

PROGRAMS TO INCREASE AGRICULTURAL PRODUCTIVITY IN LESOTHO

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Despite all this, I as author, am solely responsible for any shortcomings or errors in this report.

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CHAPTER I
THE PROBLEM

As is the case with many Sub-Saharan African Countries, Lesotho has low agricultural productivity. Crop yields are tremendously low. Average yields have been declining for a long period of time despite all the efforts by government to improve and encourage food production. Low productivity makes it impossible for the country to be self-sufficient even in the very basic food requirements. With the population growing every year and the amount of arable land per rural household decreasing, there is a high probability that Lesotho will experience even more problems with feeding its population if the declining trend in yields is allowed to persist.

A decline in agricultural output in Lesotho beginning as early as 1950 has been identified by the World Bank. A decline of 40 percent in agricultural output between 1950 and 1970 was cited by the Bank as evidence of need for major additional investment in agriculture¹. Wykstra (cited in JASPA Employment and Advisory Mission, 1979 p. 86) reported output and yield figures for 1950, 1960, 1970 and 1976 to illustrate a drop of 59 percent in output and a sharp decline in yields. Low yields are caused by a variety of factors some of which include poor and infertile soil lacking in plant nutrients and inappropriate structure which makes seedbeds unstable and subject to erosion. Apart from soil deficiencies, the timing and reliability of rainfall present severe limitations to crop

¹IBRD - Appraisal of Basic Agricultural Services Project, Report no. 1524. 1978

growth especially in the southern part of the country where erratic rainfall conditions frequently can result in very low precipitation. There is evidence that a high percentage of crop failures in Lesotho is due to drought compared to other factors such as frost, hail, insects and weeds, soil erosion and poor cultivation practices (table 1).

Table 1: Estimated Area Under Crop Failure by Cause

1983/84

Cause of Crop Failure	Hectares	Percent
Frost	609	1.6
Hail	345	0.9
Floods	-	0.0
Drought	28802	75.5
Pests	339	0.9
Weeds	815	2.1
Animals	2339	6.1
Others	4890	12.9
Total	38139	100.0

Source: Bureau of Statistics - Annual Statistical Bulletin.
Maseru, Lesotho 1984.

Most analysts also consider labor migration from Lesotho a contributor to declining agricultural production. Labor migration to diamond mines in the Republic of South Africa provides an outlet for many Basotho to earn a better living than they can earn for agricultural labor in Lesotho. High wages in the mines have raised the standard of living of many rural families of mine workers who remain in Lesotho. However, the disadvantages which cannot be measured entirely in monetary terms, are of far reaching consequences economically, culturally and politically.

Migration causes men to be away from home at critical times when there is heavy agricultural work to be done, leaving older men, women and children to plough and to plant as best they can. Wykstra¹ in his findings noted that manpower scarcity or labor shortage is "a material explanation for recent economic declines in Lesotho's farming sector".

There are undoubtedly shortages of labor in some areas at peak periods but it is difficult to say to what extent it is responsible for low productivity in agriculture. The economic question is what are the returns to the farm and to the economy of additional labor inputs into agriculture (or the returns foregone by labor withdrawal) and how do these compare with returns to labor in alternative pursuits. A Mosotho farmer is not irrational and unresponsive to economic incentives. With the constraints he faces, including constraints regarding ecological risk, lack of relevant knowledge and technology and the unavailability of supplies and equipment as well as unreliable markets, it is clear that he makes a judgement based on where his labor earns more.

In 1976 the net expected farm income per year from a 5-acre Lesotho farm was at most M80.00 for subsistence crops and M60.00 for cash crops. At the same time minimum annual wage for unskilled manual labor in Lesotho was M300.00 (raised to M480.00 in 1978). When these amounts are compared to about M1,100.00 in cash and kind for mine work in 1976, the attraction of employment in the mines is apparent. While it is true that low land fertility reduces returns to farming and encourages migration, it is also necessary to recognize that the existing capacity of land is not only a

¹Wykstra R.A. - Farm labor in Lesotho, Scarcity or Surplus. LASA Discussion Paper No 5. Ministry of Agriculture, Lesotho 1978.

function of its inherent characteristics, but it is also related to the amount of human effort invested in it.

Sample surveys of area based projects¹ (Khomokoana project Survey 1978, Thaba-Bosiu Project survey 1973-1977 and Phuthiatsana Project survey 1977 and Senqu River Valley Project 1976) showed that the gross margins from crops are both low and erratic, with sales not even covering non-labor costs. Most surveys showed that daily returns from agriculture were of the order of M0.10 to M0.40² (based on 1973-77 prices) per hectare. Average returns of this magnitude are unlikely to be attractive to anyone especially when substantially higher paid employment exists.

Farming practices of most Basotho farmers are very far removed from those designed to achieve good yields and increased long run productivity. The farmers plough ineffectively so that the seedbed is inadequately prepared. Fertilizer has been widely adopted in Lesotho. However it is reported in the World Bank report (IBRD 1980 b. Annex 7 p.24) that: "... the use of fertilizer in the absence of a range of complementary husbandry practices does not usually result in large increases in yields..." This is not atypical of experience elsewhere, but " fertilizer appears to be commonly used in Lesotho as if it were a substitute for good husbandry rather than a complement to it". The World Bank Mission found that in Lesotho fertilizer has been used largely to increase the amount of food produced per unit of time. In other words

¹JASPA Employment Advisory Mission - Options for a Dependent Economy. Development, Employment and Equity Problems in Lesotho. 1979 p.87.

²JASPA Employment Advisory Mission- Options for a Dependent Economy. Development, Employment and Equity Problems in Lesotho. 1979.

fertilizers are used as a substitute for labor-intensive crop production methods. So as long as this remains the main reason for using fertilizers in crop production, it is quite unlikely that fertilizer use will achieve the intended goal of increased productivity through increased yields.

Lesotho's economic history is one of growth followed by decline. The Basotho were not traditionally a mountain dwelling people, but after the loss of the lowlands they adapted to what remained. The lowlands that were left were reasonably fertile and the highlands good grazing land. By 1873, Lesotho was exporting wool and grain. Murray (1980) and Spray (1975) quoted in Low (1986) have documented how Lesotho changed from being the granary of the Orange Free State before 1900 to a labor reserve for South Africa today.

Demand for Lesotho produce heightened with the discovery of diamonds in the Orange Free State (1867) and later with the opening of the gold mines in the Transvaal (South Africa) 1885. Lesotho's food grain exports reached a maximum in the 1910-1920 period. After this time exports declined as South Africa imposed trade restrictions, Lesotho's subsistence requirement increased as population increased, soil fertility slowly declined, technology remained stagnant and more Basotho participated in labor migration to South Africa. The conditions worsened, so that by 1930 Lesotho was a net importer of maize¹.

The former statements indicate that historically Lesotho was not a net importer of food grains that it is at present. Things happened that turned the whole machinery of agriculture around. This is the main concern

¹Brokken, Ray et. al. Marketing of Grains, Pulses and Vegetables in Lesotho. Farming Systems Research Division, Bulletin RD-B-47. Maseru 1986.

of the government and food policy makers in Lesotho, which has led to the government of Lesotho taking initiatives as well as introducing incentives in crop production in an effort to reverse the continued deterioration of agricultural production.

Many governments with good intentions all over the world have tried to intervene in agricultural activities with the hope of increasing food production and assisting the small farmers. Most governments including the government of Lesotho have introduced foreign aid projects and foreign expertise to run agricultural projects in the country. Often when such projects are initiated the real needs of the farmers are only temporarily met because project activities are not self sustaining after the life of the project. Ironically, the most elemental needs of farmers such as availability of markets, supplies and information through sustainable institutions have not been perpetuated.

The purpose of this paper therefore is to further delineate Lesotho's food problem; discuss selected efforts and programs by the government of Lesotho to increase agricultural productivity; and to evaluate a proposed additional food program option. The main focus of the paper will be on incentives applied to crop production in Lesotho, and an evaluation of achievements and identification of problems associated with implementation of incentive programs.

CHAPTER II
RESOURCE ENVIRONMENT FOR CROPS

The total land area of Lesotho is estimated at 30,355 square kilometers (11,720 square miles). The country lies between the southern latitudes 28 degrees and 31 degrees and the eastern longitude 27 degrees and 30 degrees. Lesotho is divided into 10 administrative districts which fall on one or more of the four ecological zones namely the lowlands, foothills, mountains and Senqu River Valley. The lowlands, mainly on the western side of the country have altitudes from 5,000 - 6,000 feet above sea level, and are about a third of the land area. Soils are poor sandy loams impoverished by exploitive cropping. The foothills form a belt at 6,000 - 7,000 feet above sea level to the northeast of the lowlands. This is a rolling plateau country mainly pasture broken up by ridges and river valleys. It is about one-sixth of the land area of the country. The soils are clay loams of somewhat higher fertility than the lowlands but also suffer from exhaustion. The mountains account for the remaining half of the land area. The mountains range from 7,000 to 11,000 feet above sea level. Soils are thin fertile black clays. This land is fit for most part only for intensive grazing, but population pressure has led to increased attempts to cultivate it. Overall, the soil is poorly suited to cropping and is badly eroded.

Rainfall is an important factor especially in a predominantly dry country like Lesotho because of its influence on crop yields. Drought, hail and frost are major risk factors in crop production. The normal average rainfall over the entire country is 730 mm a year, although it

varies among the regions, with the highlands receiving 760 mm followed by the northern part with a normal of 750 mm and the southern region which is usually drier with a normal of 690 mm per year.

Long term average rainfall varies from 682 mm to 819 mm in the lowlands and from 586 mm to 900 mm in the highlands. Temperatures in the lowlands range from a maximum of 28.7 degrees Centigrade or higher in summer, to a minimum of well below -1.5 degrees Centigrade in winter. In 1984 the highest observed temperature in the lowlands was 35.1 degrees Centigrade (February). A minimum of -12.5 degrees Centigrade was observed at Maputsoe in June¹. In the highlands the temperature range is normally 27.5 degrees Centigrade to -6.1 degrees Centigrade for maximum and minimum in summer and winter respectively. A major characteristic that marks the difference between the lowlands and highlands is colder winters in the highlands with wider fluctuations between maximum and minimum temperatures. Lesotho often experiences dry periods which adversely affect crops as well as pasture land.

The population of Lesotho is 1.6 million (1986 Population Census), of which 85 percent is rural. The overall population growth rate is 2.4 percent per year. There is however higher population growth in urban areas, possibly because of migration from rural to urban areas in search of employment and jobs. The growing population and the deterioration of the land base imposes a strain on the land with fewer households having access to cultivable land, hence the number of rural households without

¹Bureau of statistics - Annual Statistical Bulletin Maseru, Lesotho 1984.

land is increasing. The principal impact of population growth appears in the declining number of fields per household¹. In 1970 there were 212,228 rural households in Lesotho. The number of rural households without land was 26,919 (12.7 percent). The number of landless households had increased to 70,593 in 1986 (25.4 percent). Population per square kilometer of total area in 1976, 1980 and 1984 was 40, 44, and 48 respectively. In the same years the population density per arable land increased as is shown in table 2.

Table 2: Population per sq km of total area and per sq km of arable land.

Year	Density on total land	Density on arable land
1976	40	422
1980	44	446
1984	48	493

Source: Bureau of Statistics - Annual Statistical Bulletin
Maseru, Lesotho 1984

Only 30 percent of the land area is arable. Even in this area (apart from a strip of foothills and lowlands around the western borders of the country and scattered river valleys in the mountain areas), good cropping soils and reliable rainfall are rare, occurring fairly widely in the north, but dropping sharply towards the south. While there are some areas of good quality soils particularly in the northern lowlands, for the most part the soils are highly erodible and poor in structure. Apart from soil deficiencies; the amount of rain, timing and reliability of rainfall

¹Ntsane Chaka; Eckert Jerry. - Lesotho's Agriculture: A Review of Existing Information. IASA Research Report No.2. Ministry of Agriculture Lesotho, 1978.

present a severe limitations to crop growth especially in the south. Extremes of temperatures are further problems for crops. The excessive summer heat has been established as a cause of severe plant stress and damage especially in dry years.

Partly because of agronomic and ecologic factors and partly because of other constraints faced by farmers, the farming practices of most farmers are very far removed from those designed to achieve good crop yields and increased long run productivity. Drought, frost, and hail are among the major risk factors in crop production. Other causes of crop failure include insects and pests.

The main source of growth in Lesotho's economy has been an increase in migrant remittances and mine wages. Over half of Lesotho's able bodied men between the ages of 20 and 45 are employed in South African mines, bringing into Lesotho earnings amounting to some M48 million in the form of deferred payments and M252 million as remittances¹. The unique feature of Lesotho's economy is that over half of the GNP arises from migrant worker sources.

The majority of the migrant workers are from the rural households. According to a study undertaken by the National University of Lesotho (NUL), 96 percent² of the migrants surveyed in 1977 were male and 4 percent

¹Ministry of Planning Economic and Manpower Development - Fourth Five Year Development Plan - Maseru Lesotho. 1988.

Deferred payments- compulsory deposits into Lesotho Bank from mine wages which may be withdrawn by miners after contracts are completed.
Remittances- Monthly wages received by miners.

²JASPA Employment Advisory Mission- Options for a Dependent Economy. Development, Employment and Equity Problems in Lesotho. International Labor Office. Addis Ababa 1979 p. 53.

were female. Over 50 percent are under the age of 40. The NUL study reported that Forty-seven percent of the migrants had never attended school (table 3).

Table 3: Basotho Migrants by Level of Education Attainment, 1977

Levels	Percentage
No schooling	47
Standard 1 or 2	7
Standard 3	5
Standard 4	7
Standard 5	16
Standard 6	6
Standard 7	5
Form A or B	3
Junior Certificate	1
Unstated	3
TOTAL	100

Source: JASPA Employment Advisory Mission - Options for a Dependent Economy, Development, Employment and Equity Problems in Lesotho, 1979.

It is evident from the above statistics that a high level of education is not a requirement for employment in the South African mines. The Republic of South Africa (RSA) attracts the less educated while the more educated are likely to find employment in Lesotho.

There is strong argument in Lesotho that migration to the mines is the source of low agricultural productivity. It is still very doubtful according to other analysts whether migration causes low agricultural productivity or low productivity causes people to move out of agriculture to better paying mine labor. There is an argument that increasing wage

opportunities can lead to reduced farm productivity per hectare. The substantial rise in mine wage earnings since the mid-1970s (table 4) resulted in a decline in the proportion of household income contributed by agriculture from 41 percent in 1967-69 to 18 percent in 1976¹.

Table 4. Mine wage Employment and Income Outside Lesotho.

Year	Mine Employment	Deferred+Remittance	Income/worker
	(Number)	('000 Maloti)	('000 Maloti)
1970	87384	4438	51
1971	91080	4708	52
1972	110477	4818	49
1973	110477	8643	78
1974	106231	12463	117
1975	112507	19995	178
1976	121062	26062	215
1977	127941	27605	216
1978	124491	33268	267
1979	124393	38137	307
1980	120733	42123	349
1981	123539	62741	508
1982	117462	127724	1087
1983	115320	177763	1541
1984	114071	206474	1810
1985	116513	235374	2020

Source: Labor Department - Maseru.

Agriculture's share of Gross National Product (GNP) decreased from a high of 24.7 percent in 1973/74 to a low of 7.1 percent in 1983/84 (table 5). The share of Agriculture in GNP has been declining while the share of remittances and mine wages has been increasing. During the period 1980/81 through 1984/85, an average annual domestic growth of -1.0 percent

¹Low, Allan. Agricultural Development in Southern Africa: Farm Household Economics and the Food Crisis. London, 1986.

at 1984/85¹ prices was recorded. However the rapid annual growth of migrant remittances was responsible for an overall positive GNP growth. In 1970/71 agriculture's share of GNP was 22.4 percent and mine wages were 20.8 percent. In 1984/85 mine wages contributed more than half of Lesotho's GNP while agriculture's share was only 10.6 percent. Even though the number of mine workers decreased from 1982 to 1985 the income from the mine wages and remittances continued to grow indicating a steady increase in wages and remittances per worker (table 4).

Table 5. Sector Distribution of GNP at factor Costs and Market Prices

Year.	Mine wages	Agricul/ ture	Manufac/ ture	Trade & mining	Private & govt	Other
	%	%	%	%	%	%
1970/71	20.8	22.4	2.8	16.7	22.2	15.1
1971/72	22.5	15.7	3.2	17.2	24.4	17.0
1972/73	23.2	21.8	2.9	14.1	22.3	15.7
1973/74	24.7	24.7	2.9	11.7	18.4	15.6
1974/75	30.5	20.1	3.0	11.9	17.6	17.6
1975/76	41.4	14.7	2.6	10.7	17.9	16.8
1976/77	40.7	18.4	2.3	10.1	16.7	12.7
1977/78	39.1	16.8	2.1	12.8	16.3	11.8
1978/79	35.5	17.0	2.5	13.3	17.1	13.3
1979/80	36.2	16.3	2.6	13.3	18.1	14.6
1980/81	39.8	11.5	2.7	13.5	21.2	10.8
1981/82	44.2	10.5	2.8	11.9	20.7	8.9
1982/83	51.6	9.0	3.1	11.1	16.9	7.6
1983/84	52.4	7.1	2.8	9.0	16.3	10.6
1984/85	51.2	10.6	2.7	6.8	16.5	12.2

Source: Lesotho Bureau of Statistics - Maseru 1984.

¹Ministry of Planning Economic and Manpower Development - Fourth Five Year Development Plan (1986/87 - 1990/91). Lesotho. 1988

CHAPTER III

CROP PRODUCTION IN LESOTHO

The five major crops grown in Lesotho in order of their importance are maize (corn), sorghum, wheat, beans and peas. Maize is the main staple food. The importance of maize as the main crop is indicated by the area planted to maize as a percentage of total arable land. Table 6 shows the area planted as a percentage of total arable land for maize, sorghum, wheat, beans and peas from 1976/77 to 1985/86.

Area Planted and Harvested

Area planted to maize shows an upward trend from 1976/77 to 1985/86. The area planted to maize increased from 92,634 hectares in 1976/77 to 141,484 hectares in 1985/86. The area planted to the other crops shows a somewhat variable pattern between 1976/77 to 1985/86. There is a vast difference between the area planted and the area harvested for all the crops shown in tables 7 and 8. It is assumed that area not harvested is attributed to crop failure which may be due to drought, frost or other causes of crop failure. The percent of area planted but not harvested varies between 6 percent in 1977/78 and 19 percent in 1984/85.

The total area harvested from the five major crops also shows large year to year variation over the period 1976/77 to 1985/86. The area harvested has generally declined throughout the period. However, in 1983/84 and 1984/85 (except for peas) crop area harvested increased. Area planted and harvested for some of the major crops is shown in tables 7 and 8.

Table 6: Area Planted as Percent of Total Arable Land.

Years	Maize	Sorghum	Wheat	Beans	Peas	Others
	%	%	%	%	%	%
1976/77	32	16	15	6	3	28
1977/78	38	21	16	5	2	18
1978/79	40	18	12	4	2	24
1979/80	40	22	10	3	2	23
1980/81	46	21	8	3	2	20
1981/82	43	20	8	6	4	19
1982/83	43	19	11	2	4	21
1983/84	46	21	11	4	3	15
1984/85	48	27	14	3	3	5
1985/86	49	20	9	6	2	14

Source: Ministry of Agriculture - Lesotho Agricultural Situation Report 1986 Edition

Table 7: Area Planted Major Crops.(1976/77 - 1985/86)

Year	Maize	Sorghum	Wheat	Beans	Peas	Total
(1000 hectares)						
76/77	92	47	44	17	10	210
77/78	111	62	46	14	6	239
78/79	122	54	38	12	7	233
79/80	118	65	31	8	7	229
80/81	137	64	24	9	5	239
81/82	137	59	27	16	10	249
82/83	127	57	32	6	11	233
83/84	139	63	33	12	9	256
84/85	145	82	43	9	10	289
85/86	141	57	26	19	6	249

Source: Ministry of Agriculture - Lesotho Agricultural Situation Report 1986.

Table 8: Area Harvested Major Crops (1976/77 - 1985/86)

Year	Maize	Sorghum	Wheat	Beans	Peas	Total
(1000 hectares)						
76/77	80	42	42	15	7	186
77/78	101	59	43	11	4	218
78/79	112	51	35	10	6	214
79/80	110	61	29	7	6	213
80/81	124	60	20	7	5	216
81/82	114	48	24	14	9	209
82/83	104	47	29	4	9	193
83/84	117	54	30	8	8	217
84/85	118	75	36	7	8	244
85/86	122	52	19	17	4	214

Source: Ministry of Agriculture - Lesotho Agricultural Situation Report 1986

Crop Production and Yields

Even though the area planted for the major crops especially maize has been increasing, production of the major crops has declined especially in the case of maize. In 1976/77 maize production was 126 thousand tons, it increased to 143 thousand tons in the following cropping year (1977/78). But production declined after 1977/78 to a low of 86 thousand tons attained in 1985/86.

It has been suggested that the decline in production of the five major crops from the mid 1970s into the early 1980s is in part due to the rapid increase in mine employment and wages in South Africa¹. The families

¹Eckert J; Wykstra R. - South African Mine Wages and their Effects On Lesotho's Economy. Ministry of Agriculture Maseru, 1980.

benefitting from mine employment are less dependent on farming as a means of subsistence, and so have less incentive to farm. A recent recovery in acreage may be due to reduction in migrant employment as well as increased emphasis by the government on the Food Self-Sufficiency Program and other programs designed to encourage food production.

Yields per hectare for maize and other crops have been declining throughout the years. In 1976/77 the average yield for maize was 1359 kg per hectare. In 1985/86 the maize yield had decreased by approximately half and was only 611 kg per ha. Inter-seasonal variations in yields are also weather related.

Table 9: Crop Production Major Food Crops (1976/77 - 1985/86)

Year	Maize	Sorghum	Wheat	Beans	Peas
(1000 tons)					
76/77	126	62	61	21	7
77/78	143	86	58	11	4
78/79	125	69	34	8	7
79/80	106	59	28	4	5
80/81	106	48	17	4	3
81/82	83	26	15	5	5
82/83	76	31	15	2	3
83/84	79	34	17	1	4
84/85	92	55	18	3	3
85/86	86	33	11	4	2

Source: Ministry of Agriculture - Lesotho Agricultural Situation Report, 1986 Edition.

Analysis has been performed to determine the effect of rainfall on maize yield. Yield and rainfall data from 1976/77 to 1985/86 have been used. Maize yield is the seasonal average for the country, and rainfall

data is annual rainfall.

Annual averages have been used for rainfall even though it is known that critical periods for maize fall into different months in each season. The critical times for maize growth is during tasseling and filling stages which occur at 90 days and 130 days after planting. These critical periods are determined when planting dates are known. But due to unavailability of data pertaining to planting dates and other related data, only annual rainfall is used. One other variable that could have been included in the model is fertilizer as studies have indicated that fertilizer is an important variable determining maize yields in Lesotho. However this also could not be included for lack of appropriate data.

By using Least Squares Model a regression equation was calculated in the following form:

$$\text{Maize Yield} = f(\text{Annual Rainfall})$$

The results from the regression analysis were:

		R^2	F Value
Yield	- .532.0979 + 2.0462AR	.5365	9.261
t value	-1.173 3.043		

* AR = Annual Rainfall in mm.

The R^2 for this analysis is .5365, or 54 %. This is the proportion of variation in maize yield that is explained by the regression, and the equation is significant at the 95 % level. Previous studies that used tasseling rain and filling rain as variables in determining yield recorded R^2 of 96 % (Nesling 1984).

Even though both yield and rainfall data have discrepancies in that

yield varies among regions but seasonal averages have been used, and rainfall only critical at certain stages of growth, this analysis does indicate that rainfall is a factor in determining maize yield.

Table 10: Yield for Major Crops in Lesotho (1976/77 -1985/86)

Year	Maize	Sorghum	Wheat	Beans	Peas	Rainfall
	(Kg /Hectare)					(mm)
76/77	1359	1331	1397	1207	724	805
77/78	1284	1383	1270	756	774	815
78/79	1020	1274	886	699	1035	621
79/80	892	919	920	439	687	679
80/81	774	749	722	383	587	793
81/82	608	446	534	294	429	663
82/83	601	539	465	255	298	550
83/84	537	540	511	115	410	603
84/85	637	672	427	250	535	511
85/86	611	585	423	203	259	628

Source: Ministry of Agriculture - Lesotho Agricultural Situation Report 1986.

A comparison of yield is made between Lesotho and one of the Provinces in South Africa; the Orange Free State (OFS). The Orange Free State is chosen because of its relative similarity to Lesotho by proximity and climate.

Lesotho's yields are much below those attained in the OFS. These two locations had similar patterns of inter-seasonal variation from 1976/77 to 1979/80 when OFS experienced much more fluctuation in yield. OFS and Lesotho share similar climatic conditions, so if there is drought in the OFS it will also occur in Lesotho, but because the OFS uses more advanced farming practices the yields are still relatively higher.

Table 11: A Comparison of Trends in Maize Production
Lesotho, Orange Free State* and RSA

Years	Lesotho	OFS	RSA
(1000 tons)			
1976/77	126	3553	9714
1977/78	143	3474	10056
1978/79	125	3021	8332
1979/80	106	3414	10762
1980/81	106	5015	14656
1881/82	83	2766	8359
1982/83	76	1342	4083
1983/84	79	1295	4393
1984/85	92	2878	7658
1885/86	86	2645	8077

* The Orange Free State (OFS) as a region of South Africa (RSA) was selected for its relative comparison to Lesotho by proximity and climate.

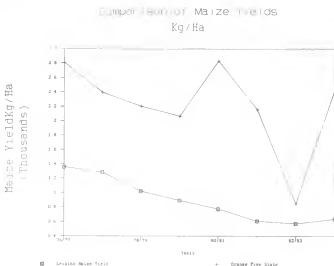
Source: Lesotho Agricultural Situation Report. 1986 Edition.

Table 12: Comparison of Maize Yields Lesotho and OFS

Years/Average	Lesotho	OFS
(Kg/hectare)		
1976/77	1359	2810
1977/78	1284	2396
1978/79	1020	2203
1979/80	892	2067
1980/81	774	2832
1981/82	608	2156
1982/83	573	849
1983/84	637	2440
1984/85	611	-

Source: Lesotho Agricultural Situation Report

Figure 1



Lesotho is unable to supply all it needs for domestic consumption. Imports have become necessary to supplement domestic production. Imports of food grains and pulses from both commercial and donor sources are reported in Table 13. Commercial imports have stayed somewhat constant, but total imports have increased indicating reliance on donated food. Lesotho started to receive large quantities of food aid in 1966¹ to cope with a serious drought.

¹David Jones- Aid and Development in Southern Africa . British Aid to Botswana Lesotho and Swaziland. London, 1977 p.204.

Table 13: Imports of Major Crops (whole grain)

Years	Maize	Wheat	Sorghum	Pulses
(1000 tons)				
1977/78	82.0	36.8	1.9	0.8
1978/79	91.3	32.1	1.8	0.8
1979/80	91.0	38.4	1.4	1.2
1980/81	105.7	37.7	1.0	1.0
1981/82	117.0	30.3	1.7	1.2
1982/83	99.2	33.8	3.3	1.3
1983/84	103.9	52.4	1.3	1.8
1984/85	108.8	58.6	1.0	1.8
1985/86	117.3	62.7	1.0	2.3
1986/87	112.9	63.0	1.0	2.3

Sources: Ministry of Agriculture - Lesotho Agricultural Situation Report 1986 Edition.

The widening food production-consumption gap together with government desires to feed adequately the growing urban population, have led to increasing quantities of imports in many countries. One of the consequences of the food production-consumption gap and increase in urban population has been an increase in the price of food relative to the overall cost of living.

Degree of national self-sufficiency for maize, sorghum, and wheat for the period 1978 through 1986 are shown in table 14. The percent self-sufficiency figures are calculated by dividing total domestic production by the total imports plus domestic production. For maize and wheat, the self-sufficiency percentages in the 1980s are lower than in the late 1970s. Sorghum has attained much higher and fairly constant self-sufficiency percentage and is approaching total self sufficiency. From 1977/78 to 1986/87 there were no sorghum donations received by Lesotho.

Table 14: Self-sufficiency for Three Major Crops 1978/79 - 1986/87

Crop	78/79	79/80	80/81	81/82	82/83	83/84	84/85	85/86	86/87
	%	%	%	%	%	%	%	%	%
Maize	61.1	57.9	50.0	47.5	45.6	42.3	42.2	44.1	43.4
Wheat	64.3	46.7	42.8	35.9	30.0	22.0	22.6	22.7	14.9
Sorghum	97.9	98.0	98.3	96.6	88.7	95.5	97.1	98.2	97.1

Source: Ministry of Agriculture - Lesotho Agricultural Situation Report, 1986 Edition.

CHAPTER IV
PRODUCER INCENTIVES IN LDCs

Many national governments use incentives to boost agricultural production. Incentive programs are designed to meet each country's needs and policies, but the common aim is to enhance agricultural productivity. In many countries more than one incentive method or approach is used. A combination of incentives may include the improvement of credit facilities, availability of agricultural inputs, and introduction of new technologies in farming.

In the Philippines 'Masagana 99 Program'¹, a package of technology under a supervised rice program was put into place. A credit scheme was instituted to provide loans at low interest rates without collateral. Hundreds of rural banks with branches administered credit to the farmers, lending money after the spot processing of farmers' applications, eliminating long waiting time between the farmer application and approval of such an application.

At the same time a fertilizer subsidy was implemented to offset the high fertilizer prices. A price support program for rice was also implemented to guarantee farmers a floor price for their paddy thereby stabilizing price and assuring a reasonable profit for the farmers. Fertilizer was found to be the most significant factor which affected paddy production. Participants in the program earned 55 to 75 percent

¹Alix, Jesus - The Impact of the Masagana 99 Program on Small Farmer Production and Income in the Phillipines, Ministry of Agriculture. Research Report No. 11, 1978

more than non-participants because of increased yields. The use of subsidies is common as an encouragement to use a particular input like fertilizer.

Many programs to boost production entail subsidized financial credit. It is common for such national programs to suffer from low loan recovery rates which sometimes leads to more restrained lending policies. Non-repayment of loans results in such farmers or groups of farmers being excluded from further participation in the credit program. One of the reasons cited for non-repayment of loans was the non-collateral nature of the loans. Poor supervision of the banks and widespread corruption in handling government monies are some of the reasons for default.

Because of the economic and political importance of agricultural and food sectors, governments usually manipulate agricultural and food prices to achieve production and food supply goals. Manipulation of price and income variables is one of the major policy instruments available for stimulating output and achieving many other policy objectives. Food policy objectives may include:

1. Encouraging food production in order to achieve self-sufficiency, more especially in staple food.
2. Stabilizing prices to agricultural producers.
3. Raising rural incomes and,
4. Stabilizing food prices to urban consumers and restricting price increases.

Implementation of price and income policies, more often than not, results in conflicts among different objectives. Governments have to deal with problems of inconsistencies arising from conflicting objectives. To

set an example; any marked increase in the price of food to encourage production or raise rural incomes will have a significant effect on low income people, as well as on urban workers' standard of living. The impacts may lead to demands for higher wages and hence create inflationary pressures on the economy. Dharam Ghai and Lawrence Smith¹ report that because agricultural and food sectors are so important in the economies of Sub-Saharan Africa, governments in this area attempt to intervene in the agricultural and food pricing system.

However, they express some doubts concerning the effectiveness of the pricing mechanism and suggest that inadequate incentives are a prime reason for the poor agricultural performance in Sub-Saharan Africa. Price adjustments are a major way of providing economic incentives, but incentive programs do not work because of failure to recognize that actual production decisions are influenced not only by absolute price changes but by relative changes in the prices of different commodities.

One of the difficulties faced with observing a positive correlation between an increased price of a commodity and its output is the length of many agricultural production processes. Ghai mentions that there is a tendency for farm households to attempt to be self-sufficient in basic food requirements even when cash crops can be produced and sold. It is suggested that maybe a certain degree of satisfaction is obtained from self-sufficiency which causes farmers with a self-sufficiency objective not to react or react very slowly to changes in prices of food crops. In

¹Ghai, Dharam and Smith, Lawrence - Agricultural Prices, Policy, and Equity in Sub-Saharan Africa. Lynn Rienner Publishers, Inc. Boulder, Colorado. 1987.

Lesotho maize which is a subsistence crop occupies a much larger cultivated area than beans which is considered a cash crop even though the price of a kilogram of beans is worth three to four times that of maize.

Since relative prices not absolute prices are important in harmonizing the pricing system, government systems responsible for setting different prices need to be coordinated to effectively implement pricing of different commodities.

In Pakistan both agricultural output and input prices have been major instruments of government policy¹. The government intervened in agriculture through taxes and financial subsidies. The decline in international prices for Pakistan's major exports and need to protect agricultural producers led to the removal of export taxes in 1978. There was virtually no direct tax on agricultural incomes. Subsidies for the import of fertilizers and for use of pesticides and herbicides were the major subsidies given to agriculture.

Unlike higher commodity prices, it is argued that subsidies do not raise directly food and raw material prices paid by urban consumers. Subsidies also ensure that the benefits of government expenditures accrue only to cultivators using off-farm inputs to expand production. However it has been observed that in some countries where fertilizer is subsidized for use on particular crops, farmers may sell a fertilizer quota to another farmer at less than the market price. It should be born in mind that subsidies are not without a cost to the government administering

¹Cheong, Kee-Cheok; Emmanuel H. D'silva - Prices, Terms of Trade and The role of Government in Pakistan's Agriculture, IBRD, 1984.

them. Subsidies are a burden on scarce public resources.

Implementing a subsidy policy involves a lot of administrative effort and monitoring. For instance, in Pakistan farmers on irrigated land were exempted from land taxation if their holdings were less than 11 acres. Farmers with holdings between 25 and 50 acres had assessment rates of 50 percent. Those with more than 50 acres had rates of 100 percent. In such a case, apart from the cost of subsidies to the government, high costs are incurred in administering the program in terms of staffing and other related activities.

It is noted that in both Taiwan and Japan¹ where considerable success has been attained in promoting agricultural development and where the use of fertilizer has risen to high levels, there are also effective price policies for agricultural products. In Japan the farmer is paid a considerably higher price than the rice consumers have to pay in the market.

According to Schultz², the man who farms as his forefathers did cannot produce much food no matter how rich the land or how hard he works. The farmer who has access to and knows how to use what science knows about soils, plants, animals and machines can produce an abundance of food though the land is poor. Schultz says that the knowledge that makes this transformation from traditional agriculture to modern agriculture possible is a form of capital, which may be part of the inputs farmers use or part

¹Organization for Economic Co-Operation and Development - Supply and Demand Prospects for fertilizers in Developing Countries, Development Center for OECD.

²Schultz T.W. Transforming Traditional Agriculture, Yale University 1964.

of their skills.

The implication is that a country that depends on 'traditional agriculture'; that is, farming based upon the kinds of practices and factors of production that have been used by farmers for generations will remain poor, and asserts that transformation of agriculture is dependent on investment in both human and material capital. However, in many countries supply of capital is not usually the problem, the problem is basically determining the forms of investment that will make such investment in agriculture profitable.

In determining the opportunities in agriculture, it is proper to consider which agricultural factors of production are primarily responsible for the large differences in production among countries. In some cases the differences in land quality are of little importance, but differences in quality of production capital are of substantial importance. Differences in capabilities of farm people are the most important factors determining levels of agricultural production. Perhaps this will help to explain the vast differences in agricultural output and productivity in a comparison made earlier between Lesotho and the Orange Free State. The human agent and the differences in level of acquired capabilities of farm people are the key variable in explaining the differences in agricultural production among countries and individuals.

Agricultural development and economic growth in poor countries depends primarily upon availability of factors of production, and the price of modern agricultural factors.¹ The suppliers of the factors of

¹Schultz T.W. -Transforming Traditional Agriculture, Yale University Press 1964

production play a key role in agricultural growth and development, because when they succeed in producing and distributing these factors cheaply, investment in agriculture therefore becomes profitable. Hence, development of institutions that provide credit for financing investment in such factors is critical.

Policy making can be viewed as the outcome of a process of reconciliation of conflict between divergent individual and group interests¹. It is the understanding of consequences more than anything else that is critical to wise public policy decision making.

Bad and inappropriate policy in some countries has resulted in decline in agricultural production, while appropriate and adequate policy measures may lead to a major agrarian success.

Tanzania's agrarian decline during the two decades from the mid-1960s to the mid-1980s provides a near perfect illustration of the cause and effect relationship between inappropriate agricultural policy and poor economic performance². Tanzania's agrarian decline was a result of policy to attempt to impose a socialist framework on the country's rural areas, by replacing the existing patterns of individualized household production with a network of village communities in which land would be collectively held and production collectively organized, by moving farmers to new locations, and its persistent implementation of policies that discouraged agricultural production.

¹Petit Michel- Agricultural Policy Formation in the European Community. Elsevier Science Publishers B.V. The Netherlands, 1987.

²Lofchie Michael F. - The Policy Factor. Agricultural Performance in Kenya and Tanzania. Lynn Rienner Publishers, Inc. 1989. p.108

The government of Tanzania strictly regulates the producer prices of all of the country's major crops. The tendency has been to set prices at levels that have, over time, sharply reduced the purchasing power of farmers incomes. One factor was that imported agricultural inputs almost always were in short supply, and resulted in their being generally obtainable only at highly inflated prices. This is consistent with a belief by some authors that African governments have adopted a set of economic policies that effectively reduce economic rewards to small-scale producers, and increasing the prices they pay for goods they purchase being both production inputs and consumer items. In sum, Tanzania's system of governmentally administered producer prices bears a heavy responsibility for the agrarian crisis.

Kenya on the other hand is an agrarian success story, and demonstrates the opposite of Tanzania's case. Kenya demonstrated very well how policies favorable to the agricultural sector can help stimulate its rapid development. Kenya totally features one of the most advanced and complex agricultural sectors of any independent Sub-Saharan country. Its agricultural GDP grew at a rate of more than 4.5 percent per annum during decades following independence.

Kenya implemented a set of agricultural policies that development experts termed soft options, as well as hard options. One of the soft options was to expand the land area under cultivation in the country's high- and medium-potential regions by purchasing large scale settler farms and distributed them to African small holders. Another approach was the elimination of restrictions on African cash cropping. Prior to this, Africans were forbidden by law to cultivate coffee or tea. A third major

source of agricultural growth was the introduction of scientifically advanced methods of production which dramatically increased production and yields. During the twenty year period from 1955 to 1975 tea and coffee yields doubled, while wheat output also doubled.

The hard options included land policy, pricing policy, exchange rate policy and administering of agricultural parastatals. Under pricing policy, the government maintained a pattern of commodity pricing that provides adequate incentives for agricultural producers. For export crops, the world market prices of coffee and tea are simply passed on to the producers.

In the previous discussion, policy issues have been discussed and without exception, all have been implemented or instituted by respective governments. An appropriate question to ask is why government becomes involved in agricultural programs. The specific reasons for government involvement in agriculture have changed as the nature of the farm problem and the overall political, social, and economic environment change. Some major reasons for government involvement in agriculture are:

1. Low farm income has traditionally been the major justification for programs that support farm prices and incomes,
2. The need to stabilize farm prices,
3. The importance of adequate supply of food, and
4. Protecting the capacity of agriculture to produce in future generations by conserving the soil.

Food and agricultural problem can no longer be specified in simple terms such as low prices and incomes. Instead there are several problems including world food problems, the farm problem, the consumer food problem

and resource problem¹ . The extent of these problems calls for strong coordinated and appropriate government policy.

¹Knutson R.D; Penn J.B; Boehm W.L -Agricultural and Food Policy. Prentice Hall New Jersey, 1983.

CHAPTER V
SELECTED GOVERNMENT PROGRAMS AND INCENTIVES
IN LESOTHO

Lesotho's agricultural sector faces severe constraints and intractable problems of productivity and development. It must be recognized that agriculture is the overwhelmingly dominant activity of the domestic economy, and that the ultimate solution of the country's economic problems lies in its vigorous development. The question of declining agricultural productivity in Lesotho raises a lot of concern both for the government and the policy makers. It is not surprising therefore that the government engaged in many activities whose purpose was to improve and increase agricultural productivity.

Agriculture's low productivity and slow growth are related to a range of ecologic, economic, and cultural factors that are in most cases very complex.

In this chapter, the government's participation in promotional activities for agriculture will be discussed and evaluated.

A. COOPERATIVE CROP PRODUCTION PROGRAM (CCPP)

Government policy has been directed toward increasing availability of non-traditional inputs for producers and toward improving product markets. Initial direct participation in agriculture by the government started in 1976 with the launching of the Cooperative Crop Production Program (CCPP). In this program the government took complete control of management and operation of agricultural activities under the program.

The main objectives of the program were to achieve self-sufficiency

in basic food grains such as wheat and maize, and to stimulate local employment opportunities. The aim was to use improved methods of cultivation by use of tractors and use of fertilizer and improved seed, as well as timely planting of the crops.

Procedure.

The intentions of the government were announced and explained to the farmers whose locations were to be included in the program. The program covered the lowland areas of the country, stretching from north to south. Locations included in the program had to be accessible by road for delivery of inputs and for tractor operations.

All fields were measured. A minimum of 1.5 acres had to be met for a field to be included in the program. Farmers intending to join the program registered their names with the local extension agent and had to sign contract forms between government and individual farmers, which confirmed ownership of the land and stated conditions of sharing of the crop after harvest.

The costs of CCPP operation were entirely borne by the government. The important economic difference between the traditional share-cropping system and CCPP was that neither the landholders nor the cultivator were to lose if the enterprise failed since the full cost of the cropping operations were borne by the government. The farmers contributed virtually nothing except their lands.

The government on the other hand supplied all inputs of seed, fertilizers and tractors for all field operations. Both government and privately owned tractors were used for ploughing discing and planting. If for any reason the crop was a failure, the farmers were guaranteed a

certain amount on a per acre basis. All the risk, all the costs and all the losses were borne entirely by the government. After harvest the crop was divided between the individual farmers and the government.

Under these circumstances then it is understandable that landholders were very keen to have their land included in the program. The farmers realized that substantial incomes could be made without expenditure, risk or commitment of labor. The number of landholders wanting to be included in the scheme greatly exceeded the capacity of the Ministry of Agriculture program.

Funding of the program.

The initial financing of CCPP was from the Deferred Pay Fund in which migrant miners earnings were held until their return home. This was a loan from Lesotho Bank for the initial amount of M1.2 million followed by a second loan of M2.0 million, on the assumption that the scheme would be self-financing thereafter. Self-financing was not realized however, and government appropriations were necessary to finance the losses. Unlike other programs or projects, CCPP did not provide any credit to the farmers, but credit was extended directly to the government.

Evaluation of the program.

Quantitative estimates of CCPP's performance present difficulties because of the virtual absence of proper records. It was estimated by the Ministry of Finance that in the Potato Program 88 percent of the funds invested were lost, in the Sunflower Program 47 percent were lost, in the Teff Program 91 percent were lost.

The operations of CCPP appear to have experienced a lot of technical, institutional and management problems. In the Potato Program, equipment, coordination and timing problems led to the rotting of most of the seed. Lack of storage for both seed and harvested crops, and transportation and commercial deficiencies meant that marketing and not the markets became the bottleneck.

Some of the major problems regarding CCPP were the misallocation of seed and fertilizers and improper and inconsistent measurements of acreage supposedly cultivated by the tractor contractor. But most of all, the apparently inadequate managerial ability of the staff of CCPP led to the program failure.

Even though CCPP was a costly program, participating landholders were able to realize levels of income well above the average of their community. Also, the amount of land put under cultivation increased because even the poor landholders were able to use their lands which they otherwise would not. Increases in area planted and accompanying increases in wheat production were attributed to CCPP in 1976/77 to 1977/78. The winter wheat program proved to be beneficial to the farmers, but the benefits came at high expense to the government.

An economic analysis report of CCPP justified the program by stating that it was not intended to make any profit and the government was expected to make a financial loss as the program had to serve mainly as a demonstration to farmers to show the agricultural potential of their land. However CCPP received a lot of criticism from other organizations and individuals, because the program did everything and nothing was required of the producers. The program ended in 1979.

B. DEVELOPMENT PROJECTS 1973-1983

In many agricultural societies, the availability of producer services is a fundamental problem. The absence of many producer services to farmers has been recognized as a significant reason for the continuing subsistence orientation and low productivity of farmers in many countries including Lesotho. It is common for extension service to teach farmers about the use of fertilizers and improved seed as well as insecticides which are at the same time not available to the farmer. This is one case where extension work becomes meaningless and ineffective. To remedy low agricultural productivity, the government instituted individual area based projects such as the Senqu River Agricultural Extension Project based in the southern part of the country, the Thaba-Bosiu Rural Development Project covering parts of Maseru and Berea districts, Khomo-khoana Rural Development Project in the northern part of the country and the Basic Agricultural Services Project (BASP) which covered a wider area than the other three, for it included the northern districts, central districts and the southern districts of the country.

Funding and administration of the projects.

All of these projects were heavily financed by foreign aid. They were run under isolated and substantially independent management and they had tended to be separated from the general process of the government.

General objectives.

Most of the activities of these projects included provision of credit

to the farmers, procurement of agricultural inputs, setting up of demonstration plots and improving the extension service by hiring more extension staff to cover more farmers. BASP attempted to avoid the unsustainability and isolation of the more conventionally defined projects. It was designed to support a program of improved services to farm producers across the foothills and lowland agricultural areas of the country. Since its inception BASP was clearly a vehicle for enhancing or creating capacity to serve large numbers of farmers with development services designed to increase their commercialization and productivity. The intention was furthermore that this capacity be created on a sustainable basis within the government whose staffing and expertise would be expanded accordingly.

BASP was concerned with physical infrastructure to the extent of 1000 kilometers of feeder roads and warehouses for both farm supplies and produce marketing. It also took charge of institutional infrastructure in areas of improved marketing, credit and extension services to the farmer.

Thaba-Bosiu Project which became effective in 1973 was intended to assist some 12,000 farmers in the lowlands and foothills south and east of Maseru. Some of its main objectives were:

- 1) To quadruple the yield per unit area of maize, sorghum, wheat and beans through provision of fertilizer and seed on credit, and improved extension services and technical assistance to contractors.
- 2) To establish market and input supply points;
- 3) To conduct agricultural research at a sub-station in the project area and;

- 4) To construct feeder roads.

Evaluation of the projects.

The objectives of these area based projects were usually met, but only for a short time when foreign agencies were still in operation. Inputs were brought closer to the farmers, credit was extended and extension agents were provided. In many cases, the projects operated what was called Village Distribution Points, where fertilizers and seeds could be bought within the village or at least within walking distance.

But the biggest problem arose when support of the projects phased out and everything that the project had started and had operated collapsed as the project's funds were pulled out. The repeated experience is that within a short time of the project termination, little remains. In some cases the main remnants are the unpaid debts of those local people who have participated in the credit program and have been unable or unwilling to repay their loans.

However according to a study in the area where Senqu River Agricultural Project was concentrated, 48 households which were surveyed and were considered 'better' farmers by other villagers produced nearly five times the output value, sold nearly 17 times as much and consumed and stored about three times as much as the average of a random sample of ordinary farmers. These results came through the use of better seedbed preparation, more appropriate timing, improved seed, and a combination of fertilizers and pest and disease control practices. A summary of a rural survey of three years findings from Khomo-khoana Rural Development Project stated that contrary to the objectives of the project to encourage

production of cash crops in the area, the proportion of land planted to food crops (maize and sorghum), increased sharply to 65 percent in 1976/77 from 50 percent in 1975/76 and 37 percent in 1974/75. On the other hand the area under cash crops fell to 16 percent from 35 percent in the previous year. This swing was believed to have been due to unavailability of markets.

According to the World Bank report, the project had adequate financial support, recruited a capable international management team, and attracted good local staff. The project established an efficient network of supply points throughout the area, increased the use of inputs, ran an effective credit program and completed its road building program. Fertilizer and seed sales increased substantially during early phases of the project and 75 percent of these were sold for cash. But, of much significance was the failure of inputs to produce the yield increases that had been anticipated.

Low (1986) states that in Lesotho a review of seven separate agricultural development programs between 1953 and 1980 leads to the conclusion that after 20 years of experimentation with intensive area based projects, there is little improvement in production that can be attributed to them.

All in all, the results of most if not all area based projects are visible only as long as the project is in operation. The projects are not designed in such a way that the farmers would continue the activities after the project's termination. The common criticism or reason for discontinued activities after the projects are phased out is that all of these projects are heavily supported by foreign funds which neither the

farmer nor the government can afford to continue. This usually results in closure of input distribution centers, unavailability of credit, as well as tractors for field operations.

C. AGRICULTURAL MARKETING

Food and agricultural marketing means the movement of agricultural products from the farmer to the consumer or processor. There are many important stages through which agricultural produce has to go in order to reach the final destination which is the consumer. The marketing process includes physical handling and transportation, initial processing and packaging to simplify handling and reduce wastage, grading and quality control to simplify sales and transactions and to meet different consumer requirements.

For the farmer, the strategic function of a marketing system is to offer a convenient and economically efficient outlet for his produce. This is vital to the producer especially one who is market oriented because no product should ever be produced unless it has a market, hence marketing begins at the farm. To the consumer of agricultural products, assurance of a steady supply at lowest possible cost is the vital service. Through negotiations in the marketing process, prices are determined that balance the consumer's ability to pay with the farmers's need for an incentive to produce.

Agricultural marketing also includes the marketing of agricultural supplies or inputs to the farmer. Supplies include machinery, fertilizers, pesticides and other chemicals needed in crop production. Through all the stages of marketing, financing is an essential ingredient.

While growing awareness of marketing as a concept and vital element in the economy has occurred, the problems associated with marketing of agricultural products have also been identified. What constitutes an improvement in marketing is not obvious. The area of marketing in many countries is very complex and difficult. It is also very political on international, national and local levels.

One of the questions facing administrators is whether the marketing enterprises should be in private, cooperative, or public ownership. In many countries there is no department specifically responsible for advising on agricultural marketing policy, or for conducting research in this field. Lack of awareness of the importance of marketing is reflected when development strategies do not include consideration of marketing functions. A 1970¹ review of government attitudes toward marketing in Asia showed that agricultural marketing was a field about which most government officials knew very little. Major decisions were often taken without adequate information concerning likely impacts on markets and marketing.

Lack of qualified personnel is a major constraint in marketing development. It is sometimes claimed that with adequate training of people concerned, most improvement problems would solve themselves. Unfortunately in some countries this is not a priority, hence the increase in problems of agricultural marketing.

In order for farmers to produce more to meet first the consumption requirements of a country, incentives are needed to motivate them. How to

¹ Abbott, J.C. - Marketing Improvement in the Developing World: What happens and what we have learned. FAO Marketing and Credit Service. Rome 1986.

provide adequate price incentives for production, yet keep retail prices of essential foods within reach of the poorer consumers is a critical issue facing many developing countries. If an attempt is made to keep down prices paid to farmers, the effect of such a practice is to discourage production by the farmers.

The theoretical role of prices in a fully integrated market economy is well known. First, prices determine the barter terms of trade on which goods, services and resources can be exchanged for each other. Secondly prices of final goods and services determine the profitability of any production process and hence determine producers money income. Prices are therefore a form of communication signals that serve to coordinate market decisions¹. Many governments usually intervene by trying to manipulate prices for specific reasons pertaining to their countries. The methods used also differ according to the type of situation in a particular country or region. Problems of establishing effective markets are aggravated by the substantial proportion of agricultural products that are not traded and the many markets that are extremely fragmented as is the case in Lesotho.

As it might also be expected, the government of Lesotho established marketing enterprises to enable the farmers to have an outlet for their produce. Until 1974 commercial buying and selling of grains and pulses was conducted by licensed private traders. The traders set their own prices without government regulation until 1973 when the government began to set prices for maize and sorghum. In 1975, the Produce Marketing

¹Kohl R; Uhl J.- Marketing of agricultural Products. Macmillan Publishing company. 1985.

Corporation (PMC) a parastatal body, took over the marketing of grains and pulses, and private traders were no longer allowed to trade in these items except as agents for PMC. The primary justification for replacing the private traders by PMC was to protect the farmers. The private traders were accused of purchasing from farmers at prices well below the levels that would have been dictated by competitive markets, and selling back to them at prices above what was necessary to cover the costs of transportation, storage and finance. However analysis had shown that this practice of paying unfair prices was concentrated among a few traders, and that most traded at prices dictated by existing market conditions.

From 1975 on, producer prices were set by the government. PMC was given complete control of marketing of the country's major food crops. It was also the principal agent for fertilizers and other agricultural supplies. The gazetted prices were usually set somewhat above the import parity level with the nearby markets in Republic of South Africa (RSA), but not so high as to encourage illegal imports of lower priced RSA products to be sold at Lesotho's supported prices.

The main objective of that pricing policy was to support and encourage domestic production as much as possible. The policy was further reinforced by the fact that corresponding RSA prices were also set well above world prices.

However the pricing procedure, caused problems for PMC and led to its insolvency as a result of determined prices that were inconsistent with its financial viability because PMC was not given the authority to set prices in a competitive fashion. In view of the corporation's inability to buy the farmers grain output, farmers reverted to an

increasing subsistence stance, and virtually all grain except that grown on government schemes went through informal village marketing channels, which appeared to have responded well.

It was estimated that the non-government wheat crop declined in 1978. The decline was attributed to the fact that wheat is generally marketed commercially and farmers had on the basis of their experience, lost confidence in the ability of the government marketing system to take their crop when they want to sell it and to pay them in some reasonable way. The inability of PMC to purchase farmers crops was a consequence of its inability to acquire the necessary working capital or facilities for grain drying and long term storage. It is evident that the scope for successful price fixing and the intervention of government or parastatal agency such as PMC, in the marketing context of Lesotho was limited at that time.

Because of the failure of past marketing institutions, the government practice has been to directly establish marketing institutions, in many cases with donor support. As a result, there are a number of major marketing institutions established to assure outlet for agricultural commodities. The manner in which these institutions are organized as legal entities and the degree of government involvement vary among them.

Some of the principal marketing institutions dealing with inputs and crop output marketing include:

- 1) Lesotho Flour Mills; Lesotho Maize Mill
- 2) Lesotho Milling Company
- 3) Co-Op Lesotho
- 4) Basotho Cannery
- 5) Agrivet (Private)

These institutions may be considered the formal market for agricultural commodities. Even though they are not all profitable and self-sustaining, they do provide established market outlet for agricultural commodities and input supplies.

Financial failure caused dissolution of PMC. After PMC was dissolved the present Co-Op Lesotho was set up in 1981 as a result of government decision to merge PMC with Co-Op Lesotho. The purpose of the merger was to make more efficient the farm input supply and crop marketing operations.

Initially Co-Op Lesotho had planned to operate 16 commercially viable depots, but by March 1981 it had 38 locations. By March 1983 the number of outlets had grown to 58 and has since declined gradually to 39 depots.

The major activities of Co-Op Lesotho are crop input supply and crop commodity marketing. Roy Wiebe¹ mentions in his evaluation of the input supply system in Lesotho that the lack of working capital, detailed accounting control records, and poorly trained staff are some of the problems facing Co-Op Lesotho. The serious problems raise questions of compatibility combining commercial profitable operations with those of uneconomical remote location with low throughput. It is suggested that a reorganization of the input distribution and commodity marketing be instituted to more efficiently operate these activities. Presently Co - Op Lesotho is still the major distributor of farm inputs and the major buyer of farm produce.

¹ Wiebe, Roy - Lesotho Farm Input Supply System. Ministry of Agriculture, Lesotho. 1987.

D. FERTILIZER PROGRAM

Fertilizers have a key role to play in increasing agricultural production. But conditions exist under which fertilizer consumption can be expected to develop. All of the conditions that will be mentioned below are not sufficient in themselves to bring about a spread in fertilizer use, but each of these conditions is necessary for successful fertilizer promotion.

1. sound economic incentive for farmers to use fertilizer;
2. the availability of agricultural research results and an adequate agricultural extension service to make results known to the farmer;
3. adequate financial credit;
4. availability of fertilizer supplies in the right combinations, at the right place and at the right time.

One factor is paramount for any successful effort to promote the use of fertilizer, and that is the motivation of the farmers to obtain additional income. If the farmers are not motivated by incentives that they can visualize or see, then they might be reluctant to use fertilizer.

The fertilizer Program in Lesotho was initiated in 1969. The first phase of the project consisted of:

1. A large number of demonstrations on farmers fields to determine the right kinds of fertilizer and optimum rates of application.
2. A smaller number of more precise trials also on farmers fields to determine the most efficient fertilizer use.
3. The development of a soil testing service based on the results

obtained in the field and laboratory.

4. Assistance in the training of personnel in the techniques of trials, demonstrations and soil analysis.

The design used in demonstrations was a simple one intended to demonstrate the effect of fertilizers in general and to obtain some information regarding the relative effects of the three major nutrients, N,P,K.

Of the 357 demonstrations planned in 1969/70, 257 were actually set out. But because of the drought that occurred in mid-season, about 80 percent of the demonstrations were lost. Useful results were obtained from only 29 demonstrations with maize and 15 with sorghum.

Working together with the Agricultural Experiment station, the Fertilizer Program staff ran experiments on different crop responses to fertilizers on different soil types.

To date, as mentioned before, fertilizers are broadly adopted in Lesotho and quantity of fertilizer use is increasing (table 15). But the main question is whether fertilizer is being used or applied adequately to attain expected yield from crops.

Table 15: Fertilizer use in Lesotho (1975/76 to 1984/85)

Year	Fertilizer	Nutrients	Nutrient/Ha Planted
	(Tons)		(Kgs)
1975/76	3840	507	1.488
1976/77	5937	1139	5.222
1977/78	7944	1228	5.040
1978/79	6479	1017	4.242
1979/80	9880	1925	8.113
1980/81	9498	1920	7.582
1981/82	9115	1914	7.672
1982/83	8543	2564	10.990
1983/84	11596	2316	12.603
1984/85	10960	2474	8.541

Source: Ministry of Agriculture - Agricultural Situation Report 1986.

The economic incentive for the farmer to use fertilizers will depend on the relation between the price of fertilizer delivered to him, the additional yield that he can obtain from their application, and the additional income that he will get from the production increase¹. The first and the last of these three factors can be directly influenced by governmental action, while yield response depends on a variety of factors such as soils, climate and weather conditions, cultivation practices, crop varieties and other inputs like seeds and pesticides.

The price that the farmer pays for fertilizer is of crucial importance in determining the economic incentive he has to apply fertilizer. Fertilizers have been subsidized for a long period in Lesotho.

¹Organization for Economic Co-Operation and Development. -Supply and Demand Prospects for Fertilizers in Developing Countries. Development Center for OECD p.60

The case for subsidizing fertilizer during the period of introducing fertilizer use is fairly strong for two reasons. First it provides initial incentive to use fertilizer. Secondly, unlike product prices it benefits only those who adopt the new technique hence, limiting program costs. Two issues need to be considered in connection with subsidies, and those are the length of the subsidy period as well as the magnitude of the subsidy itself. Opinion has been raised that the fertilizer subsidy program in Lesotho has extended beyond the fertilizer introductory period and should be removed.

Hesling¹ in his study on rainfall, fertilizer application and crop yield in Lesotho states that farmers in Lesotho are making greater use of fertilizer. He argues that there is a perceived benefit to doing so, and he questions why earlier studies in Lesotho and present day studies all show a high level of explanation of yields from rainfall alone, while the study that he conducted identified fertilizers as a major variable. According to his study there are two major variables affecting crop yields in Lesotho. They are rainfall and fertilizer.

Hesling reported that before the 1960s at least, Basotho farmers relied on basic soil fertility. In the last few years fertilizer utilization has been increasing rapidly. But it is certain that fertilizer is not being applied at anywhere near the level to produce optimal yields.

Leyritz² in his report on fertilizer consumption in Lesotho reported

¹ Hesling, L - Rainfall, Fertilizer Application and Crop Yield in Lesotho. Planning Division Ministry of Agriculture, Maseru 1984.

²Leyritz, M - Report on Fertilizer Consumption in Lesotho. Ministry of Agriculture. Maseru 1979.

that at the national level, fertilizer material consumption in 1977/78 increased by 34 percent over 1976/77 and has increased by 128 percent over the average of the period 1968/69 - 1976/77. Fertilizer sales have been increasing throughout the years.

E. TECHNICAL OPERATIONS UNIT/ FOOD SELF-SUFFICIENCY PROGRAM.

CCPP phased out in 1979, and its functions were taken over by Technical Operations Unit (TOU) under the Food Self-Sufficiency Program (FSSP). TOU started operation in 1980/81. Even though TOU started like CCPP it followed a different approach from that of CCPP later on. As in the case of CCPP designated potential areas were selected for the program.

The purpose of the program was to increase food production in the country. The FSSP was designed to produce maize, sorghum, wheat and beans on 50,000 acres using improved technology consisting of mechanization of farm operations, and use of a recommended package of inputs.

Procedure.

TOU covered all stages of production from procurement of inputs through land preparation to marketing of crops through Co-Op Lesotho. The purpose of the program was to increase food production in the country. One of the conditions for entry into the program was the size of the field. In order for a field to qualify and be included in the program, it had to be 1.5 acres or more.

TOU mobilized farmers into cooperative blocks. In the beginning all operations were performed by TOU. Production loans were negotiated by TOU on behalf of the farmers but remained in the name of TOU.

The farmers were guaranteed a no risk return equal to the average yield experienced under traditional production practices. The program

worked well during 1980/81 but losses were incurred, and increased over the following years. In 1984/85 the program was changed to shift more of the risk to the farmer. TOU involvement was reduced to providing extension service and machinery hire. Co-Op Lesotho was given exclusive right to provide subsidized packages of recommended amount of seed, fertilizer and other inputs. Loans were made directly to farmers and were administered by Lesotho Agricultural Development Bank (LABD).

The Agricultural Bank did not require collateral for any of the loans it extended to the participants in the program. But unlike CCPP, the farmers in FSSP had to bear the full cost of their operations except a fixed amount of subsidy for inputs. If a farmer fails to repay the loan, he will not qualify for a loan from the bank in the following season. But, special arrangement would be made for farmers who were unable to pay back their loans because of crop failure due to natural disasters such as drought or hail.

Lesotho has had direct subsidies in some form for staple crops for several years. Those that applied to the 1986/87 summer crops and 1987/88 winter crops were a subsidy of 30 percent on the cost of fertilizer and a subsidy of M40/acre for TOU input package for maize, wheat, sorghum and beans. These were intended to offer about the same degree of incentive for farmers to use fertilizer. However, for farmers using TOU services, the fertilizer subsidy was part of the subsidy to reduce the price farmers paid for packages that included improved seed, insecticides and mechanized operations.

The farmers participating in the latest TOU program were required to use the minimum input package for each crop which included seed,

fertilizer and insect control chemicals and to utilize discing and planting services of TOU.

Evaluation and participation.

Table 16 reports yield and acreage planted under TOU for maize from 1980/81 to 1985/86.

Table 16: Area Planted, Number of farmers, Production and Yield
Maize, TOU 1980/81 - 1986/87

Year	Area acres	Farmers no.	Prod. tons	Yield (National yield) kg/acre	kg/acre
1980/81	14392	3634	13920	967	774
1981/82	61440	16924	24939	406	608
1982/83	61160	16853	18001	343	601
1983/84	50900	18954	9976	196	573
1984/85	37127	9040	38092	1012	637
1985/86	36167	-	27490	760	611
1986/87	36875	-	30365	823	-

Sources: 1) TOU Reports - Area, No. of farmers, production and yield.

2) Agricultural Situation Report 1986 - national yield.

Table 16 shows that in 1981/82 acreage planted to maize increased rapidly. This was in response to the lucrative conditions provided for participation in the program. But starting in 1984 when a new system started, acreage of maize planted declined from 61440 acres in 1981/82 to 37127 in 1984/85. In 1981/82 the average yield for maize (967) for TOU was above the national average yield for maize (774) and was below the national average for 3 consecutive years, and finally exceeded the national average from 1984/85 to 1985/86. The national average yield for maize shows clearly a downward trend, while TOU yield is variable among

the years.

F. DIRECT INPUT SUBSIDY.

Input subsidies especially in fertilizer have been operational for many years in Lesotho. Overall subsidy applied is a subsidy of 30 percent on the cost of fertilizer, and a subsidy of M40/acre for TOU package.

In many developing countries, fertilizer users represent a fairly small percentage of farmers. One important consideration for the farmer will be the risk element that he has to face. A farmer who decides to use fertilizer runs a higher risk in this respect, because he has to make a cash outlay which his neighbor, who decides against it does not have to make.

In the case of Lesotho, there has not been much of supply response from input (fertilizer) subsidy. Production of staple food has fallen short of expectations and no progress has been made toward reducing dependence on imports. However it is mentioned that the low yields attained are a result of a combination of factors some of which could not be controlled.

A point to make is that some farmers who use a package of inputs including fertilizer, improved seeds and chemicals combined with mechanical operations do realize substantially higher yields than others in the same area despite the lack of rainfall.

G. PRESENT OUTPUT INCENTIVES

Currently the minimum producer prices for maize and wheat paid by the mills in Maseru and Naputsoe are gazetted annually at harvest time. The gazetted producer prices are substantially higher than the producer prices for the same commodities in the RSA.

Lesotho producer prices for maize and wheat are sustainable because the Lesotho prices are at parity with the landed cost of imports at the border. The higher price paid to farmers however does not increase the cost of maize meal or flour to consumers compared with the prices for imported products.

A lower price is gazetted for deliveries to Co-Op Lesotho depots. This price reflects the margin allowed Co-Op Lesotho to cover its costs of handling and transporting the produce to the mills.

The output incentives of higher producer prices are regarded as substantial, and would warrant a greater response from producers. But as is the case even with the input subsidy, there is no evidence in Lesotho to assess the effects of output incentives. Most of the produce is still traded in the informal market. On the other hand there has not been the expected increase in the quantity of grains produced. Low¹ has another opinion concerning producer prices. He suggests that raising producer prices will have no influence on subsistence or deficit-producing households whose production does not enter the market, whereas, raising retail prices can be expected to induce deficit producers to substitute own production for purchased food. He asserts that this implies that consumer subsidies which lower retail food prices are inconsistent with policy of increased food production.

¹Low Allan - Agricultural Development in Southern Africa 1986 p. 157.

Table 17: Comparative Maize Prices - Lesotho and South Africa

1976/77 to 1986/87

Year	Lesotho	South Africa
	(Maloti/ton)	(Rand/ton)*
1976/77	55.00	65.00
1977/78	64.50	73.50
1978/79	72.00	79.95
1979/80	106.00	100.15
1980/81	109.00	118.25
1981/82	133.00	118.25
1982/83	175.00	134.05
1983/84	191.00	167.55
1984/85	229.00	218.55
1985/86	256.85	218.60
1986/87	279.86	240.35

* M1.00 = R1.00

Source: Ministry of Agriculture - Lesotho Agricultural Situation Report 1986.

Table 18: Comparison of Wheat Prices - Lesotho and South Africa

1976/77 to 1986/87

Year	Lesotho	South Africa
	(Maloti/ton)	(Rand/ton)
1976/77	108.14	117.94
1977/78	114.29	117.94
1978/79	123.00	132.09
1979/80	180.00	179.44
1980/81	208.79	208.54
1981/82	258.57	233.16
1982/83	279.61	285.75
1983/84	300.58	265.75
1984/85	330.43	289.03
1985/86	339.00	312.25
1986/87	390.60	347.70

Source: Ministry of Agriculture - Agricultural Situation Report 1986.

CHAPTER VI

A PROPOSED ENHANCED OUTPUT INCENTIVE PROGRAM.

A currently proposed Enhanced Output Incentive Program (EOIP) entails a concept of increasing producer returns as a new strategy for boosting crop production in Lesotho. Unlike the present incentive programs which basically focus on input subsidy and support prices, EOIP would make direct payments to those producers achieving yields above minimum or target yields. Direct payments to those particular farmers will not directly affect the general level of prices for consumers except as they may be affected by changes in the supply and demand balance in informal markets. Given the existing price guarantees and the relationship of these prices to uncontrolled imports, an increase in the general level of price supports is not possible. Increased payment therefore must be a direct payment to producers who are providing higher than average yields. Evidence from the U.S. commodity programs is that direct payment programs are expensive. However if done on a selective basis that applies to only a portion of production, they may not be as expensive.

Potential economic advantages and disadvantages.

This program like others will have advantages and disadvantages.

Advantages:

1. Impact on supply - increased supply will have potential for lower local food prices.
2. Producers will realize rewards for management.
3. Program will identify better management and allow producers the opportunity to expand.

4. The program will require budget expenditures only with positive results.
5. Overall advantage will be increased food production for the country.

Disadvantages.

1. The program may result in displaced small farmers.
2. Widespread use of the program will require an extensive management program by government.
3. Substantial opportunity for misrepresentation and fraud in the system will be a possibility.
4. Need to relate production to individual field. Each field would have to be measured and a normal or expected minimum yield for the field established.
5. Yield must be related to relevant weather conditions each year.
6. Smuggling of produce from farm to farm will possibly occur.

Administration of the program.

The level of budget available for the program is an important factor especially in those years when production is very high and a greater part of the producers are paid. Consideration should be given to the magnitude of the budget to determine whether it can be high enough to stay in manageable limits and government capabilities.

Since the program will be carried out on individual fields, farmers fields will have to be measured. Measuring of fields would not be very difficult since this has been done before in other programs such as TOU. It would have to be determined what a normal yield from a particular field or location would be.

The following is a check list of the things that would have to be done to run the program.

1. Farmers intending to participate should register in advance
2. Fields of participating farmers must be measured
3. Crops eligible to be planted on each field determined
4. The fields would be classified and yield potential established for the crops planted.
5. Harvested yields must be measured for each farmer, and his or her crop entitlement calculated.
6. The eligibility and bonus amount of each farmer certified to the payment agency.
7. Payment of the incentive amount made promptly at time of market delivery.

Potential for crop insurance.

Since the farmers participating in the program will bear all the risk of crop failure whether caused by poor management, inadequate investment in inputs, or climatic conditions, there will certainly be a need to incorporate crop insurance into the whole machinery of the program. Presently crop insurance is not available for farmers in Lesotho. It is anticipated that producers will incur high costs in machinery purchase and inputs in order to attain the high yields, hence it is only proper to provide the means through which high crop risk now existing in Lesotho could be reduced by the introduction of crop insurance to protect the farmers. Moreover, farmers involved in the program will have increased outlay for the crop insurance.

Length of the program.

The duration or length of the program will have to be determined. The length of the program is important to assure the producers of enough time to be able to pay off loans and to also receive positive returns to their investments.

Desirability of a pilot project.

An EOIP direct payment plan will be a new approach in Lesotho. There appears to be little precedent for such a program throughout third world countries generally. Because of this reason risk of failure may be reduced through a pilot project designed to test project potential. The pilot project will serve as a research instrument to determine:

1. Participation by farmers, in terms of numbers and by size of farm.
2. Costs and potential budget exposure for both crop insurance and payments to producers.
3. Cost effectiveness of the program, that is; will the program be profitable to the producers justifying their investment and to the government as well.
4. Impact on local prices to consumers as production is increased, and
5. Potential impacts on the size of the farm.

It may be simpler to manage and implement an input subsidy program than to administer an output incentive program of the kind explained. Input subsidy may cover all crops and all types of farmers including the subsistence farmer, but the output incentive may have a potential for response from the already successful few who own tractors and large holdings of land.

CHAPTER VII
CONCLUDING REMARKS

The policy objectives and targets of the Ministry of Agriculture are clearly reported in every Five Year Development Plan. In every one of them the government has stipulated its desire to place a high priority on increasing agricultural production and to attaining self-sufficiency in staple food crops in the country. An overall policy objective is to substantially reduce the very heavy dependence on imports of food crops into the country.

Crop production data as well as yields for major food crops has indicated that achievement of agricultural productivity targets has never been realized. The failure to achieve increased productivity has persisted despite large lumps of donor and local funds invested in agriculture. Investment in agriculture over the past several years has been enormous, but the returns have fallen far short of expectations. There is therefore due concern regarding justification of the heavy expenditure in agriculture which has resulted in disappointing and negligible returns to such efforts.

Lesotho has a long history of agricultural development support which has had disturbing results. There are many factors contributing to such a state of affairs. One factor that has been observed is that the transition from donor to local self-sustaining development, after donor support has stopped has not occurred. One contributing factor to the lack of continued activity as mentioned before is the heavy financing of the development projects which neither the government nor the farmers can

afford after the external project funds are withdrawn. The design of the projects are such that only temporary effects are realized.

The risks and natural disasters associated with agriculture are some of the major causes of low productivity in Lesotho. It has been mentioned that a high proportion of crop failure in Lesotho is caused by severe drought as most of the agriculture is rain fed. Development of crop production under irrigation may be a possible alternative to alleviate the drought problem.

The failure of many development projects and the riskiness of agriculture in Lesotho has resulted in the negative attitude among farmers regarding the ability of the government to improve their welfare through projects and programs. With the bad experience the farmers have had from development assistance, it becomes a difficult but important task for policy-makers to regain the farmers confidence in government actions concerning agriculture.

Any conceivable method of raising agricultural and food production to make progress toward meeting food needs have to rely on raising yields per hectare. Use of fertilizers among other things combined with other inputs and implementation of proper cultural practices is important. Even though fertilizer has long been adopted in Lesotho, the progress towards increased yields has not been attained. It has been observed by some writers that improper use of fertilizers as a substitute for good crop husbandry makes it impossible to attain expected results. Until such practices are eliminated, fertilizer use will not achieve the expected targets.

Another factor that needs to be considered is that even after the

fertilizer has been subsidized, there are still a lot of farmers who cannot afford to buy it. The subsidy may therefore be beneficial to and be utilized by the more successful, advanced and well established farmers. This portion of the farmers may include full time advanced farm operators and part time farmers who have permanent employment outside agriculture.

The argument that low producer prices have brought about disincentives for food production in developing countries has been suggested by some authors. In the case of Lesotho, substantially high producer prices have been offered farmers and yet production and yields of the major food crops have stagnated despite the comparatively higher prices. Perhaps the thing to look at is the adequacy of the package of incentives offered to farmers.

While implementing agricultural policy, consideration should be given to consumer prices especially in countries such as Lesotho where the majority of the population are members of farm household and a significant proportion of these households produce less than they consume.

Lesotho has had both input subsidy and a product price support policy. Each of these policy alternatives has advantages and disadvantages. The outstanding advantage of subsidizing purchased inputs like fertilizer rather than raising product prices is that the cost of the subsidy program is directly related to the utilization of practices that increase productivity¹. An argument for higher producer prices is that input subsidies are of no use in situations where increases in agricultural productivity come from additions of non-purchasable inputs.

¹Ray, Susanta K; Cummings, Ralph; Herdt, Robert - Policy Planning for Agricultural Development, Westview Press, Boulder Colorado, 1979

Also it is common to find that input prices are administered prices which change only occasionally while product prices may fluctuate with market forces. The price uncertainty will decrease if product prices are stabilized through price support policy.

Another advantage for price supports is that the impact of input price subsidy on different crops cannot be controlled. That is, a subsidy on fertilizer will ensure that more fertilizer is used, but it cannot direct the added fertilizer to a particular crop. With these considerations the weight of the argument seems to fall in favor of product price supports with continued efforts to reduce input costs by obtaining all production and marketing efficiencies.

Agricultural productivity is undoubtedly low in Lesotho. In many cases the low productivity has been linked to the huge migration of men from Lesotho to the South African mines. Wykstra¹ concludes that while on an annual basis surplus of labor exists, for peak period a scarcity prevails and significantly constrains the number of acres that can be effectively cropped, hence labor shortage in Lesotho constrains agricultural output. The implication here is that labor migration should be curtailed as a precondition for increasing agricultural productivity. The author's opinion is that agricultural development should be pursued regardless of the course of migration since what is considered a problem entails a very long and slow process. The withdrawal of labor from the rural areas by migration must be faced, but so must the potential for sustaining and improving agricultural productivity.

¹Wykstra Roland - Farm Labor in Lesotho: Scarcity or Surplus. LASA Discussion Paper No. 5 . Ministry of Agriculture. Lesotho 1978.p.35

As far as labor migration is concerned one might suggest that labor migration should be allowed to continue since the migrants bring more earnings into the country than can be realized in agriculture, and these earnings can be used to offset food production deficits through food imports. Looking at this argument closely , one may realize that the benefits of migration may exceed its costs in a short run, but in the long run the harmful effects of a migratory system on local agriculture will inevitably reverse the ratio of benefits to costs.

The drawbacks of this policy option are beyond just the consideration of agricultural output that is lost because men are away. But other effects attributed to labor migration are the psychological effects on the migrant himself, as a man of two worlds, unable to reconcile the demands of subsistence agriculture at home with those of wage employment abroad. There are social effects on migrants' wives left behind for years to assume the burdens of family, and migrants children growing up without knowing their father. The migrant labor system tends to prevent the acquisition of skills, with the result that the migrants become forever undifferentiated units of unskilled labor¹. Most of all, the political effects of such a policy would be disastrous on public policy in Lesotho in which every decision must refer back to the threat of the potential power of RSA to close her borders and to threaten Lesotho's livelihood. Lesotho has experienced this before and the results were very frightening. The costs of dependency are gradual but real and significant.

¹ Setai Bethuel- The Political Economy of South Africa: The Making of Poverty. The University Press of America Inc. 1979

The next question is, should the government put a total ban on labor migration. In the case of Lesotho, total withdrawal of migrants from South Africa would impose even more problems for Lesotho's economy since at the present time more than 50 percent of Lesotho's GNP comes from migrant earnings. Moreover, Lesotho's capacity to generate income earning opportunities at home is strictly limited and is certainly out of all proportion to the income earning opportunities of continued migration to RSA. Any significant fall in the numbers of men working outside Lesotho would have a big impact on rural incomes.

The opportunity cost in 1977/78 of preventing a migrant from migrating was M1247.00 (Guma reported in JASPA Report 1979). This compares well with results of a survey reported by Plath (1986) in a survey of migrants in Nyakosoba area where migrants interviewed reported that they would not migrate if they can earn M1536.00¹ in Lesotho. The question is how can Lesotho provide the migrants with this kind of remuneration to stop them from going to the mines.

Since the migration problem is a long term issue which cannot be solved within a short period of time, a suggestion would be to tax deferred payments of migrant workers to finance agricultural development projects in Lesotho. The tax money could be used to finance for example, irrigation schemes throughout the country since drought is one of the risk factors in agricultural production in Lesotho.

¹Plath Joel; Holland David; Carvalho Joe - Labor Migration in Southern Africa and Agricultural Development: Some Lessons from Lesotho. The Journal of Developing Areas. Volume 21 No. Jan. 1987.

In view of the complexity of the problem of migration, Lesotho must pursue a policy of maximizing domestic employment in the hope of gradually reducing the outflow of migrant labor.

Lofchie (1989) has pointed out that most African governments have intervened in agricultural sectors in a variety of ways. One of these, by far the most common is direct government regulation of producer prices. Contrary to many governments intentions to protect the small-scale farmers by regulating producer prices, African governments employ their ability to establish control of agricultural pricing to suppress the farm gate prices of agricultural commodities far below levels that would have prevailed if a free market in agricultural commodities had been allowed to operate. Eicher (1982) also argues that there is substantial evidence that agricultural pricing policies have tended to have adverse effects on the gap between rural and urban incomes.

A lack of functioning agricultural marketing agencies in most African countries has been cited as one of the major reasons for the continent's agricultural decline. They are almost universally characterized by waste, inefficiency, mismanagement and corruption. Hence it is vital that improvement be made in management and operation of parastatal marketing agencies to better serve the farmers.

With so little having been achieved regarding agricultural development and productivity, efforts should still be made to find solution to the state of agriculture in Lesotho. Mistakes have been done in the past, and hopefully, much has been learned from past experiences and failures. As more alternatives are sought like the proposed Enhanced Output Incentive Program (if implemented as planned) the hope is that an adequate and

proper package of incentives will stimulate the farm producer to provide for his domestic requirement and to produce more for the market.

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PROGRAMS TO INCREASE AGRICULTURAL PRODUCTIVITY IN LESOTHO

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ABSTRACT

Increasing food production especially the production of the staple food crops, and improving the income of the small farmers have always been primary goals of agricultural development in Lesotho. The major instruments to reach such objectives have been in the form of price incentives, input subsidies as well as introduction of new technology packages.

However for past several years, agricultural output and productivity have both been very low, resulting in importation of large amounts of maize and other food crops.

Investment in agriculture over many years has been enormous with regard to donor financing and local contribution, and yet corresponding results have fallen far short of expectations.

Agricultural development in Lesotho faces a number of problems some of which cannot be controlled. The fundamental problems that have impeded success of the achievement of increased agricultural productivity are related to adverse climatic conditions and improper crop husbandry methods, shortage of labor as a result of labor migration to South African mines, relative returns from farm and off-farm sources, and inefficient and inappropriate technical and financial support to agriculture.

As an encouragement to boost agricultural production and increase crop yields, input subsidy has been applied especially to fertilizer. Also the minimum producer prices for major crops are set by the government and are set higher than producer prices in neighboring South Africa as an

incentive to producers.

Up to this point there has not been any evidence of supply response as a result of incentives mentioned above. Yields for major crops are declining despite the increase in fertilizer consumption which might suggest that inadequate amount of fertilizer is used.

In light of the problems facing agricultural development in Lesotho appropriate incentive packages need to be developed and new strategies and policies be implemented to increase the agricultural productivity.