an imperative.

The self interest of large cattle owners also shows up in the price structure through poor farmers being made to subsidize large farmers. If rural development together with social justice are to be achieved through the agricultural sector, such policies will have to make equity considerations their integral part.

2.6 DISTORTIONS IN INTERNATIONAL BEEF MARKETS

2.6.1. The Lome’ Conversion and the new GATT

The European Union (EU) market is currently the most lucrative market for Botswana beef exports. Through its variable levy system, the EU has been able to maintain the price of its domestically produced agricultural commodities above world market prices by imposing taxes which bring the

prices of imported agricultural commodities up to that of those produced domestically. Effectively this discouraged naturally efficient producers from exporting to this market. In 1975 the first Lome Convention was signed which gave African, Pacific and Caribbean (ACP) countries including Botswana preferential access to EU markets. A comprehensive cooperative agreement between the EU and the ACP countries, Lome served as a link for ACP countries' exports to the EU market.

Currently, the EU's trade relations with the ACP countries are governed by the fourth Lome Convention signed in 1989 for the next ten years. Under Lome IV, a special arrangement for beef exports known as the Beef Protocol allows traditional beef exporting countries a 90 percent rebate of the variable levy on beef imports. Effectively, this has been a subsidy by the EU, under Lome, which is supposed to be utilised to develop the beef industry. The provisions of the GATT/WTO agreement based on market access, export subsidies, internal support and sanitary and phytosanitary measures will affect Botswana's beef sector through the Lome Beef Protocol.

In 1975 Botswana negotiated a 17360 tonnes per Annum with the then EEC which was upgraded to 18916 tonnes in 1979. This agreement is due to lapse in 1999. However the GATT/WTO Agreement makes the following provisions.

Market access: All non-tariff barriers such as quotas, variable levies and restrictive licensing are to be converted into ordinary tariffs. For Botswana this means that first, there will be a decline in exports to the EU market when the Beef Protocol is phased out as a result of tariffication. Secondly, the price obtained for Botswana beef in EU markets is likely to decrease due to reforms in the CAP. The increase in the volumes of beef traded worldwide as a result of increased market access is also likely to reduce prices in world markets.

Export Subsidies: Export subsidies allow the subsidizing country to displace naturally efficient producers in world markets and thus are viewed to be the most trade distorting of government policies. Under WTO, all policies such as direct subsidies, the disposal of stocks below market prices, producer financed export subsidies and transportation and freight subsidies are to be reduced.

Sanitary and Phytosanitary Provisions: This provision discourages the use of unjustified health-related measures as disguised barriers to trade through the agreement that S.P.S. measures should be science based. Other important principles incorporated into the S.P.S. text are equivalency, risk assessment, pest or disease free areas and transparency. Traditionally, pest or disease free status has been considered by political boundaries. Under the S.P.S. provision the “area within a country” approach is adopted. This means that exports should be permitted from a particular area within a country if it can be demonstrated that the area is and is likely to remain disease or pest free even if the surrounding areas are not free of pests or diseases. This is particularly important for Botswana which has been able to control the spread of foot and mouth disease. The construction of fences and regular vaccination campaigns have been effective in establishing disease free zones which are acceptable to the EU allowing beef to be exported from those parts of the country that have not been affected by the disease in the event of an outbreak.

2.6.2. Southern African Customs Union

Botswana, Namibia, Swaziland and South Africa are all members of the South African Customs Union (SACUA). Established in 1910, it allows for the free movement of products including livestock and meat between member states and facilitates regional trade among member states. However, the SACUA external tariffs limit trade with other countries that are not its members. The main inter-regional beef trade flows within the SACUA have been from Botswana, Namibia and Swaziland to South Africa. The protected nature of the South African agricultural sector has benefited the beef sector. However, as will be seen below, SACUA has disadvantaged Botswana's maize imports in that it has been not possible to source maize cheaply from other world producers. SACUA is however also an important source for Government revenues and a major provider of manufactured goods market.

2.7 *BEEF MARKET LIBERALIZATION AND THE BEEF SECTOR*

One of the main spin-offs from the Uruguay round was that for the first time in the history of GATT free trade in agriculture was included as part of the Agenda. The period before this was characterised by an agricultural sector, particularly the livestock sector, that was probably the most protected and distorted international market. These distortions took the form of domestic beef prices in many countries that were higher than international prices, and which in turn produced surpluses that could only be sold through large scale export subsidies and dumping. Market distortions and protectionism also came by way of animal health and sanitary control regulations which were used to reduce beef exports' access to import markets.

In a bid to reduce this protectionism and market distortion Uruguay GATT Round took to the following actions:

- non-tariff barriers were to be removed
- tariffs were to be gradually reduced
- export subsidies were to be reduced
- international norms that govern the application of sanitary and health control on beef were established.

In an effort to open the developed countries beef markets to developing countries, the Uruguay Round agreed that developed countries would have to decrease their tariffs by an average of 36 percent over a 6 year period, while developing countries were required to do the same but at a lower rate of 24 percent and over a long period of 10 years. Least developed countries were permitted to continue with production subsidies as long as these were being used for rural development. It was further agreed that government spending on such important activities such as disease control, product inspection, research and extension would be exempted under the "green box" category. All these were made with a view of liberalizing beef markets to open them to developing countries. This has led to the general consensus that developing countries had a major break through on the agricultural issue at the Uruguay Round.

The next question that follows is what does the liberalization of the international beef markets mean to the Botswana beef sector. To recapitulate, it has already been stated that the Botswana beef sector

depends on the European Union market, a market which has been hitherto, seen to be highly protected with beef prices that are between 30-40 percent above world prices (Segwele 1994). Access to this market has been under special quota arrangement. Liberalizing the EU market will naturally affect the Botswana beef industry in two ways. First, the removal of EU beef subsidies and tariffs will reduce the EU's market prices. As EU beef prices decrease Botswana export beef prices will decrease, leading to producers receiving lower prices than before (Fidzani 1994).

The second route by which the liberalization of beef markets can be traced are the world prices of beef. FAO (1994) has argued that world trade volumes will be significantly affected by the removal of non-tariff barriers, reduction of tariffs and export subsidies. This boost in the demand for beef will mainly come from Japan, which accounts for 14 percent of the world beef trade and also South Korea and other East Asian countries. It has been estimated by the FAO that between 1965 and 1992 Japan's per capita beef consumption increased from 7kgs to 30kgs and that it is expected to hit 35kgs by the year 2000. Furthermore, Japan has offered to abolish its beef quota and to reduce its beef tariffs from 50 percent to 38.5 percent over 6 years. Similarly South Korea has agreed to increase its beef import quota from 106 000 tons to 225 000 tons by the year 2000 and to reduce its tariff from 44 percent in 1995 to 10 percent by 2004. Similar offers have been made by the Philippines and Thailand. All these will significantly increase the global demand for beef. FAO estimates that global meat consumption will increase by 2.4 percent per annum and that for developing countries by 4.2 percent up to the year 2000. FAO has further projected that global market beef prices will increase by 5 percent above the pre-Uruguay prices. This increase is attributable to the reduction of subsidised exports for both the EU and US and the expansion in import demand particularly in Asian countries.

In conclusion, it can be stated that beef prices in the current highly protected markets such as EU will decrease, those for global markets will increase. The difficult question is by how much will they decrease in the former and increase in the latter. The impact of the new GATT on Botswana beef prices depends on whether or not the EU will continue to be Botswana's major beef market. It will also depend on whether increases in global beef prices will be greater or less than EU price decreases. If global prices can increase beyond the current EU prices, (which is highly unlikely) Botswana prices might increase provided that Botswana can penetrate the new markets.

It has already been pointed out that EU prices are about 40 percent above global prices. This, compared against the 5 percent expected price increase in global markets, makes it unlikely that EU prices will decrease to levels below global prices levels. It is therefore likely that EU beef prices will decrease but remain at levels above those in global markets. This is because although the EU is to decrease export subsidies by 36 percent, this still leaves 64 percent of these subsidies intact (Fidzani 1994). These are high enough to leave EU beef prices still above world prices.

2.7.1 The GATT changes and South Africa as a market for Botswana Beef

An interesting irony about the Botswana's access to the EU beef market is that even though the EU grants preferential access to its markets to Botswana beef, it competes unfairly with Botswana for non-EU beef markets through dumping. EU has been known to dump its beef to South Africa and Angola which are Botswana's second most important markets. To the extent that the reduction of export subsidies as proposed by GATT will reduce dumping Botswana will now be able to sell more to this market. This is because the pre-GATT tariffs for beef in South Africa were 20 percent but to avoid dumping they have been increased to 400 percent for boneless beef and 115 percent for carcasses (Segwele 1994). Since Botswana is a member of Southern African Customs Union (SACUA) and is therefore exempt from paying tariffs to South Africa, high tariffs on EU beef will make Botswana beef more competitive. This will boost the beef market for Botswana.

2.7.2 Internal market liberalization policies and their impact on the beef industry

The only part of the Uruguay Round stipulations that directly affect Botswana's internal policies on the beef sector are policies pertaining to subsidies. However, Botswana does not have export subsidies but does have subsidies on the beef infrastructure and production. Subsidies on the infrastructure and some production subsidies qualify for the "green box" category. This suggests that the WTO does not have much direct impact on the sector except via the export market.

Botswana is however currently undertaking its own internal market liberalization programme. Despite the historical bias of over supporting the cattle industry, recent pressures on the Government to create employment have led to the need to diversify the economy. Testimony to this is the current National Development Planning 's theme of "Sustainable Diversified Economic Growth". These Strategy

seeks to reduce the over dependence the economy on the mineral sector and livestock for economic growth. Two policies that emerge from this theme that are pertinent to the livestock sector are:

- the fiscal policy
- exchange rate policy

1. FISCAL POLICY

One of the means by which the livestock sector has been made to be artificially attractive has been through a generous tax policy for this sector. This sector is the only sector in the Botswana productive system that is allowed to write off its losses against profits made in other sectors of the economy. This has made it prudent for business people to hold cattle so as to protect their business profits. This has also led to the over expansion of the sector.

Furthermore, the Government has provided free and subsidised inputs to the livestock sector through what are called Livestock Advisory Centres (LAC). These are Government owned centres that provide and sell stock feed and medicines to farmers.

In a bid further bid to liberalize the market, the Government has recently commissioned a consultancy on the livestock tax system for this sector and has indicated the intension to privatise the LACs. Should the study recommend that the writing off of livestock losses be discontinued, that is going to have major effects on incentives to keep cattle. The privatization of LACs will result in the sale of livestock inputs at market prices.

2. EXCHANGE RATE POLICY

Botswana is not currently experiencing any balance of payment problems. However, the move to diversify the economy is going to have to ensure that the foreign exchange policy does not penalise non-traditional exports. Love (1995) has argued that the mineral boom has caused the Dutch disease by increasing the value of the Pula relative to the Rand. This has naturally meant that exports have been placed at a disadvantage.

If the economy is to encourage non-mineral exports it will have to ensure that the Pula does not excessively appreciate against Rand. Such a policy will, although unintended, favour the beef sector. A Pula whose value against the Rand is relatively lower will benefit all exports. This will make the livestock sector relatively attractive.

It must be noted that in addition to the current campaign by the Government to liberalize ground has actually been covers in some areas. Two clear examples of these are these are the lifting of all foreign exchange controls and the abolishing of interest subsidised loans by the National Development Bank, the main financier of livestock projects. In a way this is indicative of a strong commitment by government to liberalization.

2.7.3. Implication of market liberalization for livestock sector distortions

We have so far established that GATT Policies are most likely to produce a dampening effect on current beef prices. For South Africa there will be a positive effect deriving from the replacement of the "dumped" beef by Botswana beef. Liberalization of domestic markets will produce contradicting effects with a change in fiscal policy penalizing the sector and the exchange rate policy boosting it.

The impact of the new GATT on Botswana beef prices depends on whether or not the EU continues to be Botswana's major beef market. It will also depend on whether increases in global beef prices will be greater or less than EU price decreases. If global prices exceed EU prices, Botswana prices might increase provided it is possible to penetrate the new beef markets. For the reasons that are discussed below, this scenario is highly unlikely.

To the extent that the provisions of Lome IV have been found to be consistent with the requirements of the new GATT, it is expected that Botswana will continue to have preferential access to the EU market. This possibility is further enhanced by the fact Botswana does not have Foot and Mouth Disease free status and will therefore not be able to sell to the new up coming markets such as that of Japan. It is expected that producer prices in Botswana will decrease (due to lower EU prices) but will remain above global market levels.

The final question to consider is how will the decrease in producer prices affect the Botswana livestock sector. Will the sector's growth continue or be reversed by the projected producer price reduction? The first point to note is that supply responsiveness to price change is an empirical issue that has not been studied so far in Botswana. It is therefore difficult to make a decisive statement about how the sector will respond. The question of who will benefit and who will lose is addressed in the next section.

2.7.4 Losers and winners from the market liberalization

A number of distinct categories of actors can be identified in the beef sector and these are farmers, meat processors, consumers and suppliers of inputs into the sector. The main production process in this sector involves the breeding of cattle by farmers who either sell directly to the BMC or sell through cooperative organizations or through middleman commonly known as agents. Delivering cattle to the BMC involves either the hiring of trucks or engaging trekkers or both trucks and the Railways. From this, we get our stake holders as the BMC and butcheries with their employees, truckers, marketing coops, agents and trekkers and the final consumer. These marketing channels are summarized in Chart 1.

The production process will involve the different types of herders whom we have already described as commercial farmers and communal farmers. The latter constitute small medium and large herders. In what follows we try to analyse what complete market liberalization would mean to these different groups.

Due to data constraints we use a qualitative approach to evaluate the possible losers and gainers from the liberalization. To apply this methodology, we start by noting that liberalization will affect the price of the good which in this case we shall call (A) and some traded inputs (B) and some untraded inputs such as capital and labour (C) and land (D). We shall call the post liberalization values of these items F, G, H and I for price, traded inputs, capital and labour, and land respectively.

From our discussion above, we know that the price of beef is currently exaggerated and will therefore decrease as liberalization takes effect. As has been argued, the Pula might be overvalued through the

Dutch disease effect coming from diamonds revenues and the move to diversify the economy through the promotion of non-traditional exports might mean keeping the value of the pula low. This means that the pula value of these goods will increase. The increase will be accentuated by the removal of the subsidies from this sector. So the variable F will increase.

Except for such transportation inputs like vehicles, livestock in Botswana does not use much capital. However as the producers receive less prices for their animals the wages paid to labour will decrease. This will be so because the minimum wage policy does not cover this sector. That land prices are linked to the value of cattle is obvious. As the price of cattle decrease the price of commercial farms will decrease substantially. This will mainly be because this land has very little alternative use. This means that D will decrease to a lower I. Using these trends we now analyse how most stakeholders will be affected by the liberalization.

PRODUCERS

The different types of producers will be affected differently as already stated:

1. *SMALL HERDERS*

As have already discussed, this groups sellers only for specific needs. As the price decreases they may have to sell more cattle and will thereby be more impoverished. It is highly unlikely that this group will be affected in any way by changes in both tradeable and non-tradable inputs as they do not spent much on these inputs. If however, subsidies are removed that might mean that this group might lose its access to cattle free vaccinations of major diseases.

This might place it in a further disadvantaged position.

2. *MEDIUM SIZED HERDERS*

This group will be in an almost similar position as small herders as they also do not depend much on inputs. They will however in a slightly better opposition in that they will be having a large herd to absorb the loses.

3. *LARGE HERDERS*

As price decreases from a high (A) to a low (F) revenues will decrease. The removal of subsidies coupled with the devaluation of the Pula will make tradeable inputs even more expensive. The only factor that will mitigate this loss of income will be decrease in wages. However wages are not a significant component and this does not therefore constitute major benefits. As holders of land which is currently over valued due to the current lucrativeness of the sector their profits will decrease significantly.

We now know that beef prices are likely to decline. That this will adversely affect farmers is obvious. However, one can further state that since this sector has always been artificially attractive, a decrease in price will lead those who were attracted to it to move their capital to other relatively more attractive sectors. As this happens, more space will be created for small farmers who were previously crowded out by these commercial farmers. This will make it possible for the 40 percent of the rural households who do not currently have cattle to have access to this sector. It is clear from this discussion that producers will generally lose from liberalization.

BUTCHERIES AND CONSUMERS

Butcheries in Botswana have always faced fierce competition from the BMC in capturing the slaughter cattle market. As the international price of beef decreases, the BMC will be less able to pay high producer prices. This will place butcheries in a better position in terms of buying cattle from farmers. That will boost the meat processing business since the BMC will no longer to pay high prices. The increase in inputs prices will not affect the butchery sector much. To the extent that butcheries will now be buying their animals at a lower price it will mean that beef price will also decrease to the benefit of the consumers. As far as consumers of beef are concerned, a decrease in beef prices will be most welcome since it will make beef more affordable, particularly to the urban low income groups. This will no doubt improve the country's food security position. It should however, be noted that it will be the urban consumers who will benefit and not rural small herders as the latter will be more disadvantaged in that it will have lost a major source of their income.

THE UNEMPLOYMENT EFFECT

From the foregoing analysis it is clear that all the sectors of the economy that have linkages with the livestock sector will suffer major losses from the liberalization process. First there will be the direct effect on employment coming by way of decreased engagement of workers in this sector. This sector is the major provider of the poor rural people of Botswana. BMC is also a major contributor to formal employment. Truckers and Trekkers will lose business as cattle owners will be less able to pay for services.

In summary it can be stated that the liberalization of the markets will render a serious blow not only to the cattle producers but also to those sectors that are linked to cattle production. This will reduce the sectors capacity to create employment. On the bright side the decrease in beef prices will have some positive effects on the welfare of producers. The other benefit is that the removal of the artificial attractiveness of the sector will remove the inefficient producers from the sector who are in it mainly for speculative reasons and this will create more space for the poor to enable them to expand their herds. As for which of these two effects is greater is an empirical issue.

3.0 THE MAIZE SUB-SECTOR

3.1.1 Introduction

Botswana has a serious scarcity of quality arable land. Only 5 percent of the total land area is conducive to arable farming and this is restricted to the eastern region of the country and the west of the Okavango and in the Pandamantenga areas in the Chobe district in north of Botswana. Rainfall varies from year to year, region to region, it often comes late and is very unpredictable. Occurrence and often protracted country-wide drought is a common event in Botswana. The rainfall unpredictability makes crop, particularly maize, production a relatively risky business in this country. However, most households in rural areas participate in food grain production. Maize is the second major food-grain produced by both traditional and commercial farmers and it constitutes the major staple food of the majority of Botswana households.

3.1.2. Maize Consumption

An analysis of the aggregate level of food consumption over the distant past suggest that there was a greater tradition of sorghum consumption in Botswana than elsewhere (Atkins, 1989). According to SMEC (1987), sorghum mills were more available than maize which resulted in lesser demand for maize. However an analysis of the aggregate level of food consumption over the immediate past depicts a shift of consumption in favour of maize. Table 11 below depicts that maize accounts for roughly 50% of the grain consumption implying that there is a strong tendency to consume maize. The remaining 50% is accounted for by sorghum, wheat and rice. This suggest that maize is currently the most important consumption grain for Botswana. Reasons for this shift will be provided in the next section.

TABLE 11:
SHARE OF MAIZE IN N CONSUMPTION

YEAR	AMOUNT OF MAIZE CONSUMED	TOTAL CONSUMPTION	MAIZE CONSUMPTION SHARE
1990	113.4	221.9	51.1
1991	104.1	215.9	48.2
1992	135.6	276.4	49.1
1993	93	238.3	39.0

3.1.3 Maize production

Crop production statistics for the late 1960s and early 1970s reveal that sorghum dominated in area planted. According to Atkins, area planted for maize was generally less than 25 % of that of sorghum during this period. Atkins (1989) further argue that in the latter part of 1970s there was a slight shift towards maize production. Purcell and Webster (1977) attribute this shift towards maize production to higher land and labour returns to maize than sorghum. In addition, maize has advantage over sorghum in good rains since it is less prone to bird attack than sorghum. During this period planting mix shifted back towards sorghum. However, the area for maize was generally higher than for the earlier period (above 25%). As expected, sorghum, particularly in drought period, has consistently outperformed maize. Clearly, sorghum is the most important crop produced in Botswana. This partly reflects the fact that this grain is more suited to withstand drought than maize and partly reflects that it has enjoyed more production incentives than other crops.

3.1.4. Maize Imports

National Development Plan 1979-85 argues that even in unusually favourable years food grain consumption outstrips supply of basic grains. A recent study by FSG (1995) found that Botswana can produce only 10 percent and 50 percent of her maize requirements in drought and wet years respectively. Consequently, Botswana needs to import maize in order to meet the short fall. About half of Botswana maize needs are met by imports (GOB). Typically, imports are much more important for maize than sorghum because domestic production tends to be lower for the former. In the past millers and traders importing maize had to obtain permission from GOB. Once permission was granted, they were free to import both whole grain maize and processed maize; to procure their supplies from the cheapest source and marketing arrangements were left entirely to the importers. However, importers were required by law to procure 50 per cent of their total maize needs locally. Importers primarily procured maize from South Africa and occasionally from Zimbabwe. The foregoing discussion suggests that GOB regulated maize trade through the issuance of licences. In addition, GOB protected the local maize industry through the "50 per cent" rule.

In the case of sorghum, the crop is imported in grain form. Hitherto, only BAMB was allowed to import sorghum directly. Millers, acting as agents of BAMB, frequently imported sorghum. However, participating in the processing industry was open to the private sector. BAMB's import monopoly position has been abolished (NDP VII).

Table 12, overleaf, shows the types and means by which maize is imported. It can be seen that a greater proportion of maize is imported in grain form and, as expected, by millers. This part constitute slightly over 80 percent of the maize imports. The second most important channel by which maize is imported is through traders, who import it as maize meal and accounts for about 5 percent of the country's needs. BAMB's imports account for about 5 percent of total maize imports. Some negligible amount has come by way of Food Aid. Thus, imports of maize are crucial in the processing industry.

Table 12

PERCENTAGE SHARE OF IMPORTED MAIZE BY DIFFERENT SOURCES

YEAR	MILLERS	%	TRADERS	%	BAB	%	FOOD AID	%	TOTAL %
19890	92	87	7.5	7.1	0.3	0.3	4.0	3.8	105.7
1991	66	82.8	7.5	9.4	0.3	0.4	4.0	5.0	79.7
1992	100	84.5	8	6.8	5.5	4.6	3.0	0.03	118.3
1993	77.5	85.4	4	4.4	5	5.5	3.3	3.6	90.8

3.2 THE ORGANISATION OF ARABLE PRODUCTION SECTOR

Botswana's food grain sector consists of two broad sub-sectors and these are the traditional and commercial sub-sectors. The former sub-sector operates predominantly in communal land, which is the equivalent to *de facto* land rights in perpetuity. The latter operates in communal, lease and private lands. The two sub-sectors differ in several ways. Firstly, the traditional sub-sector is essentially guided by risk minimization strategy while the commercial sector aims to maximize profits. Secondly, commercial sector is located in the most favourable crop growing areas while the traditional sector is in less conducive crop producing areas. Thirdly, yields, especially for maize, are much higher in the commercial sub-sector than in the traditional sector, Harvey, (1990). The traditional sub-sector comprises of two groups of farmers, namely, the subsistence without draft power and the subsistence with draft power.

3.2.1. The draught power deficient subsistence farmer group

These are households which, under conditions of normal rainfall, are able to satisfy their staple food needs from their own production and have a relatively small amount of a marketable surplus. Both maize and sorghum are grown by this group. Both area planted and yield is lower in this sector than in the subsistence with draught power. These are low because since they lack draught power they cannot take full and timely advantage of early rains which is very important. Within this basic system, we have the Molapo farming which plants mainly maize on receding floods in areas fringing the Okavango Delta. This group benefit less from Accelerated Rainfed Agricultural Program (ARAP) ploughing subsidies than the group with own draught power.

3.2.2. Subsistence with draught power

These are households with land holdings ranging between 6 to 15 hectares. The cropping system is the same as the above. This group generally uses either cattle or donkeys as draught power. Under normal rainfall, this group produces a marked surplus and this is because they are able to take advantage of early rains. A relatively small number of households use tractors for draught power. According to Aktins study, the percentage of households with own draught power is decreasing.

3.2.3. Commercial Dryland Farming in Communal and Freehold Areas

These are two small groups of farmers engaged in commercial food grain production found in eastern part of Botswana. The first group operates on communal land areas and cultivate much larger areas of land than the above groups. A number of these farms are concentrated in the Barolong and Bangwaketse districts in the southern agricultural region. Average area planted for this region amounted to 149 hectares in 1985 and this region accounted for 35 per cent of total food grain production from the traditional sector (Macala, 1986). This suggests that this an important foodgrain producing area. Major inputs used by this group are own tractors, improved seeds and fertilisers. This group directly and indirectly benefits from ARAP ploughing grants. The second sub-group, found in Lobatse and Barolong freehold areas, is numerically insignificant and has not benefitted much from government subsidies and incentive schemes. However, this sub-group produces several tonnes of maize and sorghum (Atkins, 1989).

3.2.4. Commercial Dryland Leasehold Farming - Pandamatenga

The Pandamatenga farms are located in 100 km south of Kasane in Chobe district. This area is characterised by a higher rainfall regime than any area in Botswana but with a variability similar to that of other regions and a relatively fertile mainly pellic vertisil soils. Because of the heavy quality of the soil only mechanised draught power is used. A significant investment activity has been attracted owing to a combination of investment and labour incentives provided by FAP, liberal credit assistance provided to investors by NDB, a producer price regime which incorporates a significant element of subsidy to the producer price, and the support of the BAMB with the provision of marketing infrastructure. Production is estimated at around 14500 and 500 tonnes of sorghum and maize respectively (Atkins, 1989).

3.2.5 Medium and Large - Scale Commercial Irrigated farming, Freehold and Leasehold

This consisted of 10-15 farms as of 1989 and have developed an irrigation areas of more than 50 hectares per unit intended for the production of food grain. The majority of these farms are located in the Tuli Block freehold area. The water used by Tuli Block farmers is usually pumped from water impounded behind weirs along the Limpopo river. A very small number of these farms is located in Maun region where they use water drawn directly from the Okavango river and from pools in the Thamalakane river near Maun. The largest irrigated farm is the Talana which is about 400 hectares and is owned by the Botswana Development Corporation. Most of these farms receive financial assistance through the Financial Assistance Policy (FAP). Maize is the main crop grown by these farms. The maize produced in Talana is mainly sold to the Seed Multiplication Unit of the Ministry of Agriculture.

3.3 THE RELATIONSHIP BETWEEN CROP PRODUCTION AND LIVESTOCK SECTOR

In Botswana some households engaged in both livestock and crop farming. Mixed farming is practised by households that want to diversify their sources of income and for purposes of draught power in cropping production. Several studies have revealed a strong relationship between household crop production level and livestock farming in the traditional sector. One particular study found that households having no own draught power usually produce a relatively small output simply because normally they are not able to take advantage of early planting rains and they plant small land areas (Harvey and Lewis, 1990). This is because households owning cattle and donkeys use these animals for draught power. This means that households that own cattle or donkeys directly receive ARAP grants for ploughing for themselves and indirectly from ploughing for those lacking own draught power. This has negative distributional impact.

3.4 GOVERNMENT ARABLE AGRICULTURAL POLICIES SINCE INDEPENDENCE

Government policy towards the food grain sector on this sector has been shaped by public concerns and the responses from various groups who stand to gain or lose from alternative policies. The policy as it currently affects economic agents went through three distinct phases.

The period 1966-1973: Witnessed an arable agricultural sector that was relatively neglected. The crop allocation mechanism was left entirely to the market forces. Private traders were free to provide marketing channels for crop produce. However, they had little regard for the economic interests of both producers and consumers. For example, the prices they offered to food grain producers were far below the South Africa's floor prices. This encouraged farmers to smuggle their marketable surplus to South Africa. In addition, it nourished the subsistence attitudes or it led to a reduction in ploughing activity in the production period succeeding a year a surplus was produced despite good rains. Operation of private traders resulted in large intra- and inter-seasonal price variations. This posed a serious problem to farmers (Harvey and Lewis, 1990) and contributed to the disappointing performance of this sector and increased dependence on food imports from South Africa.

The period 1974-1991: Wide intra-seasonal and inter-seasonal price variations mentioned, inter alia, prompted GOB to intervene in the food grain sector by instituting a centralized crop allocation mechanism (BAMB) charged with following functions: purchasing or otherwise securing supplies of scheduled produce from any source; fixing and guaranteeing the minimum prices for the purchase or sale of grains; to ensure adequate supplies of schedule produce for sale to consumers at prices which were reasonable; and to appoint agents to purchase, sell, process or otherwise deal with any scheduled produce. As Masenya (1987) rightly noted, by granting these exclusive rights to BAMB, government hoped to achieve the double objective of stimulating domestic production and the contraction of food imports. Between 1974 and 1981, BAMB used a "pan-territorial" import-parity system (Atkins 1989). This system required grain prices for the whole country to be fixed at import parity level using Pitsane, the South most point for Botswana as the bench-mark. This pricing system made BAMB less competitive against other grain buyers and less economically viable. In 1981 BAMB's financial arrangements and pricing policies were restructured. Following this review, a new pricing policy was introduced. Since all producing areas were foodgrain deficit areas, guaranteed producer price for each production zone was based on c.i.f. price plus the cost of transport to that zone. Clearly, this accorded deficit areas high prices. In order to achieve the objective of self-sufficiency in foodgrain production sorghum prices were set higher than those of maize and BAMB was granted the monopoly to import sorghum. This was because government wanted to encourage farmers to plant a less drought sensitive crop, sorghum. This pricing policy produced two serious distortions. First,

the bias in favour of sorghum encouraged milling companies to expand their milling capacity. The increase in prices on the other hand decreased the demand for sorghum meal. Consequently spare milling capacity for sorghum emerged. The second negative effect was that high sorghum producer prices penalized the poor who are the main consumers of sorghum.

The period 1991 to date: The period previous experience (1973-1991) made the Botswana Government aware that the Self-Sufficiency objective was not feasible due to climatic conditions or factors that severely limited the potential for cereal production. As stated by the Government, Self-Sufficiency was neither technically possible nor financially desirable. It was further realised that the strategy stressed production irrespective of comparative advantage factors and sustainability. Its supply driven nature had led to blanket subsidy policies (FSG 1995). This awakening led to the removal of the BAMB's monopoly in the importation of gains and the strategy became that of Household food- security as explained by (FSG 1995). Household Food Security refers "not to the physical availability of food but to the permanent access by all people to enough food for a productive and healthy life". It is thus concerned with household income rather than simply with production of food stuffs to meet household needs.

In conclusion the foregoing discussion has argued that at a domestic level the government's pricing policy, input subsidies and importation rules distorted foodgrain market. It has further been revealed that the government is recently making efforts to liberalize the food grain market as demonstrated by the removal of BAMB's monopoly on sorghum importation and the adoption of a price policy that takes comparative advantage of the sub-sector into account.

3.5 INTERNATIONAL LIBERALIZATION AND THE MAIZE SUB-SECTOR

3.5.1. The maize sector and the new GATT

Botswana mainly imports its maize requirements from South Africa. It is a well known fact that during the apartheid era agriculture was a highly protected sector and therefore the maize prices were and still are not very competitive. Through Southern Customs Union Agreement (SACUA) Botswana could not then import maize from other countries. The opening up of the world markets through the new GATT seems to have presented Botswana with a possibility of accessing cheaper markets. It is however, uncertain whether Botswana will fully benefit from this opportunity.

The first reason for this doubt is explained by Botswana's membership in the SACUA. According to the SACU agreement, South Africa has the power to set tariffs that are to apply to all SACUA members. During the GATT negotiations, South Africa submitted its tariff offers to GATT without consulting its SACUA members, Segwele (1994), and proposed a 78 percent tariff rate for maize. Segwele argues that because South Africa has a strong farming industry, she proposed high tariff rates to discourage imports into the common custom area. Botswana, Namibia, Lesotho and Swaziland (BNLS) have all complained that this is going to adversely affect their balance of payment positions and worsen their budget deficits. These countries have further complained that the proposed high tariffs on cereals will prejudice their efforts to diversify their economies in that they will be forced to allocate more resources towards the purchase of more expensive goods.

It can be concluded that Botswana's membership into SACUA might deny her the opportunity to benefit from the decrease in grain prices that are supposed to come with the liberation of the grain world markets. This will however depend on the result of the on going negotiations.

There is also hope, however, coming from the way South Africa is currently re-organizing its Agricultural Sector. Its agricultural policy has recently moved away from food self-sufficiency to food security and the protection offered to farmers has been reduced in recent years. According to FSG (1995), the commercial agricultural sector has responded to this through shifts in investments, production methods, productivity and output. Area planted has fallen from 4.3 million ha in the 1980's to 3.5 ha. It is expected that it will level off at 3 million ha. This will have the effect of removing marginal farmers from farming thereby opening South Africa to grain importation. This will give the BNLS countries an opportunity to access cheaper international markets.

FGS has however warned that increased food imports in to Botswana from outside the region may lead to greater price volatility in years when crop failure occurs. This is because price will start reflecting the cost of storage and finance, in the marketing of maize. In conclusion, there seems to exist no hope that Botswana will benefit much from the liberalization of the maize world market in the short run. However, as South Africa responds to these world changes,

Botswana will begin to benefit. It has also been pointed out that as Botswana gets more exposed to the world's markets, maize prices will become highly volatile.

3.5.2. Losers and gainers from internal arable sub-sector's market liberalization

It is worthwhile to identify the maize sector's actors before identifying the losers and gainers. The maize marketing chain as shown in Chart 2 helps to show the different channels of maize. Maize is produced by farmers who either sell it directly to consumers as a whole grain or sell it to the millers and BAMB. A portion of maize is imported and, as demonstrated in the section on imports, about 85 per cent of it is imported as wholegrain by the millers. Sorghum has essentially a similar marketing channel. This means that our stakeholders in the food grain sector are maize producers, sorghum producers, maize and sorghum millers, wholesalers/retailers, and consumers. Given these different groups of market participants and the two distinct crops of major concern, the impact of liberalization is complex and each group will attempt to protect its share of the market. What follows is a qualitative analysis of what market liberalization will mean to each of these groups of stakeholders.

PRODUCERS

As argued, *inter alia*, government interventionist policies were pro-production. Ploughing grants that were provided contributed to increasing area planted and encouraged participation in this sector. It also assisted poor households to plant. The abolition of this grant means that poor households will not afford to engage in crop farming. Furthermore, the farmers who have been receiving ploughing grants will now bear the cost of planting themselves. In addition, the change in the pricing policy means that producer prices of sorghum will fall and obviously this will hurt sorghum producers. The fear that farmers may plant more maize as it happened in 1984 remains to be seen. Thus, crop producers will be hurt and they might place more emphasis on cattle farming. This adverse impact on producers will be exacerbated by the foreign exchange effect that will arise from the foreign exchange liberalization targeted at encouraging non-traditional export. As the value of the Pula is kept low equipment needed for agriculture will become more expensive.

MILLERS

The previous pricing policy stimulated production of sorghum but discouraged the demand for serviced sorghum. On the other hand, it stimulated the demand for maize by shifting consumption from sorghum to maize. Consequently, maize millers captured a large share of the market as sorghum millers could not compete with maize millers. The removal of a policy that encourages relatively higher sorghum prices means that the demand for sorghum may increase and this will hurt maize millers who have been capturing a larger share of the market. Maize processors are likely to lose their share of the market whilst sorghum millers will increase their share of the market. The foreign exchange effect will be as in the case of Producers and it will make maize millers less able to import maize from South Africa. Furthermore the fact that the South African maize market will be liberalized will mean higher maize import prices for Botswana. However on the bright side the new GATT will assist by increasing Botswana's access to new and cheaper maize markets.

CONSUMERS

As alluded to before, sorghum was a main consumption grain before government introduced a production pricing policy (1989) and rural households, particularly poor households, still consume a significant proportion of sorghum. This suggests that previous policy hurt the poor who mainly consumed sorghum. The fall in the producer price of sorghum means that retail price of sorghum will also fall. This means that sorghum-maize price differential will contract. Hence, consumers will benefit from having a choice to consume a lower priced sorghum.

4. THE SCOPE OF REGIONAL ECONOMIC-INTEGRATION

Findings emerging from the analysis of the effect of market liberalization in this study indicate that the EU beef markets' lucrativeness will most likely be decreased when the WTO Agreement takes effect. Botswana's failure to have a foot and mouth free status will render it unable to penetrate the up coming East Asian beef markets, while the reduction of dumping through WTO will enhance Botswana's access to such lucrative regional markets as Angola, South Africa and Mauritius. All these facts seem to point to the potential benefit that Botswana can derive from regional economic integration. According to the table below Botswana has the second lowest producer beef prices after Zimbabwe. This to an extent signifies Botswana's competitiveness for this product. There is no doubt that if regional integration

was to be achieved, Botswana would emerge as one of the main suppliers. this is supported by the nature of beef flows in the region as elaborated below.

TABLE 13: SADC: AVERAGE BEEF PRODUCER PRICE (Av. 1991-94, US \$/kg c.w.e)

Country	Average Producer Price
Mauritius	3.64
South Africa	1.86
Swaziland	1.59
Zambia	1.50
Namibia	1.39
Botswana	1.31
Zimbabwe	1.19

Source: FAO, 1996

The FAO 1996 study indicates that up until the mid-1980s, the Southern African region as a whole was a net exporter of beef. Since then the region has become a net importer of beef. The study indicates that this shift from being a net exporter to being a net importer status was brought about by a decline in South Africa's exports of beef and an increase in its imports. Other major beef importing countries in the region are Angola and Mauritius. The major exporting countries in the SADC region are Botswana, Namibia and Swaziland.

The main inter-regional trade flows of beef are from Botswana and Namibia to South Africa. Trade from Botswana to South Africa is 96 percent in the form of beef and 4 percent live animals mainly used for breeding purposes while Namibia's trade with South Africa is 65 percent live animals and 35 percent beef. Between South Africa and Swaziland trade is in the form of live animals for slaughter (FAO, 1996). The study further indicates that the price differences between countries act as a stimulus to trade. Average producer prices are higher in South Africa and Mauritius in comparison to average producer prices in Botswana, Namibia and Swaziland. As a result, the main inter-regional beef trade

flows are from Botswana, Namibia and Swaziland to South Africa and Mauritius. The South African market and other regional markets are expected to regain their importance with the return of peace to the region and also because trade reform is likely to eliminate EU dumping of beef in these markets. Extra-regional exports go entirely to the EU under the Lome Convention.

With respect to maize, Botswana still stands to benefit from regional economic integration as a net importer of this product in that it will enable the country to source its maize from such maize exporters as Zimbabwe, Malawi and to an extent Zambia.

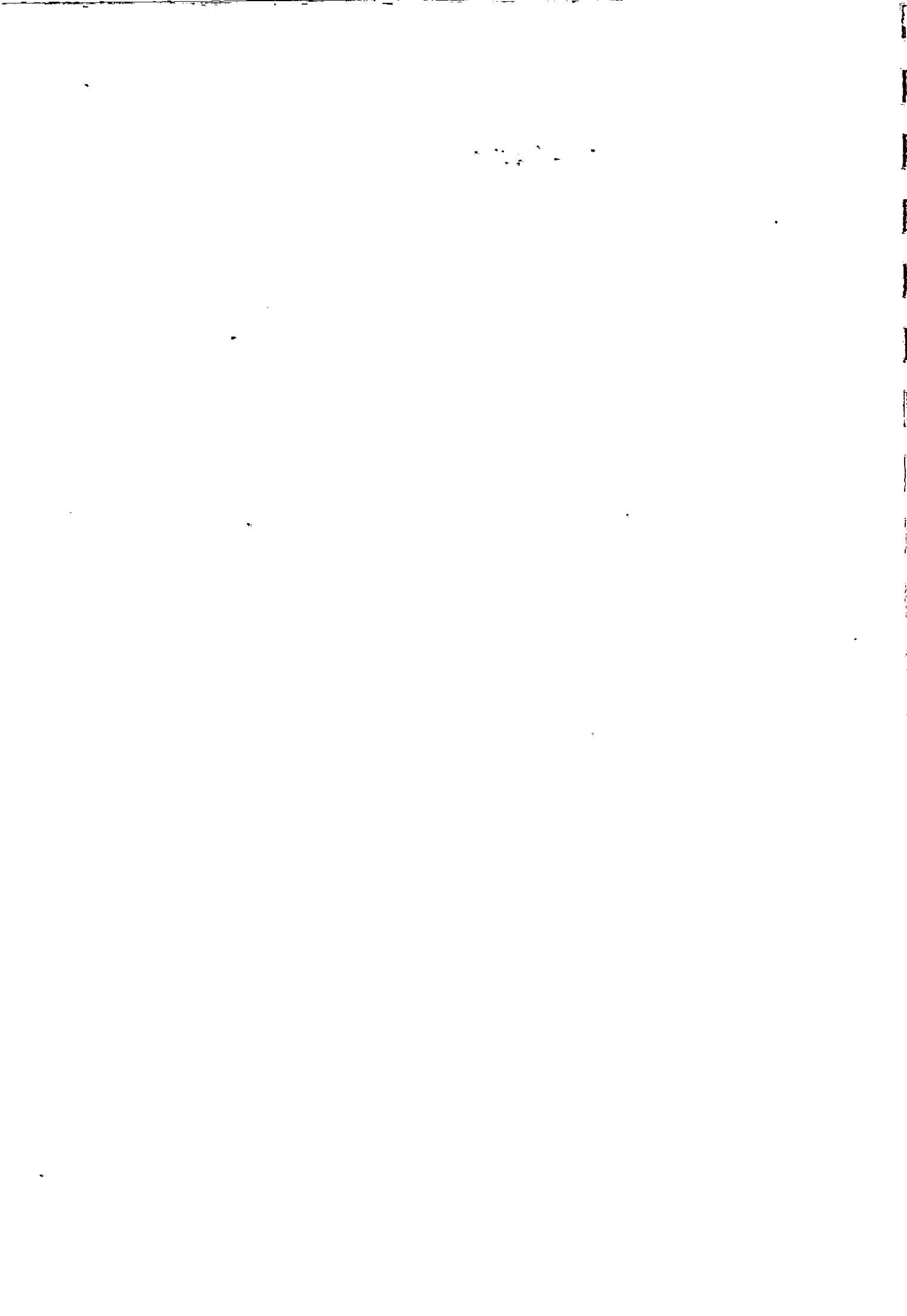
5. *CONCLUSION*

This paper's main finding is that whilst beef and maize sectors in Botswana are characterized by distortions, effort is being made both through internal markets and international markets to and policies to remove these distortions. In both cases, it seems that consumers stand to benefit while producers will have to take some losses at least in the short run. This will however disappear as the resource allocation situation of the whole economy improves as a result of the removal of these distortions. It has further been established that Botswana will stand to benefit from regional integration for both the export good (beef) and import good (maize).

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BIDPA Publications

Working Paper Series

BIDPA Working paper 1

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A Note Concerning the Revision or rebuilding of the MEMBOT Model. Some Preliminary Observations and Suggestions. BIDPA, 1996. RESTRICTED.

The paper discusses the structure of the existing MEMBOT model (Macroeconomic model for Botswana). The limitations of the current model are identified and a need to revise it is noted.

BIDPA Working Paper 2

Granberg, Per

A Study of the Potential Economic Effects of AIDS. Some Preliminary Thoughts. BIDPA, 1996.

Given the current rate of HIV/AIDS infection in Botswana, there seems a need to analyse its economic impact. It is suggested that BIDPA may take an initiative towards this end. The paper presents some preliminary and tentative ideas about such a project.

BIDPA Working paper 3

Duncan, Tyrrell (ed.).

Study on Poverty Alleviation in Botswana: Inception report. BIDPA, 1996

This inception report sets out the various steps planned in completing the study, which comprises a statistical review of poverty utilising the 1985/86 and 1993/94 Household Income and Expenditure Survey. The study will focus six special areas: Basic Education, Preventative Health, Labour Based Public Works, Destitute Policy, Financial Assistance Policy and Arable Lands Development Programme.

BIDPA Working Paper 4

Isaksen, Jan.

Main Ingredients for a Public - Private Sector Strategy for Private Sector Employment Creation in Botswana: Prepared for the Fourth Private Sector Conference on Employment Creation, Francistown 26 - 28 May 1996.

The paper attempts to draw lessons from policy experiences in Eastern Asia. On the basis of such lessons, the paper suggests a number of practical policy steps which hopefully would be relevant to the policy debate in Botswana. It argues that a resumption of rapid economic growth through diversification and industrialisation are the most important contributions to the acceleration of employment creation in Botswana.

BIDPA Working Paper 5

Granberg, Per.

A Revised Poverty Datum Line for Botswana. BIDPA, June, 1996

The paper is part of a larger study of poverty and poverty alleviation in Botswana, undertaken by BIDPA for the Ministry of Finance and Development Planning. The paper presents revised estimates of the Poverty Datum Line (PDL) for Botswana, needed to analyse the household income and expenditure survey for 1993/94 and 1985/86 in terms of poverty.

BIDPA Working Paper 6

Gergis, Abdalla.

Regulation, Privatisation and Commitment in Botswana: Paper presented at BNPC's First Stakeholder Consultative Conference on Productivity: Productivity - Key to the future, November 6, 1996.

The paper notes the challenge facing Botswana, giving particular attention to the changing role of the state and the need to adjust the regulatory environment. Recent economic developments in Botswana are discussed, as are the questions of international competitiveness and the search for a new engine of growth for the economy.

BIDPA working paper No. 14

Lisenda, Lisenda

Small and Medium-Scale Enterprises in Botswana: Their Characteristics, Sources of finance and Problem BIDPA, December 1997.

The study analyses the characteristics of Small and Medium-Scale Enterprises (SMEs) in Botswana highlighting the educational background of owners and exposure to business related training, geographic location of enterprises, premises of operation, age of enterprise, and size of enterprise by number of employees, sales and total investment and activity. Also considered are administration and financial sources of the enterprises. Record keeping is assessed by size of enterprise, gender of operator and source of finance of enterprise. Problems faced by SMEs are highlighted.

BIDPA Working Paper No. 15

Granberg, Per.

A simple formula for forecasting the Botswana urban population total. BIDPA, February 1998

The paper establishes a simple relationship between urbanisation and economic growth. The relationship is intended as a simple "annex" to the revised MEMBOT model (forthcoming), capable of providing quantitative estimates illustrating the likely nature of urban population changes under alternative economic scenarios.

BIDPA Working Paper No. 16

Sesinyi, Magdeline.

Minimum wages and employment: literature review and background on minimum wages in Botswana. BIDPA, 1998.

Gives a brief literature review on minimum wages and their possible effects on employment, with particular focus on the likely effects of minimum wage introduction on the two excluded sectors, namely the Domestic and Agricultural Sectors. It briefly outlines research results on minimum wages from past studies, highlighting their main recommendations. The paper concludes that minimum wage increases results in trade-off, and no matter how well intended come with a price in the form of lost jobs for some and increased benefits for others.

BIDPA Working Paper No. 17

Jefferis, Keith, Charles Okeahalam and Tebogo Matome

International Stock Market Linkages in Southern Africa. BIDPA, 1999

Stock markets are taking on an increasingly prominent role in financial development, and many developing and transition economies are establishing stock markets as part of financial reform processes. In theory stock markets can contribute to the mobilisation of savings and the allocation of investment, but there are questions as to whether this works in practice. One important issue is whether stock markets are efficient (in the financial sense), and a related question is whether share prices reflect economic fundamentals; both of these questions are important in addressing whether stock markets properly allocate capital. Another issue relates to the question of international linkages between markets: with greater integration of capital markets globally, financial market developments appear to be rapidly transmitted between markets around the world. While this can have beneficial impacts, in terms of improving the global allocation and pricing of capital, it may be disruptive if international capital flows are large relative to national markets and economies. This paper addresses pertinent issues in the context of stock markets in three southern African countries: Botswana, Zimbabwe and South Africa.

BIDPA Working Paper No. 18

Dumcombe, Richard

The Role of Information and Communication Technology in Small and Medium Enterprise Development in Botswana. BIDPA, October 1998

The paper analyses the role of information and communication technologies (ICTs) in small and medium enterprise (SME) development in Botswana. It outlines the economic and policy background to SME development, and presents an analysis of the SME sector with regard to firm size, location and market sector. It presents the results of a pilot survey of firms in the SME sector examining the information and communication practices of a small sample of firms. Current developments in information and communication technologies are outlined, and some preliminary findings relating to ICT impact on SMEs are summarised. Finally, some policy considerations are mentioned and the objectives of the main fieldwork phase of the project are outlined.

4. Granberg, Per.

Exchange rate, inflation and competitive: an analysis of the relationship between Botswana's Exchange and Inflation Rates and its implication for the competitive strength of her producers

The publication contains findings of the project: Study of Botswana's exchange rate policy. The publication details simple input/output based model for analysing the exchange rate question, and employs it to draw out the implications for various sectors of the economy, under alternative exchange rate scenarios. It goes on to analyse the available statistical evidence, and draw comparison to model results. Finally, it discusses the rationale, and possible revision, of the current exchange rate policy for a broader perspective with special reference to the likely implications of following a significantly different policy.

Serials

1. BIDPA Briefing

A quarterly newsletter, with topical supplements, that provides regular comment and analysis on all aspects of Botswana economy.

2. The BIDPA Newsletter

A quarterly newsletter reporting on events, projects and general activities of the Botswana Institute for Development Policy Analysis (BIDPA).

