FOOD PRODUCTION AND PRICE POLICY IN ZIMBABWE: INTERVENTION WITH GROWTH OR DECAY?

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Abstract

This paper examines food production and price policies in Zimbabwe from 1980 to 1989 with a particular reference to maize. The study evaluates the extent to which the current maize crisis in the country could be attributed to drought. The analysis shows that the price policy regimes in Zimbabwe during the 1980s distorted maize producer incentives and embedded subsidies that were questionable on an equitable ground. The policy myopia discouraged the large-scale commercial farmers from maize production and committed the task of supplying the country's staple food in the hands of drought-prone, limited-resource communal area farmers, thereby risking the country's potential for food security. Thus, the government prepared the stage for the current food crisis, so the drought merely aggravated the effect of short-sighted policies. Given a carefully drawn policy structure, Zimbabwe has the capacity to feed its people and minimise the effect of drought on the food distribution system.

1. Introduction

The average index of food production for Zimbabwe in the 1980s was far above the average for all Sub-Saharan African countries (Food and Agriculture Organisation). Over the 1980s, Zimbabwe consistently exported maize to the neighbouring countries except in 1985. As a result the country was once regarded as the bread basket of Southern Africa, excluding South Africa. Recently, however, the country has started to experience a food crisis.

Similar to many countries in the Southern African Development Coordination Conference (SADCC) region, maize meal is the staple food of many Zimbabweans. Throughout the 1980s, the government ensured its availability and at the lowest possible price through policy intervention. Because of the ravaging drought since the beginning of 1990s, the SADCC countries as a whole are experiencing maize production shortfalls as never before. For example, "production declines of between 50% and 76% have been reported in 8 of the 10 countries in the SADCC bloc ...." (Rusinga, 1992: 27). Zimbabwe, which has been a net maize exporter over the years, is not exempted from the production shortfalls. With long queues for maize meal all over the country, Zimbabweans have never suffered for their best meal (sadza) in the way they are experiencing this year. In fact, the country is required to import 1.86 million tonnes of cereal, with maize alone accounting for 1.74 million tonnes, so as to prevent widespread malnutrition and hunger (op cit).

The purpose of this paper is to carry out an *ex post* analysis of maize production and price policy in Zimbabwe in the 1980s. The focus of this analysis is to evaluate the root cause of the dramatic turn in Zimbabwe's maize production, from a net exporter to a regionally "worst affected" maize importer. The analysis examines whether the currently ravaging drought is wholly responsible for the present shortage of maize in the country or whether the problem is as a result of policy myopia of the past years. Furthermore, the study examines whether or not the government has actually achieved its goal of growth with equity as professed in the transitional national development plan (1982-85).

2. The political economy of agricultural policy in Zimbabwe

After independence in 1980, the political scene in Zimbabwe was charged with great expectations for a radical change in socio-political and economic lives of the masses, deprived as a result of the imbalances of the colonial era. The overwhelming policy consideration was to maintain food self-sufficiency and to integrate the peasant farmers into the mainstream of the economy. The post-independence government can be credited for extending, with immediate effect, many services that were exclusively meant for the white large-scale farmers to the communal area farmers. The fundamental change in the agricultural policies inherited from the Unilateral Declaration of Independence (UDI) era, was to extend to all classes of farmers agricultural loan facilities, direct sales of produce to respective agricultural marketing boards, expansion of buying centres and depots to communal farming areas. However, the mere extension of those services, without adapting their operating mechanisms, has created more problems than it solved. The results of the government's hastiness to succumb to pressure are manifested in failures to sustain the services.

The government was desperate to maintain food self-sufficiency at all costs because of "its very specific worry of becoming dependent on South Africa" (Herbst, 1990:104). With the irreconcilible policy of simultaneously keeping farmers and consumers happy by maintaining high producer prices and low food prices, the political price of the policy is demonstrated in Table 1. The maize wholesale price to the millers was consistently below the grain marketing board (GMB) cost throughout the 1980s. The GMB's trade losses on local maize sales ranged between Z$1 million in 1980 and Z$38 million in 1986.

Table 1: Maize pricing and estimated trade losses incurred on maize by the Grain Marketing Board (GMB), Zimbabwe, 1980-1989.

Year	Average producer price	GMB selling cost	Wholesale price	Trade losses on		Net trading acount
				Local sales	Export sales	
	Z$/tonne			Z$ million		
1980	63.99	73.73	72.07	1.05	(3.43)	(2.38)
1981	93.99	107.78	93.84	9.98	(1.96)	8.02
1982	125.11	153.97	135.78	12.09	6.98	19.07
1983	125.74	156.39	126.26	31.52	29.92	61.44
1984	125.10	155.29	144.54	13.69	13.35	27.04
1985	158.07	202.29	174.14	24.20	--	24.20
1986	198.93	284.12	216.58	37.87	21.71	59.58
1987	190.74	267.44	237.54	21.33	54.40	75.73
1988	192.92	256.41	236.84	21.27	11.51	32.78
1989	208.57	289.34	242.05	32.00	(16.84)	15.16

Source: Estimated from Grain Marketing Board (GMB) Reports and Accounts, various issues.
Note: Values in parentheses represent surpluses and -- represents no export sale.

While maize was considered a foreign exchange earner, export sales of maize were only profitable in 3 of the 10 years. Export losses ranged from Z$7 million in 1982 to Z$54 million in 1987.

This situation has previously been assessed by Child *et al* (1985: 367): "Zimbabwe's geographical position and trade routes are such that maize supply buffering, either through trade or stockpiling, is costly.The high bridging costs make both maize exports and imports uneconomic, thus requiring the country to remain essentially self-sufficient without large surpluses for export."

The transitional national development plan (1982-85) aimed at redressing the socio-economic ills of the past by adopting a policy of equity with growth by directing agricultural policies towards the peasants. The government attempted to integrate the peasants by targeting to resettle 162 000 families on purchased farm land within the plan period. Far from intentions, only 46 300 families were settled on 2.6 million hectares by 1987 (Rukuni, 1990). The worse aspect of this resettlement programme was that the farmers' productivity was not better than that of the communal area farmers, even though the land was better. The programme has had limited success due to lack of effective programme planning, to the extent that Tagwireyi (1988) has noted that the farmers themselves were food insecure.

To further effect the policy of equity, the government instituted pan-territorial and pan-seasonal price policy. Panterritorial pricing violates the law of one price in that it fails to account for transport costs. The effect of this controlled pricing is such that maize meal has to be supplied to the rural areas at a loss. With pervasive crop failures resulting from drought in these rural areas, cases of black-market sales of controlled maize meal are not uncommon, so only the urban residents effectively benefited from government controls (Child *et al*, 1985). Pan-seasonal pricing also transfers storage costs to the public. Market regulation and systems of subsidy effectively discouraged private traders and thereby worsened the potential for private employment in the economy. While the blanket subsidy is questionable on an equity ground, the policy eventually hurt the ones it was supposed to protect.

3. Maize production policy in Zimbabwe

Maize is an important food and export crop in Zimbabwe. The annual average value of agricultural products in Zimbabwe during the 1980s was Z$1 040 million, of which the value of maize production averaged Z$166 million (i.e., 16%). Traditionally, most of the maize in Zimbabwe were exclusively produced by the white, large-scale commercial farmers.

The production trend changed in the 1980s through the policies which allowed all classes of farmers to enjoy production loan facilities and to deliver maize directly to the grain marketing board (GMB). Table 2 shows the corollary between favourable disbursements of agricultural loans to communal area farmers and increased trend of maize deliveries to the GMB. Between 1980 and 1986, maize deliveries to the GMB by the communal area farmers increased by tenfold. However, increasing default rates among the communal area farmers have lately caused the number of loan beneficiaries to decline drastically.

Financial assistance to the communal area farmers cannot alone be credited for the revolutionary maize deliveries to the GMB by communal area farmers in the first half of the 1980s. The cheap food policy of the time made it so attractive for the communal area farmers to deliver all their maize output than to do otherwise.

Table 2: Maize Production trends in Zimbabwe, 1979/80 - 1988/89

Marketing Year	Deliveries to GMB by		Other sector as % of total deliveries	AFC loans to communal area farmers	Yield (tonne) per hectare by		Other sector as % of LSC sector's yield
	LSC Sector	Other Sector*			LSC Sector	Other Sector	
	('00 tonnes)			Z$ mil			
1979/80	474	38	8	n.a	4.1	0.8	20
1980/81	729	86	11	3.5	6.0	0.9	15
1981/82	1 651	363	18	7.7	4.3	0.5	12
1982/83	1 022	369	26	13.4	2.6	0.3	12
1983/84	464	154	25	15.2	3.4	0.6	18
1984/85	552	390	41	37.3	5.5	1.8	33
1985/86	1 009	819	45	56.6	5.0	1.6	32
1986/87	912	682	43	59.8	3.6	0.7	19
1987/88	247	56	39	49.4	4.5	1.4	31
1988/89	441	756	63	41.3	n.a	n.a	-
Mean	750	381	32	31.6	4.33	0.96	
CV**					0.25	0.54	
Bartlett's test of variance***					137		

Source: Agricultural Marketing Authority. Economic Review of the Agricultural Industry of Zimbabwe, various issues, and Agricultural Finance Corporation's (AFC) data are obtained from its various annual reports.

* Other sector refers to small-scale, communal area and resettlement area farmers.

** Coefficient of variation

*** Barlett's test of variance follows the chi-square distribution with 8 degrees of freedom and it is significant at the 1 percent level with a critical value of 20.09.

Table 3: Indices of maize producer price and factor costs in Zimbabwe, 1980-1989 (1980/81 = 100)

Growing year	Producer price	Fertilizer cost	Labour cost	Tractor cost
1980/81	100	100	100	100
1981/82	141	119	144	120
1982/83	141	132	203	161
1983/84	141	146	219	227
1984/85	165	146	245	257
1985/86	212	216	287	275
1986/87	212	287	33	396
1987/88	212	287	379	398
1988/89	229	287	443	408

Table 4: Distributional aspects of maize producer and consumer price subsidies in Zimbabwe, 1980-1989.

Year	Producer price (Z$/mt)	Nominal protection rate (%)	Producer subsidy	Consumer subsidy
			Z$ mil.	
1980	60.50	-26	- 6.6	18.0
1981	85.00	-6	5.3	37.3
1982	120.00	44	78.4	116.7
1983	120.00	-13	- 1.3	75.4
1984	120.00	-29	-30.9	44.4
1985	140.00	-22	- 1.3	80.8
1986	180.00	22	104.1	94.1
1987	180.00	42	89.0	100.9
1988	180.00	- 6	- 4.7	98.6
1989	195.00	-17	-48.3	39.1

Note: Negative values in this table represent an implicit tax.

In the early 1980s, consumer prices for maize meal continually fell below producer prices to the extent that it was irrational for the communal area farmers to retain their maize for home consumption. According to a report (Agricultural Marketing Authority, 1983: 13), "there were fewer retentions than anticipated due to all classes of farmers delivering maize to the Grain Marketing Board and buying back their requirements in the form of milled roller meal, which was available at heavily subsidised rates." As a consequence of this policy, it was estimated that the national food subsidy rose from Z$26 million in 1979/80 to Z$128 million in 1982/83 (Child *et al*, 1985).

Zimbabwe has the capacity to produce enough maize for its people in spite of the recurrent drought problems only if an enabling policy is put in place. For example, the 1982-1984 drought was severer than the 1991-1992 drought, yet the country saw it through without having to resort to maize imports. The 1985/86 bumper harvest pushed the government policy overboard. The Minister of Lands, Agriculture and Rural Resettlement, in 1986, issued a statement advising farmers to diversify away from maize production into other crops (Agricultural Marketing Authority, 1988). It was clear that the attack was directed at the large-scale maize producers, which resulted in more than one third reduction in maize hectarage by the sector in the following growing year. The aftermath of the policy has forced the Zimbabwean government to its knees, to establish a formal contact with the South African government for the first time since independence on arrangements for maize imports in order to prevent famine in the country.

Table 2 shows that the large-scale commercial (LSC) sector's average maize yield (tonne) per hectare was four times the other sector's yields during the 1980s. Moreover, the communal area farmers' maize yield variability was more than twice the large-scale commercial farmers' yield. Bartlett's test of variance shows that the variability is statistically significant at the 1 percent level. The implication of this for maize production policy is that it will continue to be risky to discourage the large-scale commercial farmers from maize production until the government reduces the cause of high yield variability in the communal area. Given the prevalence of drought in the country, a competitive environment should be provided for production in order to prevent a re-occurrence of the prevailing food crisis.

4. Maize price policy in the 1980s

The government's intervention policy through the parastatal, grain marketing board influenced both producer and consumer prices. According to Muir et al. (1989: 106), "no specific formula or technique is used to set price levels ...." In other words, prices received and paid were negotiated prices, the outcome of a political process as opposed to the forces of supply and demand. The fact that administered pricing overlooked the concept of comparative advantage served to be in opposition with the government's objective of growth with equity in that the distributional effects of the same are inefficient as well as inequitable.

Traditionally, most of the maize in Zimbabwe had been produced by the large-scale, white commercial farmers. Thus, sentiments are often expressed with regard to prices received by the farmers. For example, Rukuni (1990: 47) has noted that "price policy has been traditionally used in favour of maize production ....Price policy, however, has generally discriminated against groundnuts ...which for decades was the main cash crop for peasant farmers ...[and] because it was a minor crop for the large-scale farmers." While the view expressed above might be correct to a certain extent, no critical analysis of the situation had been done.

Table 3 presents the indices of maize producer prices and factor costs in the eighties. As the government was responsible for determining input, output and consumer prices, the table shows it to be responsible for a cost-price squeeze condition that characterised maize production in the 1980s. Factor costs increased at more than proportionate degrees than maize producer prices. While the administered producer prices gave no consideration for inflation, the indices of labour and tractors rose at appalling rates compared to the maize producer price index, particularly so in the second half of the eighties.

Using border prices as a benchmark for assessing the maize price policy in Zimbabwe during the 1980s shows that maize farmers were implicitly taxed for many years. Although the government annually incurred huge losses on parastatal marketing boards because of subsidies (see Table 1), most of the subsidies did little to enhance production but much to please urban consumers. Table 4 shows that Zimbabwean maize producers received less than the border price of maize in 7 of the 10 years analysed as indicated by the nominal protection rates. The paradox in the maize pricing policy was that it eventually hurt the group it intended to protect. For example, from 8 percent in 1979/80, the communal area farmers delivered 63 percent of the GMB's total maize supplies in 1988/89 (Table 1). This means that they bore 63 percent of the Z$48.3 million implicit tax on maize producers in that year (Table 4).

Table 4 shows that throughout the 1980s, maize consumers were effectively subsidised. In contrast, there was no clear pattern of producer subsidy, except that they were more frequently taxed than being subsidised. On the average, consumers received approximately four times the subsidy enjoyed by maize producers in the eighties. What made the consumer subsidy disturbing, particularly in the first half of the eighties, was that most of the subsidy went to a few millers and mainly benefited the urban dwellers who purchased mealie meal at controlled prices.

5. Policy implications and conclusion

Suppose we study history in order to learn from the mistakes of the past by using the knowledge as a guide for the future. The mistakes might be our own or somebody else's. It does not matter whose mistakes they were. Thus, this analysis not only focuses on Zimbabwe but provides some lessons for South Africa as well. Both countries operate dual agricultural systems and face similar agrarian problems. This comment will become clearer with the following remarks.

The yield characteristics in Zimbabwe suggest some economies of size. Moreover, as drought is not new in Zimbabwe, only the large-scale commercial farmers, who can afford capital-intensive irrigation, are equipped to survive the recurrent drought problems. Thus, their yield characteristics portray some resilience to drought. The maize yield coefficient of variation for the communal area farmers (including resettlement area farmers) is more than double the large-scale commercial farmers' over the 1980s. This means that the communal area farmers are twice prone to yield variability than the large-scale commercial farmers. These observations have at least two implications for policy directions in Zimbabwe and hold some challenge for the new South Africa.

Firstly, the theory of economies of size indicates that there is an optimum size of farm where the marginal cost curve intercepts the long-run and short-run average cost curves at the minimum point. Those farmers operating below and above the optimum size will not be achieving economic efficiency, which represents a welfare loss to the society. The practical implication of this analysis relates to the controversial land policy issues in the country. While it is hard to quibble about the justification of redistributing land in light of the inequitable land tenure of the past, it will be disastrous to take land from declining-cost farmers and give to increasing-cost farmers.

Farms do not necessarily have to be large in order to be efficient. However, a farmer requires "a reasonable size of operation" to spread fixed costs and to approximate the efficiency frontier. Given the reasonable size of operation, certain levels of management capacity, technical know-how and cultural practices are paramount for efficiency. Further research is required to identify the optimum size of operation for various farm enterprises in Zimbabwe. Using the resettlement farmers' maize yields as an example, their yields are comparable with the communal area farmers' yields, even though the former operated in an agro-ecological environment similar to some large-scale farmers', who consistently realised more than triple-fold yields. The implication of this analysis is that lack of land *per se* may not be a critical problem, but management capacity certainly is a crucial factor of farm production. Land may be appropriated from high-cost farmers who are operating above the optimum size to high-performance, low-cost producers operating below the optimum size, and the whole society will benefit. On the other hand, if land was acquired from low-cost producers for low management, high-cost producers, the societal loss will be immense and food security will be severely threatened. This essential point has been noted by the National Farmers Association of Zimbabwe (Rukuni, 1990).

Secondly, the government will need to redirect its policy towards rural infrastructural development in agriculture. The previous notion of the government was that the rural people were self-sufficient in food production and that their main problem was lack of access to market facilities. Hence a great effort was directed towards proliferation of produce collection centres and storage facilities, whereas many of the communal area farmers lacked the capacity to provide enough food for their families (Jayne *et al*, 1991). Rural infrastructural requirements needing further development include human capital, physical, technological, financial, and market. While some effort had been geared towards financial and market infrastructure, a lot more needs to be done on others.

Human capital development will take the form of educational training of both new and old farmers. Skills and knowledge are highly essential to successful farming. Education is not restricted to the formal class-room type. It includes out of class, on the farm, adult educational process. To be able to reap the benefits of the revolutionary farming which emanates from scientific development, such as biotechnology, requires some level of education. In other words, the government will need to step up its human resource development activities within the farm community through extension services, farmers' day, training and re-training programmes, etc., in order to upgrade the management skills of the communal area farmers in particular. The widespread lack of proper management skills among communal area farmers may also require that some should consider an alternative form of employment in which they may have a comparative advantage. The government could assist in this regard by encouraging low-scale, labour-absorbing, rural manufacturing activities which require little or no educational backgrounds.

To the extent that drought is a common phenomenon in certain areas of Zimbabwe, the government should redirect its policy focus towards the development of irrigation facilities. A study by Antle (1983) indicated a positive relationship between agricultural development and investment in physical infrastructure. Communal ownerships of land did not avow an individual the property rights to embark on economically feasible

private tubewells even if the means were available. The reality of this problem is a *prima facie* reason for government intervention and assistance. This will have a long-run advantage better than fine-tuning the price system. As applied to the Philippines, government investment in irrigation systems provided less financial burden on the treasury as compared to the price support programmes (Hayami *et al*, 1977). Irrigation development, as a form of land improvement, should be targeted towards group farmers or cooperatives, and the services should be provided at full cost to the beneficiaries. Even if this project will be partially subsidised by the government, its surplus value will be greater than providing drought relief, commodity price support, or subsidised food imports. This kind of project has thrived well in the Punjab, India (Chadha, 1986).

The agricultural policies in the eighties showed some good intentions on the part of the government but with unintended results because the policies focused on the crisis of the moment. In most cases political considerations reigned supreme over economic rationality. The policy environment created disincentives leading large-scale farmers to leave the major task of producing the politically sensitive maize in the hands of drought-prone, limited-resource communal area farmers. Although maize producer prices have been increasing with the inception of the economic structural adjustment programme in 1990, the increment did not come early enough to have stimulated enough production that could have lessened the impact of the drought on the once abundant maize country. It is also apparent that the government did not achieve the objective of growth with equity because economic efficiency suffered through haphazard commodity pricing and distributive inequity of subsidies.

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