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211
**Issues of Agricultural Employment
Development in Zimbabwe**

S. Moyo
P. Ngobese

15

① Zimbabwe



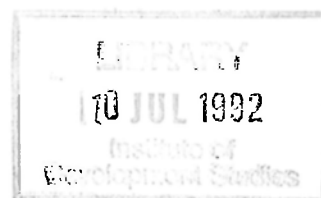
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WORKING PAPER SERIES

Number 15

**ISSUES FOR AGRICULTURAL
EMPLOYMENT DEVELOPMENT IN
ZIMBABWE**

**Sam Moyo
and
Peter Ngobese**



**ZIMBABWE INSTITUTE OF DEVELOPMENT STUDIES
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AUTHORS' NOTE:

This report is a background paper on the ILO-SATEP study on "The Medium and Long-Term Prospects for Economic and Employment Development in Zimbabwe's Agricultural Sector."

LIST OF CONTENTS

LIST OF TABLES	v
TERMS OF REFERENCE	vii

PART I

INTRODUCTION

The Economic Position of Agriculture	1
The Agrarian Question	2
The Agricultural Employment Development Problematique	4
Employment in the Agricultural Sector	6
Employment Patterns and Trends	6
<i>Employment and Incomes</i>	9

PART II

SUB-SECTORAL BACKGROUND ON RESOURCES, OUTPUT AND PRODUCTION PROCESSES

Introduction: Class-Based Commodity Dynamism	12
Resources	13
<i>Land</i>	13
<i>Infrastructure</i>	13
<i>Credit</i>	13
<i>Irrigation</i>	14
<i>Extension</i>	15
Pricing Policy	16
<i>Pricing and Major Crops</i>	17
<i>Conclusion</i>	20
<i>Output Markets</i>	20
<i>Crop Production Volumes and Shares</i>	20
<i>Livestock Output Share and Marketing</i>	25
New Commodity Niches	27
<i>Horticulture</i>	27
<i>Wildlife</i>	28
<i>Beef</i>	28
Summary Prospects for Communal Areas Commodity Production	29

PART III

DEMAND STRUCTURE AND CONSUMPTION

National Incomes and Demand Structure	30
Consumption Projections	32
Export Patterns, Sub-Sectoral Shares and Potential	33

PART IV

THE AGRARIAN PROBLEMS AND RURAL EMPLOYMENT CREATION

The Agricultural Policy Setting	37
Agricultural Investment	39
<i>Fixed-Investment: Long-Term Investment</i>	39
<i>Fixed Investment: Medium-Term Investment</i>	39
<i>Research and Technology Development</i>	40
<i>Infrastructure Development</i>	40
Land Availability in the Communal Areas	40
<i>Communal Households</i>	40
<i>Labour Hire in Communal Areas</i>	41
<i>Labour Time and Bottlenecks</i>	43
<i>Communal Households Incomes</i>	44
<i>Commodity Employment Patterns in Communal Areas</i>	46
Technology and Input Utilizations	47
<i>Fertilizer</i>	47
<i>Agro-Chemicals</i>	48
<i>Draught Power</i>	48
<i>Labour Productivity</i>	48
<i>Costs of Production</i>	49
State Farms as a Complementary Option for Communal Area Development	50
<i>The Rationale for Direct State Participation</i>	50
<i>The Character of State Farm Operation as Infrastructure Development</i>	51
<i>The Strategic Arguments for State Farming</i>	51
<i>Employment in State Farms</i>	51

PART V

CONCLUSIONS AND POLICY OPTIONS FOR EMPLOYMENT DEVELOPMENT

Summary	53
Policy Options for Employment Development	55
<i>Introduction</i>	56
<i>Employment Development Strategy</i>	56
<i>Possible Employment Development Measures</i>	56
Financing Agricultural Employment Development	58
BIBLIOGRAPHY	60

LIST OF TABLES

PART I

Table I.1	Selected Agricultural Sector Indicators (1985-1990)
Table I.2	Location of Agro-Ecological Regions and Recommended Farming Activities
Table I.3	Land Classification by Agro-Ecological Region and by Sector ('000 hectares), 1986
Table I.4	Distribution of Irrigation-Based Farming by Agricultural Sub-Sector in 1981.
Table I.5	Agricultural Employment as a Percentage of Total Workforce (Selected Years 1964-1980)
Table I.6	Agricultural Employees and Earnings (1975-1984)
Table I.7	Total Population Aged 15+ by Type of Area and Current Activity, Zimbabwe 1986.
Table I.8	Permanent and Casual Farm and Forest Employees (1984-1985)
Table I.9	Permanent and Casual Employment Trends 1977-1984 (Based on Agricultural Figures)
Table I.10	Agricultural Workers' Wages and Earnings: 1964-1973 (in dollars per annum)
Table I.11	Agricultural Wage Distribution in 1975
Table I.12	Nominal Wage Increases (1980-1987)
Table I.13	Unemployed Population by Age, Sex, and Level of Education, Zimbabwe (1986)

PART II

Table II.1	AFC Lending by Agricultural Sub-Sector 1980-1986 (No. of Loans)
Table II.2	Value of AFC Lending by Sector (1980-1986)
Table II.3	Distribution of Irrigation-Based Farming by Agricultural Sub-Sector in 1981.
Table II.4	Trading Account for Maize Production
Table II.5	Wheat
Table II.6	Cotton
Table II.7	Groundnuts
Table II.8	Gross Margin Per Labour Day for Three Peasant Crops
Table II.9	Relative Production of Major Crops by Province ('000 tonnes)
Table II.10	Estimated Provincial Area of Groundnuts and Cotton ('000 ha)
Table II.11	Tobacco Production (1980-1985)
Table II.12	Maize Production (1980-1985)
Table II.13	Cotton Production (1980-1985)
Table II.14	LSCF Tea Production (1980-1985)
Table II.15	Zimbabwe's Major Tea Producers and Their Share of Production (1983-1984)
Table II.16	Sugarcane Production (1980-1984)
Table II.17	Wheat Production - Commercial Farms Only (1980-1985)
Table II.18	The Percentage Contribution of Beef Cattle and Other Agricultural Commodities to the Value of Agricultural Primary Production
Table II.19	Number of Livestock Held (1980-1984)
Table II.20	Livestock - Summary of Sales (1980-1985)
Table II.21	Movements of the Maize/Beef Ratio (1980-1986)
Table II.22	Vegetable Seed Exports (1980-1986)
Table II.23	Wildlife Species Carrying Capacity and Commercial Value

PART III

Table III.1	Consumption of Different Items as a Percentage of Average Total Consumption (1985)
Table III.2	Average Total Income in Cash (1985) by Some Socio-Economic Groups (of Heads of Household)
Table III.3	Average Household Consumption of Food (Z\$,1985)
Table III.4	Demand Projections of Major Food Crops by the Year 2000
Table III.5	Agriculture's Share of Total Exports
Table III.6	Growth Rate of Zimbabwe's Major Agricultural Exports (1978-1983)
Table III.7	Projected Real Export Growth Rates for Zimbabwe's Major Agricultural Exports.

PART IV

Table IV.1	Government Budget Expenditures on Agriculture and Rural Infrastructure.
Table IV.2	Government Budget Expenditures on Agriculture and Rural Infrastructure - A Summary
Table IV.3	Stratification of Farmers by Cattle Ownership
Table IV.4	Stratification of Farmers by Implements Ownership
Table IV.5	Distribution of Heads of Households by Age and Sex
Table IV.6	Number of People Hired per Crop Activity
Table IV.7	Percentage of Households with and without Labour Shortage per Survey Area.
Table IV.8	Labour Intensity by Age and Gender (hrs per week)
Table IV.9	Non-Farm Employment of Rural Households in Five Communal Lands, 1982
Table IV.10	Frequency of Distribution of Income Sources for Households in Six Survey Areas
Table IV.11	Importance of Non-Agricultural Enterprise Income in Companion to Other Sources of Income (Selected Districts, Zimbabwe, 1986)
Table IV.12	Percentage of Households Receiving/Giving Remittances
Table IV.13	Number of People Hired per Crop in the Six Surveyed Areas
Table IV.14	Zimbabwe Estimated Fertilizer Crop Usage (1980-1981)
Table IV.15	Zimbabwe Total Chemical Requirements for 1984-1985
Table IV.16	Labour Productivity for Selected Commodities
Table IV.17	Ranking of Commodities on the Basis of Labour Days/Hectare and Output Value per Labour Day
Table IV.18	Ranking of Crops Based on Capital-Labour Ratios
Table IV.19	Ranking of Crops Based on Index of Returns per Dollar of Total Variable Costs Utilized
Table IV.20	Number Employed by ARDA (1980-1987)

PART V

Table V.1	Employment Potential of Various Crop Combinations..
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TERMS OF REFERENCE

This paper reports on the results of a study on employment development in Zimbabwe's agricultural sector as set out in the terms of reference appended.

The specific objectives of the study were as follows:

- To provide an appreciation of the structural determinants of agricultural development and employment trends at various levels.
- To assess the nature and specific dynamics of the sub-sectoral agricultural employment structures.
- To assess the employment potential of the agricultural sector and potential of various agricultural commodities in relation to demand structures and growth, and to their intensities of labour utilization.
- To analyse the development of agricultural technology utilization, capital-labour ratios, and technology investment requirements as these affect the expansion (or decline) of employment and labour productivity.
- To review and critically assess specific agricultural policies and their effects on employment development, to identify and examine current State-driven employment creation activities, and to propose alternative policy options and employment programmes.

PART I

INTRODUCTION

The Economic Position of Agriculture

Agriculture remains the backbone of the Zimbabwean economy, in spite of the atypical relatively developed manufacturing, mining and services sectors by African standards. Table I.1. gives some salient features pertaining to the role of agriculture in Zimbabwe's economy. According to the First Five-Year National Development Plan, the sector's Gross Domestic Product (GDP) share hovers around 15% and overall GDP was expected to grow an average of 5% per annum (see Table I.1.). The share contribution to GDP has fallen over the last few years by approximately four percentage points. Fourteen percent of the Gross Domestic Capital Formation (GDCF) is derived from agriculture. Agricultural exports constitute approximately 34% of total exports, whilst imports comprise 2-3% of the total.

The sector has received around 20% of national public sector investment and is projected to receive the same until 1990. In average terms this represents annual Government allocations (capital investment) of \$176 million.

Meanwhile, overall formal employment in the agricultural sector represents approximately 25% of total formal employment and has declined from 327 000 in 1980 to 277 800 in 1985. Employment in agriculture is expected to increase at an average rate of 2,2% up to 306 800 by 1990. Informal employment by the sector is relatively high, presumably engaging at least 600 000 Communal Area (peasant) households.

Table I.1
SELECTED AGRICULTURAL SECTOR INDICATORS (1985-1990)

	1985	1986	1987	1988	1989	1990
Agriculture GDP Contribution (\$ million at 1985 constant prices)	966	995	1 025	1 056	1 088	1 121
Agriculture GDP % Contribution (% at 1985 constant prices)	15	15	15	15	15	14,9
Average Growth Rate of GDP (at 1985 constant prices)	5	5	5	5	5	-
Average GDCF \$ million (constant 1985 prices)	-	-	-	998,0		
Projected Average GDCF % contribution	-	-	-	14		
Employment ('000 persons)	327	277,8	284,6	290,5	295	301,2
Average Growth Rate of Employment	2,2	2,2	2,2	2,2		
% of employment	25,3	-	-	-	24,7	
Agricultural Sector Exports (\$ million at 1985 constant prices)	714	-	-	-	982	
Agriculture Share of Exports	34,4	-	-	-	33,7	
Public Sector Investment Programme (\$ million 1985 prices - Annual Ave (Cumulative = 880)	-	-	176	176	176	
Agriculture share of PSIP (%)						19,5
Agriculture imports (\$ million at 1985 prices)	60	62	64	66		
Agriculture Share of Imports (%)		2,9	-	-	2,5	

Source: First Five-Year National Development Plan, 1986-1990.

The sector thus provides residence and a service locus for over 70% of Zimbabwe's population (approximately 5,5 million people).

Infrastructure and services are highly underdeveloped in the agricultural sector, particularly with respect to the residential, energy, education, health and other services which affect agricultural workers and peasants. There is scope for an expansion of these social services and this underlies the Government's focus on a growth with equity policy to reduce imbalances between agriculture and the rest of the economy.

The importance of agriculture is underlined by the fact that a large proportion of manufacturing and services (34%) are based on agricultural activities, while the agriculture sector is a major consumer (20%) of manufactured goods and services. Nonetheless, household private domestic consumption of manufactured goods and services in the agricultural sector is low especially in the Communal Areas. Increasingly, however, education and health services, and to a lesser degree farm inputs, constitute a growing proportion of household cash expenditures. Moreover, consumption levels (on food and social services) are below acceptable minimum standards, reflecting the relatively low income levels in Communal Areas compared to urban areas.

The Agrarian Question

The agrarian question in Zimbabwe is principally premised upon the fact that the country has a divergent resource base that is unequally distributed.

Zimbabwe's land area of 39 million hectares is conventionally divided into five agro-ecological regions based on rainfall, temperature and soils, within which broadly defined agricultural activities are recommended as indicated in Table I.2. below.

Table I.2

LOCATION OF AGRO-ECOLOGICAL REGIONS AND RECOMMENDED FARMING ACTIVITIES

Region	Recommended Farming Activities	Area	% Total	Location
I	Specialised & diversified farming including fruit, intensive livestock, tea and coffee	700 000	1,8	Eastern Border
II	Intensive Mixed Farming	5 860 000	15	North-East and Central Mashonaland
III	Semi-Intensive Farming	7 290 000	18,7	Central Midlands
IV	Semi-Intensive Farming	114 770 000	37,8	SW, North & NE Border
V	Extensive Livestock only	104 400 000	26,7	Southern & NW Border

Source: Adopted from Cole, R. 1981.

The country has eight distinct agricultural sub-sectors comprising of:

- Communal Areas (CAs)
- Small-Scale Commercial Farming Areas (SSCF)

- Large-Scale Commercial Farming Areas (LSCF)
- Resettlement Model A Schemes
- Resettlement Model B Schemes (Co-operatives)
- Resettlement Model C Schemes
- Resettlement Model D Schemes
- State Farms

These agricultural sub-sectors are distributed among the five agro-ecological regions as depicted in Table I.3. below.

Table I.3
LAND CLASSIFICATION BY AGRO-ECOLOGICAL REGION AND BY SECTOR ('000 HECTARES), 1986

Region	CA	SSCF	LSCF	RESETTLEMENT*					State Farms	Forestry	National Parks	Total Lands	%
				A,	B,	C,	D,						
I	140	10	415	-	3	6	-	6	70	50	700	1,8	
II	1 270	250	3 765	451	113	0,5	-	1	-	10	5 860	15,0	
III	2 820	540	2 216	947	55	7	-	15	140	550	7 290	18,7	
IV	7 340	520	3 293	695	9	-	-	23	640	2 250	14 770	37,8	
V	4 780	100	3 284	238	-	-	94	34	70	1 840	10 440	26,7	
Total	16 350	1 420	12 973	2 331	180	14	94	79	920	4 700	39 060	100,0	
%	41,8	3,6	33,2	5,97	0,46	0,03	0,24	0,2	3,4	12,0	100		

* Including land purchased but not yet settled.

Source: Adapted from MLARR, 1986.

The LSCF consists of approximately 4 000 farmers, whereas the various Resettlement Schemes have just over 40 000 settler households and there is currently approximately 800 000 Communal Area households of an average family size of six members. There are 25 estates in the State Farm sector.

The main area of concern is the fact that there is unequal access to land in both quantitative and qualitative terms. For example, in 1982 there were 4,3 million people in the CAs (3,9 hectares per person) while the ratio in the LSCF sector was 12,5 ha per person. There is approximately 2 200 hectares per LSCF farm whereas there is, on average, three hectares of arable land available to each peasant in the CAs.

The unequal access to land is compounded by further inequality with respect to the allocation of capital, in the form of credit to the different agricultural sub-sectors. Furthermore, there is a gross underutilization of land (30% and above) within the LSCF sector in contrast to extensive land degradation and marginalization in the CA sector.

Sixty percent of Agricultural Finance Corporation (AFC) loans are lent to the LSCF whereas the CA sector accounts for 25% with the rest taken up by resettlement and SSCF farmers.

The situation with respect to credit is also reflected in the distribution of irrigation-based farming among the various agricultural sectors as shown in Table I.4.

Table I.4
DISTRIBUTION OF IRRIGATION-BASED FARMING BY AGRICULTURAL SUB-SECTOR IN 1981

Agricultural Sub-Sector	Area in Hectares	Percentage
Large Company Estates	30 400	23,4
Commercial Settler Farms	10 500	8,1
Commercial Farm Units	80 000	61,5
ARDA (TILCOR) Estates & Settlers	5 900	4,5
Small-Scale Irrigation in CAs	2 800	2,2
Small Community Irrig. Schemes	400	0,3
TOTAL	130 000	100,0

Source: Whitsun Foundation, 1981.

The qualitative development of land and access to it have thus been restricted to LSCF farmers, while the CAs have, through a variety of discriminatory policies, demographic growth and low levels of technology development, deteriorated. Since independence, marketing, pricing and other narrowly reformist policies (see later chapters) have created some scope for increased CA production, but for a rather limited proportion of CA farmers in a few better-off agro-ecological regions.

For the majority of CAs under present policies and conditions, the agricultural development prospects remain poor. While direct political pressures for further land distribution have apparently waned, and the CA policy lobby remains essentially conservative, the actual material conditions continue to show signs of deterioration in the medium and long term. The agrarian question is thus an arena of serious political struggles in the next 10 to 15 years as simple reproduction of CA households remains uncertain.

The Agricultural Employment Development Problematique

The agricultural employment development prospects of Zimbabwe seem to be predicated essentially on a dynamic resolution of the agrarian question discussed above. In the past the agrarian question was discussed more in terms of land redistribution than related resource re-allocations. The spectre of growing unemployment and limited employment opportunities in urban areas and other "modern" economic sectors as well as the tendency for reduced employment growth in the LSCF, and the restricted base of production gains amongst the peasants since independence, have switched attention and doubt about resolving the unemployment crisis outside of an agricultural framework. The essential question being whether agriculture can carry the national burden of employment generation as may have been expected of a large agrarian economy such as Zimbabwe, and/or whether agriculture can do so within its present

structural configuration.

It is the contention of this paper that agriculture can indeed play a leading role in employment absorption directly and indirectly. As discussed above, over 70% of the population reside and depend on agriculture for incomes and private consumption, and whilst their levels of consumption are pitifully low, the levels of production and productivity in Communal Areas are well below their real potential. This in itself reflects a wide scope for production and incomes development, while at the same time this situation suggests that an overall national economic transformation can be based on transforming the demand structure on the basis of expanded rural incomes and consumption.

As hinted earlier, these low levels of development are not natural but reflect the agrarian question, whereby an inequitable resource distribution (land, infrastructure, finance, extension services, etc.) have constrained the productive capacity of the Communal Areas. It is contended here therefore that a systematic removal of these constraints, over and above what has since been achieved from 1980, is the only strategy that can in the medium to long term (5-15 years) create a stable basis for employment and incomes growth, while at the same time opening the effective demand base for the manufacturing and services sector.

A vital issue in this respect is the need for concentrated investment into the development of the productive capacity of Communal Areas, and related non-agricultural activities there. The LSCF, on the other hand, has veered into a capital-intensive (high-technology) production mode whose net results can only be a pitifully low rate of employment growth (2%) and in absolute terms an overall low quantitative absorption of the growing population which stands at 3% per annum.

Investment in the Communal Areas needs to be viewed in relation to current LSCF potential. In essence, the future development of the LSCF seems to depend on the further allocation of forex and resources to capital investments in production technology with the known consequences on employment growth together with the continuance of subsidies and aid (e.g. beef, horticulture, and dairy farming). The propensity to expand private investment in the LSCF is low because of a technology "trap", leading the sub-sector to continue and increase its reliance on commercial and State farm credit.

The issue of the micro-economic efficiency of the LSCF *vis-a-vis* the peasant sector in terms of resources utilization (forex costs, returns to labour and capital employed) has still not yet been conclusively resolved, even though it is clear that the LSCF has a lead-time advantage in the production of some crops (tobacco of high quality, some horticulture and a few other crops) particularly those which have immediate short-term export (foreign currency-earning) value. In these production fields if and when trade-offs are made between forex and employment development, there is need to consider the exact extent of emphasis on resource allocations to the LSCF *vis-a-vis* the Communal Areas, given the latter's under-utilized capacity for employment.

Given the political and economic uncertainty arising out of the Communal Areas development, and the unequal pace of post-independence Communal Area production growth, there seems *ipso facto* to be the need to address the impending economic crisis there now, rather than later.

The crux of our thesis, therefore, is that agricultural employment development can be realized on a massive scale, through a planned strategy and policies, which for the next

10 years expands drastically the level of investment in Communal Areas - for example through doubling the current level of the Public Sector Investment Programme (PSIP) - for productive infrastructure, irrigation, livestock, resources, research and extension credit and technology delivery, combined with an increased measure of resettlement on to the currently under-utilized LSCF lands, and into new agricultural settlement areas.

As will be discussed later, the underdevelopment in the Communal Areas reflects such potential, and there is scope for increased demand for agricultural products nationally and within the Communal Areas, as well as in the existing potential for the absorption of a growing output from the manufacturing and services sectors, responding to the potential rise in the income base and levels.

This calls for a policy review and the identification of the specific areas of investment in technology, crop development, infrastructure and services to agriculture in general, and particularly to the Communal Areas, in view of the current patterns of production, technology use, employment patterns and the demand structure in terms of constraints and potential.

This study discusses in more detail these issues in the next two chapters and then details the proposals for Communal Areas' development.

Employment in the Agricultural Sector

Employment Patterns and Trends

Table I.5. shows the percentage of the total workforce engaged in agriculture. This shows that there has been a decline of this percentage even though earnings have doubled since 1980.

Table I.5
AGRICULTURAL EMPLOYMENT AS A PERCENTAGE OF TOTAL WORKFORCE (Selected Years 1964-1980)

Year	Agriculture (‘000)	Total Workforce in the Country (‘000)	Percentage
1964	299	736	40,7
1969	307	835	36,8
1974	365	1 040	35,2
1979	335	985	43,0
1980	327	1 010	32,4

Source: Central Statistical Office, Harare.

Table I.6
AGRICULTURE EMPLOYEES AND EARNINGS (1975-1984)

Year	No. of Employees ('000)	Earnings (\$ millions)
1975	346	93
1979	335	138
1980	327	150
1981	294	219
1982	274	252
1983	264	280
1984	276	308

Source: Central Statistical Office, Harare.

In a labour force survey conducted in 1986-87, the following was shown to be the present overall employment picture. The labour force participation rate was found to be 85% in Communal Areas against a rate of 66% in urban areas.

Table I.7
TOTAL POPULATION AGED 15 + BY TYPE OF AREA AND CURRENT ACTIVITY, ZIMBABWE 1986

	Employed	Un- employed	Comm. Farmer	Total	Not in Labour Force	Not stated	Tot.Pop 15 +	LFP Rates	Un emplo- yed Rate
Communal Areas	187 137	40 221	1 585 421	1 812 779	311 795	8 863	2 133 437	85,0	2,2
Urban Areas	722 730	167 133	41 229	931 092	479 001	12 096	1 422 189	65,5	18,0
Other Rural Areas	326 523	26 266	162 835	515 624	188 243	2 661	706 528	73,0	5,1
Total Country	1 236 390	233 620	1 789 485	3 259 495	979 039	23 620	4 262 154	76,5	7,2

Source: 1986 Labour Force Survey (De Jure Approach).

The agricultural sector employed 271 200 people in 1984, of whom 216 013 were employed in the LSCF. Excluding the other two sub-sectors, large-scale commercial agriculture, including forestry and fishing, accounted for 40% of formal sector employment in 1984. At its peak in 1977 there were 297 039 employees on the large-scale commercial farms. Since 1977, large-scale commercial agriculture's share of employment has been falling up until 1982, although there was a slight increase in 1983. In 1984 the share of employment decreased by a total of 529 as compared to the 1983 total and further decreased by 1 243 in 1985.

The provincial breakdown of agricultural permanent workers in the large-scale commercial farms is shown in Table I.8.

Table I.8
PERMANENT AND CASUAL FARM AND FOREST EMPLOYEES 1984-85

	Manica land	Mashona land West	Mashona land East	Mashona land Central	Matabele land North	Matabele land South	Midlands	Masvingo	Total
1984	38 271	60 536	37 597	36 327	4 915	7 205	8 548	22 085	215 484
1985	37 064	61 076	38 724	37 654	4 684	6 614	8 788	19 637	214 241

Source: CSO, Harare.

Over half of the workers on commercial farms are in Mashonaland province, where there is a concentration on large-scale crops which are labour-intensive, such as tobacco and cotton.

The Midlands and Matabeleland provinces employ less due to the relative preponderance of ranching in these areas. It is important to note that, comparatively speaking, ranching is not as labour intensive as crop production. The average for Masvingo province is high due to the concentration of workers on large-scale sugar plantations in the Lowveld. The number of permanent large-scale commercial farm employees is depicted in Table I.9. below.

An analysis of the status of employment in the LSCF shows a tendency to hire casual workers instead of permanent workers (Table I.9). By 1984 casual labour constituted one-third of formal agricultural employment as opposed to less than one-quarter in 1977.

Table I.9
PERMANENT AND CASUAL EMPLOYMENT TRENDS, 1977-1984 (Based on Agricultural Figures)

Year	PERMANENT TOTAL			CASUAL TOTAL		
	Male	Female	Permanent	Male	Female	Casual
1977	215 040	24 295	239 335	14 546	43 158	57 704
1978	210 170	23 765	233 935	11 908	39 686	51 594
1979	205 287	25 236	230 523	14 927	41 375	56 302
1980	181 251	17 017	198 268	20 349	52 674	73 023
1981	181 051	10 379	191 430	19 117	45 320	64 437
1982	158 564	5 480	164 044	18 327	37 857	56 184
1983	149 920	4 818	154 738	21 837	39 438	61 275
1984	146 000	4 213	150 601	24 523	40 366	64 889

Source: CSO, Harare.

Total employment as a whole decreased mainly in the permanent employees category while growth of casual labour was rather slow. This may be a result of shifts in technologies and enterprise.

Employment and Incomes

Wages in the agricultural sector were not regulated by the State before independence. These were very low and did not match the cost of living (see Table I.10).

Table I.10
AGRICULTURAL WORKERS' WAGES AND EARNINGS : 1964-73 (in dollars per annum)

CASH WAGES					
Year	Permanent	Casual	African-hired Contractees	RALSC-hired Contractees	Permanent & Casual Workers
1964	81	48	48	62	44
1965	82	48	50	62	43
1966	84	48	55	62	44
1967	85	48	60	62	42
1968	85	48	64	62	44
1969	85	48	72	62	46
1970	87	48	89	62	44
1971	91	52	96	62	47
1972	99	49	97	78	46
1973	109	50	87	78	49

Source: D.G. Clarke (1974) and CSO (1984)

Permanent agricultural labour wages were \$6,75 per month in 1964 and to \$9,08 a month by 1973 while casual workers on average earned \$4,00 a month (1964) and \$4,16 in 1973. In 1975, 88% of all agricultural workers received a monthly cash wage of less than \$20,00 (Table I.11).

Table I.11
AGRICULTURE WAGE DISTRIBUTION IN 1975

Wage Interval	Numbers	Percent
Under \$10	119 670	46,31
\$10 - \$20	108 960	42,17
\$20 - \$30	17 970	6,95
\$30 - \$40	6 120	2,37
\$40 - \$50	2 340	0,91
\$50 - \$60	1 690	0,65
\$60 and over	1 660	0,65

Source: CSO Wage Distribution of African Employees by Industrial Sector for the Month of June, 1975.

There was a sharp increase in agricultural wages after independence due to minimum wage legislation, which in 1980 fixed the minimum monthly agricultural wages at \$30,00. In addition to allowances for accommodation, transport, lights, and fuel, wages grew progressively as shown in Table I.12.

Table I.12
NOMINAL MINIMUM WAGE INCREASES (1980-1987)

Year	Agricultural Worker Wages	Commerce and Industry Wages
1980	30	70
1981	50	85
1982	50	105
1983	55	115
1984	65	125
1985	75	125
1986	85	158
1987	85	108

Source: Ministry of Labour, Manpower Planning and Social Welfare (compiled from Statutory Instruments).

Due to the introduction of the new wage legislation there was increased mechanization of production. Although the new minimum wage did not represent a large increase in real terms, its introduction, combined with restrictive retrenchment procedures, generated a great deal of resistance from agrarian capital (*Sunday Mail*, 6th July, 1988). Many employees, about 1 041 in 1983 and 399 in 1984, were retrenched.

The process of shrinkage in the agricultural sector workforce had gathered momentum from the late 1970s after the 1974 peak of 365 000 (Table I.5.). The shrinkage in agricultural sector employment, if superimposed on the expansion of educational facilities to cover much of the population, suggests that a higher proportion of the unemployed are in the 15-25 age group as indicated in Table I.13. Thus 58,7% of the unemployed are within the 15-25 age group with 80% of them having had some secondary school level of education.

Table I:13

UNEMPLOYED POPULATION BY AGE, SEX AND LEVEL OF EDUCATION, ZIMBABWE (1986)

	Grade 0	Grade 1 - 6	Grade 7	Form 1 - 3	Form 4	Above Form 4	Total	%
Male								
15-19	0	2 358	3 351	5 814	15 863	197	27 583	24,8
20-24	158	2 887	6 704	5 663	26 150	1 197	42 759	38,6
25-29	151	2 297	7 043	2 888	3 288	602	16 269	14,7
30-34	115	2 072	2 181	2 600	371	165	7 504	6,8
35-44	403	2 929	2 408	1 360	848	87	8 035	7,2
45-59	1 212	3 394	1 725	371	0	371	7 073	6,4
60+	565	816	165	78	0	0	1 624	1,5
TOTAL	2 604	16 753	23 577	18 774	46 520	2 619	110 847	100
Female								
15-19	485	2 661	2 556	6 850	14 064	451	27 067	22,0
20-24	828	5 903	8 532	7 257	16 930	165	39 615	32,3
25-29	2 366	5 474	7 495	4 781	2 033	0	22 149	18,0
30-34	978	4 009	4 390	2 884	701	0	12 962	10,6
35-44	2 877	5 974	3 560	1 232	0	0	13 643	11,1
45-59	1 944	2 623	1 404	520	72	0	6 563	5,3
60+	314	295	0	0	165	0	774	0,7
TOTAL	9 792	29 939	27 937	23 524	33 965	616	122 773	100
Both Sexes								
15-19	485	5 019	5 907	12 664	29 927	648	54 650	23,4
20-24	966	8 790	15 236	12 920	43 080	1 362	82 374	35,3
25-29	2 517	7 771	14 538	7 669	5 321	602	38 418	16,4
30-34	1 093	6 081	6 571	5 484	1 072	165	20 466	8,8
35-44	3 280	8 903	5 968	2 592	848	87	21 678	9,3
45-59	3 156	6 017	3 129	891	72	371	13 636	5,8
60+	879	1 111	165	78	165	0	2 398	1,0
TOTAL	12 396	43 692	51 514	42 298	80 485	3 235	233 620	100

Source: 1986 Labour Force Survey (De Jure Approach).

PART II

SUB-SECTORAL BACKGROUND ON RESOURCES, OUTPUT AND PRODUCTION PROCESSES

Introduction: Class-Based Commodity Dynamism

Political economy would suggest that there is a class basis for the dynamism of certain commodities over others in view of the above considerations. For example, the dynamism of capitalist agriculture contains within it a bias against what may be termed wage-foods and is directed instead towards the production of exportable crops, inputs for industry and luxury foods (Crouch and De Janvry, 1980).

In the context of Zimbabwe it is possible to differentiate commodities according to whether they exhibit the characteristics pertaining to capitalist agriculture or essentially those relegated to peasant production. Capitalist commodities in this set-up would generally have higher growth rates because of the control which capitalists have over the policies which stimulate technological change (*Ibid*). Such control is found in agricultural research which makes efficient production dependent on market-purchased inputs, irrigation and credit.

In this respect, crops with higher market values, such as tobacco, wheat and soyabeans, for instance, are clearly illustrative of this dynamism. Mhunga and rapoko, on the other hand, are "peasant crops" of low market value. Thus the need to be wary of liberal exhortations about the merit of these crops, albeit in a food security context.

Maize in Zimbabwe is a wage-food used in the reproduction of labour and has less dynamism than the more exportable crops. The production of maize is an area where capitalists are divesting out of, whereas peasants on the other hand are expanding.

The First Five-Year National Development Plan ascribes more dynamisms in the CA sub-sector over the capitalist sectors only because of the CA's past performance since independence. The apparent phenomenal growth in the CA sub-sector, however, was due essentially to the sector's produce being incorporated more into the official marketing system, but the commodities it produces, themselves, are certainly not the most dynamic. Maize, sorghum, mhunga and rapoko are cases in point. It is therefore suggested that the growth projections as envisioned in the Plan may not be realised because there has been insufficient cognisance taken of the dynamism of capitalist crops.

There are, of course, structural constraints to the leap-frog increases in peasant production. For example, apart from official marketing, most peasant output increases are accounted for by an expansion of areas of production, to the extent of encroachment on grazing and streambank areas. This expansion is, on the one hand, environmentally unstable and destructive, thus not durable (over a 10-year period), while on the other hand it cuts down the livestock production potential. The possibility of a further 7% increase of crop production in the peasant sector is thus largely limited by the amount of land available.

This structural constraint can only be alleviated by either massive resettlement of peasants in Natural Regions IV and V, or by equally over-investing into maize, at a time when there are surpluses anyway. The encouragement of increased maize production in the peasant sector reduces the capitalist's overall cost of labour, because maize as a

wage-food is produced more efficiently and cheaper by the peasant. In other words, labour would be meeting its own cost of reproduction.

In effect thus, the agrarian question hovers less around land distribution *per se* and more around the social basis of production. The combinations of resources utilized in production, control of markets, access to services and policy influence are therefore important in this respect.

Resources

Land

As already indicated, the land distribution pattern by agricultural sub-sectors is uneven (Table I.3). In this respect, the resettlement programme was put into effect to redress the situation. To date 2,5 million hectares of LSCF land has been transferred into resettlement schemes. This now represents 6% of the total land area of the country.

Infrastructure (Roads, Storage and Marketing Facilities)

Infrastructure like roads and marketing facilities are well developed in the LSCF sub-sector. In effect, the five State marketing boards (Cold Storage Commission - CSC, Dairy Marketing Board - DMB, Cotton Marketing Board - CMB, Grain Marketing Board - GMB, and the Tobacco Marketing Board - TMB) were institutions developed and subsidized by the State to support the LSCF sector and tended to offer peripheral services to the Communal Areas.

Credit

As far as credit is concerned, the Government has facilitated the extension of credit to the CAs only after independence since the Agricultural Finance Corporation (AFC) as a State-owned corporation had until 1978 lent exclusively to the LSCF sector.

Table II.1
AFC LENDING BY AGRICULTURAL SUB-SECTOR, 1980-86 (Number of Loans)

Year	LSCF	SSCF	CA	Resettlement
1980	2 233	4 348	-	-
1981	2 526	3 333	18 000	-
1982	2 103	3 650	30 150	910
1983	1 745	2 929	39 192	4 154
1984	1 332	2 949	50 036	12 897
1985	1 484	2 024	70 600	22 600
1986	1 308	2 074	76 818	13 800

Source: AFC Annual Report.

While the number of loans to both the CA and resettlement sub-sectors has grown tremendously, in value terms the LSCF sub-sector still accounts for a greater share than the other sectors (Table II.1. and Table II.2)

Table II.2
VALUE OF AFC LENDING BY SECTOR, 1980-86

Year	LSCF		SSCF		CA		Resettlement		Total	
	\$mn	%	\$mn	%	\$mn	%	\$mn	%	\$mn	%
1980	75,6	98	1,6	2	-	-	-	-	77,2	100
1981	86,9	92	3,1	3	4,2	4	-	-	94,2	100
1982	88,8	83	4,2	4	10,1	9	0,4	-	107,3	100
1983	87,2	82	4,4	4	13,2	12	1,5	1	106,3	100
1984	110,3	73	8,0	5	23,4	16	8,5	6	150,2	100
1985	111,0	67	2,3	1	28,9	18	22,6	14	164,8	100
1986	113,0	66	2,5	1	42,6	25	13,8	8	171,9	100

Source: AFC Annual Reports.

In 1986/87 the number and value of loans to the CA, the resettlement and to some extent the SSCF sub-sectors was made up of almost entirely short-term loans averaging \$680. The LSCF, on the other hand, borrowed the full range of short, medium and long-term AFC loans averaging \$136 000.

The AFC, by increasing its loan portfolio, has also had to contend with increased transaction costs with respect to loan default and recovery, given the unfavourable weather conditions in three of the last seven years. Default rates are now at least 30-40% for the CA sub-sector. According to AFC regulations, short-term loans are redeemable over only one growing season except in the case of a disastrous season, associated with drought. However, given the precarious financial situation of most CA farmers, short-term credit in drought years has introduced a vicious debt trap.

Irrigation

The access to water for agricultural purposes in Zimbabwe has been closely tied to land, given the fact that the provisions of the Water Act (of 1930, as amended in 1976) call for riparian rights transferable with property. The State has taken an active role in the provision of subsidized water to agriculture, beginning with the Mazowe Dam (1920) and the Kyle Dam (1960), both built for irrigation purposes. The beneficiaries in both cases were private multinational companies.

The settler state introduced the Farm Irrigation Fund in 1966 to subsidize irrigation development in the LSCF sub-sector through concessional interest rates on irrigation development loans. A significant irrigation infrastructure set up in the LSCF sub-sector resulting in the distribution of irrigation-based farming by sub-sector at independence was as indicated earlier (Table I.4). The figures are reproduced in Table II.3. below.

Table II.3

DISTRIBUTION OF IRRIGATION-BASED FARMING BY AGRICULTURAL SUB-SECTOR IN 1981

Agricultural Sub-Sector	Area in hectares	Percentage
Large Company Estates	30 400	23,4
Commercial Settler Farms	10 500	8,1
Commercial Farm Units	80 000	61,5
ARDA (TILCOR) Estates & Settlers	5 900	4,5
Small-Scale Irrigation in CAs	2 800	2,2
Small Community Irrig. Schemes	400	0,3
TOTAL	130 000	100,0

Source: Whitsun Foundation, 1981.

The development of irrigation facilities in the CAs, on the other hand, is a legacy of efforts to develop irrigation in the famine-prone agro-ecological regions IV and V of the Save Valley. These became the precursors to the later TILCOR irrigation schemes. The schemes in the CAs, therefore, have not benefited many of the peasantry. Overall, 3 500 hectares of irrigation had been developed in the CA before independence in 1980.

The resurrection of State financing to irrigation development under the National Farm Irrigation Fund (NFIF) has seen the loans allocated to the LSCF sector oversubscribed whereas those allocated to the CA sector have still to be disbursed. The NFIF is administered by the AFC as a long-term facility repayable over 25 years. Whereas this facility as applicable to the LSCF sub-sector is conditional on the growing of a certain hectareage of wheat, there are none such conditions as it applies to the CA sub-sector, although co-operative and group borrowing is encouraged in this sector. The reluctance of peasant farmers to enter into a long-term debt obligation may rest in part with their experience with dealing with the AFC, particularly with regard to their short-term borrowing. On the other hand, a 30-year debt repayment projection is beyond the life expectancy of the average peasant farmer, the opportunity for borrowing having been presented at the tailend of his productive life. The issue of transferable debt obligations is obviously important here. It remains to be resolved whether private CA irrigation should be emphasized over macro-scale Government irrigation schemes in CAs.

Extension

The LSCF sub-sector has an extension officer for each of its Intensive Conservation Areas (ICAs), giving a ratio of one extension officer to less than 100 large-scale farmers. The extension to farmer ratio in the CAs, on the other hand, is approximately 1:800.

The overall responsibility for providing extension services in all of these sectors lies with the Department of Agricultural, Technical and Extension Services (Agritex) under the Ministry of Lands, Agriculture and Rural Resettlement. Agritex operates through two subdivisions comprising Field and Technical Services. The former division is made up of extension generalists, whereas the latter provides more specialist extension in such subject areas as land use planning, irrigation, conservation, training, animal and crop production under various commodity specialists.

In addition to the State input in extension which has been increasingly directed at the

peasant sector, various private organisations associated with agriculture also provide extension services. Chief among these are the farmer organisations, namely, the Commercial Farmers' Union (CFU), the National Farmers' Association Zimbabwe (NFAZ) and the Zimbabwe National Farmers' Union (ZNFU) representing the LSCF, CA and SSCF sub-sectors respectively. Of these, the CFU is the more highly organised as far as having its commodity associations providing an extension service in addition to acting as a lobby for its constituent members. The CFU also sponsors the Agricultural Research Trust (ART) Farm, experimental results of which are disseminated through its official publication, *The Farmer* magazine.

The agro-chemical companies are another source of extension advice to farmers as they provide back-up technical advisory services in their sales pitch. It is, therefore, not surprising that the extension provided by these parties has an emphasis on "technical packages" that have as their aim increased agro-chemicals usage. Other input suppliers like irrigation and farm machinery companies complement the technical packaging. A good example is the promotion of a computer irrigation scheduling programme geared to large-scale commercial farmers by one of the leading fertilizer companies. An equivalent programme geared towards peasant farmers is the "Kohwa Pakuru" effort whereby Agritex, in conjunction with Ciba-Geigy, promote "appropriate" herbicidal and other chemical usage.

The non-governmental organisations (NGOs) in their developmental programmes are another means of extension, particularly in the CAs and Resettlement Areas. In the latter case technical advice is geared to ensuring that there is a certain control and an accountability for the funding provided by the NGO.

Pricing Policy

The present Government has endeavoured to avoid the trap of a cheap food policy. Incentive producer prices, while necessary, have not, however, been sufficient to guarantee food supplies at all times.

Other factors affecting production, like the water, input supply and marketing infrastructure, have also come into play. Nonetheless, when prices were not high enough, then regardless of the supply of inputs, infrastructure, etc, there has not been adequate production. This has been the painful lesson learned by previous governments which have tried non-economic incentives or coercion to motivate peasant production.

Often governments tax the agriculture sector to shift resources away from rural production to other sectors.

In Zimbabwe, the Commercial Farmers' Union has been able to effectively use its clout to ensure favourable prices for its members. Further, through the Agricultural Marketing Authority (AMA) large-scale commercial farmers have enjoyed a guaranteed market and subsidized production of their commodities. The Zimbabwe Government has had a very supportive policy with regard to the announcement of prices before planting and generally raising producer prices for most crops.

Pricing and Major Crops

MAIZE: Table II.4. shows prices, opening stock, returns and the trading account for maize production. As can be seen, the price per tonne has increased dramatically between 1980/81 and 1986/87. Maize has enjoyed positive returns even if this index has been declining. It can be seen, however, that the negative trading account figures indicate that maize production is heavily subsidized. In response to the higher prices, maize production has increased substantially over the years and black producers are increasingly accounting for a larger share of production. Thus the higher maize prices have a direct beneficial impact on the earning capacity of rural dwellers, farm viability, and employment.

Table II.4
MAIZE

Fiscal Year (1)	Opening Stock (2)	Trading Account	Index of Return per Dollar of Total Variable Cost	Final Price (3)
1980/81	65	-\$ 6 002 615	100,00	85
1981/82	158	-\$20 361 218	114,86	120
1982/83	1 201	-\$43 594 639	90,29	120
1983/84	1 035	-\$16 973 915	80,00	120
1984/85	124	-\$42 617 820	85,71	140
1985/86	465	-\$46 290 996	88,00	180
1986/87	1 426	Not available	71,43	180

Notes:

1. *The Fiscal Year ends on 31st March*
2. *Thousands of tonnes*
3. *Zimbabwe dollars per tonne*

Source: Unless otherwise noted, sources for this and the following tables are: Agricultural Marketing Authority, Economic Review of the Agricultural Industry of Zimbabwe, Harare 1985, AMA, Grain Situation Outlook Report, Harare, 1985-1986; Grain Marketing Board, Report and Accounts, Harare, various years; unpublished CFU data.

WHEAT: This capital-intensive crop has been dominated by large-scale commercial farmers but its output has yet to satisfy the country's demand. Table II.5. shows high returns for the crop thus indicating that the large-scale commercial farmers have been quite successful in extracting Government price support for their crop. Unfortunately, however, few black farmers grow wheat so that the benefits of growing the crop primarily accrue to LSCF farmers.

Table II.5
WHEAT

Fiscal Year	Opening Stock (1)	Trading Account	Index of Return Per Dollar of Total Variable Cost	Final Price (2)
1980/81	176	-\$ 153 658	100,00	135
1981/82	130	-\$ 9 333 762	113,25	165
1982/83	124	-\$12 143 468	104,64	190
1983/84	128	-\$10 184 978	100,66	220
1984/85	77	-\$ 4 439 391	105,30	250
1985/86	61	· \$ 5 832 574	99,34	285
1986/87	103	Not available	84,84	300

Notes:

1. *Thousands of tonnes*
2. *Zimbabwe dollars per tonne*

Source: Above and AMA, Wheat Situation and Outlook Report, Harare, 1985-1986.

COTTON: This crop, which prior to independence was monopolized by whites, is increasingly being produced by black peasant farmers. It is a labour-intensive crop that grows well in all environments. Table II.6. shows that the prices and returns to cotton growing have been quite favourable and about 40% of the crop is produced by peasants. Government support prices and programmes have had a measurable impact on employment and income generation among peasants.

Table II.6
COTTON

Fiscal Year	Trading Account	Index of Return Per Dollar of Total Variable Cost	Final Price (1)
1980/81	\$ 4 063 340	100,00	37,5
1981/82	\$ 949 100	94,63	40,0
1982/83	\$17 837 744	106,04	51,5
1983/84	\$ 4 316 667	95,97	51,5
1984/85	\$56 827 796	89,93	57,0
1985/86	\$14 339 249	86,58	67,0
1986/87	Not available	80,20	75,0

Notes:

1. *Zimbabwe cents penkilogram.*

Source: Above and Cotton Marketing Board, Reports and Accounts, Harare, various years.

GROUNDNUTS: This is another labour-intensive crop that grows under even difficult conditions and is dominated by peasants. However, production has declined primarily as a result of poor prices and low returns as shown in Table II.7. and Table II.8. Generally, groundnut production has proved uncompetitive given the higher prices for maize and cotton. This crop, however, deserves greater attention from Government given its suitability for peasants especially in income generation and improving health and its potential as an export crop.

Table II.7
GROUNDNUTS

Fiscal Year	Trading Account	Index of Return per Dollar of Total Variable cost	Final Price (1)
1980/81	\$327 109	100,00	390
1981/82	-\$458 126	87,94	420
1982/83	-\$631 597	78,89	450
1983/84	-\$107 756	71,36	450
1984/85	-\$232 833	68,34	500
1985/86	-\$365 684	83,42	750
1986/87	Not available	70,35	750

Notes:

1. *Zimbabwe dollars per tonne.*

Source: Above, and AMA, Oilseeds Situation and Outlook Report, Harare, 1985-86.

Table II.8
GROSS MARGIN PER LABOUR DAY FOR THREE PEASANT CROPS

Crop	Gross Margin per Labour Day
Maize	1,18 (2)
Cotton (1)	4,51
Groundnuts	0,47

Notes:

1. *This region supports semi-extensive livestock production and some drought-resistant crops. Forty-five percent of total peasant land is in Natural Region IV.*

2. *Zimbabwe dollars*

Source: J. de Jong, "Extension Techniques in Farm Management," Agritex, Harare, 1983, p.4., p.12 and CSO, Statistical Yearbook 1985 (Harare: Central Statistical Office, 1985), p.135.

Conclusion

The Zimbabwean Government has generally pursued pricing policies that are consistent and supportive of the agriculture sector. In many respects, however, much of this support has been a consequence of effective lobbying on the part of the well-established and historically dominant white farmers. Increasingly, however, black peasant farmers are participating in the production of many crops. However, the Government is caught in a contradictory position since on the one hand it has a historical commitment to heavily subsidize agricultural production, particularly for crops with strong lobbies, and on the other hand there are political demands for a cheap food policy. The result of this contradiction is that the Government is incurring huge subsidiary costs. In the process, however, the Government has managed to avoid a disastrous agricultural policy. Nevertheless, as indicated elsewhere in this report, there is a need to substantially shift the expenditures in agriculture and their implied subsidies in favour of small-scale peasants in Communal Areas. In particular, the pricing policy needs to be buttressed by an expanded State crop marketing diversification programme for Communal Areas, in order to facilitate peasant price responsiveness.

Output Markets

Crop Production Volumes and Shares

The relative production of major crops (maize, sorghum, wheat, groundnuts, soyabeans and cotton) in all agricultural sub-sectors for all provinces (Table II.9) shows the regional concentration of production.

Table II.9
RELATIVE PRODUCTION OF MAJOR CROPS BY PROVINCE ('000 Tonnes)

Province	Maize	Sorghum	Wheat	G. nuts	Soyabeans	Cotton
Manicaland	2	9	17	2	5	12
Mashonaland West	46	57	41	37	52	35
Mashonaland East	19	6	13	48	21	-
Mashonaland Central	29	17	21	9	19	42
Matabeleland North	1	3	4	3	-	-
Matabeleland South	-	-	1	-	-	2
Midlands	2	-	1	1	2	2
Masvingo	1	1	2	-	1	7

Source: Central Statistical Office.

The communal sub-sector has a similar regional complexion in commodity production except that there is, overall, a greater proportion of low-value crops like sorghum, mhunga and rapoko. The production of groundnuts declined in area, whereas that for cotton increased between 1977 and 1985. The estimated communal provincial area grown to groundnuts and cotton is as indicated in Table II.10 below.

Table II.10
ESTIMATED PROVINCIAL AREA OF GROUNDNUTS AND COTTON ('000 ha)

Province	Groundnuts		Cotton	
	1977	1985	1977	1985
Manicaland	44	18	3	7
Mashonaland Central	10	3	5	14
Mashonaland East	20	15	1	4
Mashonaland West	15	7	8	13
Matabeleland North	9	1	0,5	1
Matabeleland South	3	19	0	0
Midlands	80	35	18	103
Masvingo	108	50	0,5	2

Source: Agritex Communal Estimates compiled by CSO from Agritex Second Crop Forecast - 1976/77 data. Agritex Second Crop Forecast Estimates compiled from extension worker listing by J. Stanning and D. Rohrbach (1985) based on 1984/85 data.

N.B.: Although some 1984/85 figures differ substantially from estimates based on surveys conducted by the CSO Zimbabwe National Household Survey Capability Programme, the trends are generally consistent.

TOBACCO : As a major source of the country's foreign exchange earnings, tobacco was, until recently, a preserve of the LSCF sub-sector, particularly with regard to the flue-cured variant of the crop. The communal sector, in this regard, grew almost exclusively burley tobacco.

Table II.11
TOBACCO(Production in Tonnes, Area in Hectares and Yield in kg/ha), 1980-85

YEAR	COMMERCIAL (1)			COMMUNAL (2)			TOTAL		
	Produ- ction	Area	Yield	Produ- ction	Area	Yield	Produ- ction	Area	Yield
1980	119 818	63 703	1 801	231	356	633	120 049	64 068	1 874
1981	69 226	39 393	1 757	195	367	531	69 421	39 760	1 746
1982	88 423	45 552	1 941	774	1 080	717	89 197	46 632	1 913
1983	93 331	46 327	2 015	645	1 400	460	93 976	47 727	1 969
1984	116 157	49 962	2 325	774	1 210	640	116 931	51 172	2 285
1985 (4)	106 557	51 999	2 049	1 190	1 700	700	107 747	53 699	2 006

Notes:

1. *Includes flue-cured and burley tobacco.*
2. *Estimates.*
3. *Only Large-Scale Commercial Farms.*
4. *Provisional data.*

Source: Central Statistical Office.

The SSCF and LSCF farms account for approximately 99% of the total area of tobacco although there is a wide fluctuation in the area grown. The tobacco industry imposes

production quotas as a price support measure. The average yield for tobacco has almost doubled over the last 15 years so that the actual area grown for the crop has actually declined for several years from a peak of 66 000 ha in 1976. There are indications, however, that the area is rising back to this figure. Communal Area yields compare unfavourably with those of the LSCF, reflecting a wide scope for development in this sub-sector.

MAIZE : There has been a doubling of the area grown to maize in the communal sector between 1979 and 1985 with the result that this sub-sector accounted for 81% of the total area planted to maize in 1985. This is in contrast with the fact that the SSCF and LSCF farms accounted for two-thirds of total maize production between 1970 and 1985. The LSCF was actually divesting out of maize even before the Government's disincentive policy measures of 1986 aimed at curtailing production in this sub-sector (Table II.12).

Table II.12
MAIZE (Production in Tonnes, Area in Hectares and Yield in kg/ha, 1980-1985)

YEAR	COMMERCIAL			COMMUNAL (2)			TOTAL		
	Produ- ction	Area	Yield	Produ- ction	Area	Yield	Produ- ction	Area	Yield
1980	910 739	227 733	3 999	600 000	900 000	667	1 510 739	1 127 733	1 340
1981	1 833 395	363 448	5 044	1 000 000	1 000 000	1 000	2 833 395	1 363 448	2 078
1982	1 213 376	316 440	3 835	595 000	1 100 000	595	1 808 376	1 416 440	1 277
1983	624 786	283 880	2 201	285 000	1 050 000	271	909 786	1 333 880	682
1984	678 403	224 586	3 021	454 400	1 136 000	400	1 132 803	1 360 586	813
1985	1 153 000	238 000	4 844	1 558 000	1 018 000	1 394	2 711 000	1 256 000	2 158

Source:: Central Statistical Office

Zimbabwe has had a surplus of maize since the 1970s and the importance of the crop is underscored by the fact that the Government has still found it fit to maintain its consumer subsidies on maize-meal because of the wage-food nature of the commodity (Shopo and Moyo, 1985; Davies, 1987).

COTTON : Cotton is a crop, as mentioned above, in which there has been increased communal sector contribution. Significantly, this contribution has centred around the Gokwe/Sanyati region. As peasant production of cotton increased in area there has been some decrease in area in the SSCF and LSCF sectors' relative contribution, possibly suggesting bottlenecks in these sectors in acquiring labour for harvesting the crop.

Table II.13
COTTON (Production in Tonnes, Area in Hectares and Yield in kg/ha, 1980-1985)

YEAR	COMMERCIAL			COMMUNAL (1)			TOTAL		
	Produ- ction	Area	Yield	Produ- ction	Area	Yield	Produ- ction	Area	Yield
1980	145 533	74 921	1 943	12 000	15 000	800	157 533	89 921	1 752
1981	125 594	6 654	1 901	45 000	59 000	763	170 594	125 054	1 364
1982	107 886	58 014	1 860	27 000	51 000	529	134 886	109 014	1 237
1983	114 021	67 976	1 677	32 500	65 000	500	146 521	132 976	1 102
1984	151 746	80 155	1 893	70 000	100 000	700	221 746	180 155	1 231
1985	164 186	79 658	2 061	110 000	130 000	846	274 186	209 658	1 308

1. *Estimates.*

Source: Central Statistical Office.

TEA AND SUGARCANE : Tea and sugarcane represent crops grown entirely by transnational corporations (TNCs) with the peasant contribution only being as an outgrower element, in "plantation economy enclaves" where the TNCs process these commodities. There is also a significant issue revolving around the consumption of these commodities and the inelastic nature of their demand in both domestic and export markets. Their nutritional value combined is small, although sugar on its own has wider dietary ramifications.

The production and area grown to tea and sugar-cane are depicted in Tables II.14., II.15. and II.16. which show an increase in both production and area grown. For example, tea production has trebled over its 1970 levels.

Table II.14
LSCF TEA PRODUCTION (1980-1984)

TEA (made or black)			
Year	Production (kg)	Area (ha)	Yield (kg/ha)
1980	9 661	4 143	2 332
1981	9 916	4 247	2 335
1982	10 602	4 423	2 397
1983	10 551	4 476	2 357
1984	11 807	4 447	2 655

1. *Provisional data.*

Source: CSO.

The largest producers of tea with their share of production for the years 1983 and 1984 are shown in the Table II.15 below:

Table II.15

ZIMBAMBWE'S MAJOR TEA PRODUCERS AND THEIR SHARE OF PRODUCTION (1983-1984)

Name of Company	1983	1984	Share Percentage 1984
	Tonnage	Tonnage	
*Tanganda	4 832	5 775	58%
Eastern Highlands	2 145	2 086	17%
*Southdown	1 877	1 932	16%
Aberfoyle	1 557	1 642	14%
ARDA Katiyo	600	659	5%
TOTAL	11 011	12 094	100%

Notes: *Figures for Tanganda and Southdown include outgrowers.

Source: Zimbabwe Tea Growers' Association; Financial Gazette, 1985.

Table 11.16

SUGARCANE PRODUCTION (1980-1984)

Year	kg	ha	kg/ha
1980	2 528 000	24 515	103,1
1981	3 551 000	34 146	103,9
1982	3 587 000	31 547	113,7
1983	3 438 000	3 033	104,1
1984 (1)	3 459 000	33 048	104,7

1) Provisional data.

Source: Central Statistical Office.

The country produces 450 000 tonnes of sugar of which 250 000 tonnes is exported and 200 000 tonnes retained for domestic consumption. The single largest producer of sugarcane is Triangle which has 13 000 hectares under cane.

WHEAT : Wheat is one of the few crops in which the country is not self-sufficient and whose expansion presents a problem. Wheat is a capital-intensive crop and if grown on a dryland basis calls for extensive cultivation (as witnessed by the Prairies of North America, the Pampas of Argentina and the outbacks of Australia). However, the crop is grown under irrigation in Zimbabwe and as such is conditional on an established irrigation infrastructure. Therefore, the area grown is dependent both on the capital invested in irrigation and combine harvesting, together with annual rainfall (Table II.17).

Table II.17
WHEAT(Production in Tonnes, Area in Hectares and Yield in kg/ha-Commercial Farms Only, 1980-1985)

	Production	Area	Yield
1980	154 933	36 556	4 749
1981	183 516	36 845	4 981
1982	191 880	37 378	5 134
1983	110 990	21 547	5 151
1984	83 807	16 891	4 962
1985	199 041	38 000	5 238

Notes:

1. Only large-scale commercial farms

2. Provisional data.

Source: Central Statistical Office.

Livestock Output Share and Marketing

Given the fact that as much as 80% of Zimbabwe's land area is considered marginal for dryland crop production, livestock offer greater potential for an increased share in agricultural production. In addition, Government has got more land on offer for resettlement in the livestock-producing regions. The proposed Model D form of resettlement based on livestock production would, therefore, be seen as an attempt to resolve the issue.

At present, the contribution of beef cattle, for instance, to the total value of agricultural primary production has declined from as much as 27% in the early 1970s to 20% in 1985 as indicated in Table II.18 below.

Table II.18
THE PERCENTAGE CONTRIBUTION OF BEEF CATTLE AND OTHER AGRICULTURAL COMMODITIES TO THE TOTAL VALUE OF AGRICULTURAL PRIMARY PRODUCTION

Calendar Year	Beef (1)	Tobacco	Maize	Sugar	Cotton	Dairy Produce	Other	Total Production	Gross Output (Const. Prices)
1980	23	25	8	9	14	7	14	100	100,0
1981	18	20	14	15	14	6	13	100	107,5
1982(2)	18	16	30	10	10	7	9	100	108,6
1983(2)	10	20	22	10	10	7	12	100	94,7
1984(2)	22	25	10	13	11	8	11	100	103,1
1985	20	26	14	12	14	8	6	100	N/A
1986(3)	13	34	9	12	14	8	10	100	N/A

Notes:

(1) Relates to cattle slaughtering only

(2) Drought season

(3) January to June contribution.

Source: Central Statistical Office.

Although the CA sub-sector holds 58% of the national herd of cattle, 55% of the sheep, 30% of the pigs and 95% of the goats, its share of livestock sales including milk and butterfat is only 5% (see Table II.19 and Table II.20).

Table II.19
NUMBER OF LIVESTOCK HEAD (In '000 Head, 1980-1984)

YEAR	CATTLE			SHEEP			PIGS			GOATS		
	LSCF	CA	TOTAL	LSCF	CA	TOTAL	LSCF	CA	TOTAL	LSCF	CA	TOTAL
1980	2 410	2 869	5 279	173	214	387	93	39	132	47	935	982
1981	2 391	2 895	5 286	172	297	469	99	84	183	40	1 203	1 243
1982	2 400	3 240	5 640	152	247	399	106	76	182	41	858	899
1983	2 358	3 105	5 463	154	241	395	105	74	179	47	1 013	1 060
1984	2 231	3 087	5 318	164	260	424	81	94	175	62	1 409	1 471

Source: Central Statistical Office.

Table II.20
LIVESTOCK (1) SUMMARY OF SALES (Z\$ Million), 1980-1985

Year	Communal	Commercial	Total
1980	5,2	115,5	120,7
1981	7,6	124,8	132,4
1982	8,1	195,1	203,2
1983	8,7	209,5	218,2
1984	12,5	230,8	243,3
1985	12,7	229,5	242,2

Notes:

(1) Includes value of milk and butterfat.

Source: Central Statistical Office.

The 5% share of livestock sales by the CA sub-sector, however, belies the fact that sales are increasing, particularly in view of the fact that the CSC is now accepting goat meat in its outlets. The numbers of livestock, except goats, are declining in the LSCF and SSCF sub-sectors whereas they are increasing in the CA sub-sector. The decline in cattle numbers for the LSCF sub-sector, in particular, has generally been associated with security, drought and the overall profitability of beef production. The maize/beef price ratio has often been used as a measure of beef production profitability, especially with regard to pen fattening. These ratios have been used as the basis for beef producer pricing and have, thus, been affected by the higher producer price of maize since independence. The movements in the maize/beef price ratios since independence are shown in Table II.21 below.

Table II.21
MOVEMENTS OF THE MAIZE/BEEF RATIO: 1980-1986

Year	Maize (1) Price (\$/t)	Beef (2) Price (c/kg)	Maize/Beef Price Ratio
1980	85,00	81,11	1 : 9,5
1981	120,00	102,13	1 : 8,5
1982	120,00	129,19	1 : 10,8
1983	120,00	130,42	1 : 10,9
1984	140,00	148,07	1 : 10,6
1985	180,00	151,42	1 : 8,4
1986*	180,00	172,55	1 : 9,6

*Estimate

Notes :

(1) The final producer prices of Class A grain maize.

(2) The Cold Storage Commission's average beef producer price for the year.

N.B. These figures also reflect changes in the grading pattern of slaughterings.

Source: Grain Marketing Board and Cold Storage Commission.

The general shortage of beef has led to a 30% increase in the consumption of poultry meat with a concurrent rise in broiler breeding stocks of the same magnitude since 1980.

New Commodity Niches

Horticulture

During the current season, the LSCF is estimated to have grown 3 000 tonnes of flowers and between 1 000 and 1 500 tonnes of fruit and vegetables (*Financial Gazette*, 1988). The production figures, worth over \$30 million, were three times more than the previous season. This growth was essentially due to the expansion of export markets to Europe. Horticulture on this scale is a new field of endeavour for the LSCF.

Horticulture is also one area showing great growth potential with the value of export roses alone, for example, being expected to be as much as \$200 million annually in the future. Flowers are, thus, expected to become a significant foreign exchange earner that could rival tobacco. Another source of growth in horticultural exports is with respect to seed. Table II.22 shows the vegetable seed exports from 1980-86.

The expansion of horticulture, though, is dependent on the timeliness and cost of delivery of this produce to Europe. The delivery is through air freight which has been and may continue to need to be subsidized in order to maintain the viability of the State cargo airline. The dynamism of these crops, therefore, hinges on a measure of protection, with its big selling points being its potential foreign exchange earnings and employment generation. It is argued, for example, that horticultural production has the potential to employ as much as eight times the labour for a crop such as maize.

Table II.22
VEGETABLE SEED EXPORTS (1980-1986)

Year	Quantity (kg)	Value(\$)	Unit Price (\$)	Comments
1980	6 000 206	176 153	0,293	vegetables only
1981	490 411	256 237	0,522	"
1982	80 235	63 457	0,79	"
1983	76 323	83 267	3,473	"
1984	165 134	154 775	0,937	"
1985	1 244 374	1 098 300	0,88	includes fruits and others
1986	1 978 673	2 686 537	1,35	"

Source: Central Statistical Office

Wildlife

Wildlife production is another source of growth and diversification for the LSCF sub-sector. There are also significant foreign exchange earnings with the crocodile industry, for example, generating at least US\$1 million a year. The number of crocodiles killed and sold in this regard could be as high as 10 000 (*Financial Gazette*, 1986).

On the other hand, heavy leather obtained from elephant has had prices increasing from \$2,75/kg in 1982/83 to \$4,65/kg in 1985/86 and \$9,00/kg in 1987/88. Ninety-five percent of elephant hide is pre-tanned and exported. Thus export earnings had risen to US\$12 million by 1985 (*Financial Gazette*, 1988).

The commercial value of other game species, together with their average mass and carrying capacities, is shown in Table II.23.

The carrying capacity for wildlife suggests that one would need to have reasonably large tracts of land to engage in wildlife production, i.e. extensive land utilization!

Beef

Zimbabwe has again resumed limited beef exports to the EEC under the Lome Convention in order to maintain its quota that has been increased to 9 100 tonnes annually.

Thus a new beef producer price has been designed to make pen fattening of cattle more profitable in order to meet the export quota. Pen fattening is mostly carried out in the high rainfall farming areas where it is possible to feed grain to cattle. This produces a higher quality red meat which is competitive on the European markets.

On the other hand, beef would seem to hold possibilities for modernizing production in the CAs as witnessed by the implementation of various grazing schemes around the country. By rationalizing land use in these areas it is hoped that there would be increased animal production which in effect would be an intensification of the whole production system. Beef also holds possibilities for more investment in those regions outside the major crop-growing areas. Investment in the form of fencing, boreholes and diptanks would be required on a massive scale in these regions. The basis of development, for

example, would be the Model D resettlement rationale.

Table II.23

WILDLIFE SPECIES' CARRYING CAPACITY AND COMMERCIAL VALUE (TROPHY FEE PLUS MEAT VALUE NUMBER)

Species	Average Mass (kg)	LU Equivalent	Carrying Capacity per LU	1987 Value (\$)
Buffalo	450	0,92	1,1	1 425,00
Bushbuck	30	0,12	8,2	260,00
Duiker	10	0,05	18,3	46,00
Eland	340	0,75	1,3	1 294,00
Giraffe	750	1,35	0,7	1 445,00
Impala	40	0,15	6,6	115,00
Kudu	136	0,38	2,7	774,00
Reedbuck	40	0,15	6,6	310,00
Sable	185	0,47	2,1	1 000,00
Steenbok	10	0,05	18,8	40,00
Tsessebe	90	0,28	3,6	735,00
Warthog	45	0,16	6,1	124,00
Waterbuck	160	0,45	2,4	690,00
Wildbeest	123	0,35	2,9	540,00
Zebra	200	0,5	2,0	649,00

Notes:

1 LU = 500 kg Steer

Source: Department of National Parks and Wildlife Management.

Summary Prospects for Communal Area Commodity Production

The CA production base is not going to diversify out of the low-valued commodities unless there is significant irrigation investment in this sub-sector as evidenced by the growth and development that has flowed from irrigation in the LSCF sector. Since 1980, 534 hectares of land for irrigation has been developed in the CA at a cost of \$5,82 million. This has worked out at an average price of \$10 000 per hectare and in effect only 67 hectares per year has been developed so far. Treasury allocation for CA irrigation development in the present plan period amounts to \$31 million which contrasts with LSCF spending on irrigation development of \$21 million in the last three years alone.

PART III
DEMAND STRUCTURE AND CONSUMPTION

National Incomes and Demand Structure

Results of the Income, Consumption and Expenditure Survey of 1984/85 indicate that on average 40% of consumption expenditure in Zimbabwe is on food (Table III.1).

Table III.1.
CONSUMPTION OF DIFFERENT ITEMS AS A PERCENTAGE OF AVERAGE TOTAL CONSUMPTION, 1985

	High- Income Group 1978	Low- Income Group 1981	Expendi- tures	Zimbabwe	Urban & S-urb	Communal Lands	Urban LDS*
Foodstuffs	20,5	54,9	33	40	32	52	17
Drinks, tobacco	5,4	5,4	(2)	(2)	(3)	(1)	(2)
Clothing &Footwear	7,2	6,6	16	13	14	11	15
Rent, Fuel, Light	22,7	18,4	11	16	18	14	15
Household stores	7,1	4,6	10	8	9	7	2
Transport	11,7	4,7	6	5	6	3	11
Domestic Staff	6,1	0	0	(0)	(0)	(0)	(0)
Miscellaneous	19,3	5,4	22	16	18	12	38
TOTAL	100,0	100,0	100,0	100,0	100,0	100,0	100,0

*LDS = *Low-Density Suburb*

Source: CSO; *Income, Consumption and Expenditure Survey (ICES) 1984/85.*

The average household total income on the other hand was just over \$3 000 annually (see Table III.2 below).

This consumption picture may be explained by factors behind the demand for agricultural products. Firstly, demography and market segmentation have a bearing on consumption through the dichotomy of urban and rural consumption patterns. The variability in the level of consumption of own production in the rural areas, for example, is associated with the weather, with peasants having to purchase most of their agricultural product requirements during drought periods.

Household size also has a bearing, particularly in rural areas, on joint production and consumption. However, with increased monetization, absolute self-sufficiency in agricultural products in the CAs has declined. Also at issue is inter-household competition for agricultural products and in the case of food such competition is well noted in studies on malnutrition within households.

Table III.2
AVERAGE TOTAL INCOME IN CASH (1985) BY SOME SOCIO-ECONOMIC GROUPS (OF HEADS OF HOUSEHOLD)

Type of Household	Number of Households	% of all Households	Average Household Income (Z\$)
Urban High-Income Households	237 000	14	10 100
Urban Low-Income Households	213 000	13	3 240
Communal Lands Agric. Households	458 000	27	1 410
Communal Lands Employees	56 000	3	3 660
Commercial Agric. Farm Owners	14 000	1	3 660
Commercial Agric. Farm Workers	209 000	12	1 600
Other Households	468 000	28	1 870
Not Classified	25 000	2	N/A
All Households	1 680 000	100	3 157

Source: CSO; ICES 1984/85.

Table III.3
AVERAGE HOUSEHOLD CONSUMPTION OF FOOD, 1985 (Z\$)

	Communal Lands	LSCF	Resettlement Areas	SSCF	Urban & Semi-Urban	Total
Cereals, Bread	216	177	238	283	262	226
Meat	171	108	198	276	340	219
Fish	15	33	16	14	15	18
Milk products, eggs	75	40	94	235	146	96
Oil and Fat	41	37	49	63	66	49
Vegetables, fruits and potatoes	190	76	203	314	157	163
Others	35	24	37	43	37	55
Total per Household	743	495	835	1 028	1 023	826
Total per person	120	100	170	210	250	180

Source: CSO. ICES 1984/85.

In cases where purchased agricultural products constitute the greater proportion of consumption, the role of consumer subsidies has often been seen as fuelling demand. Subsidies, as an income transfer for the purchase of basic agricultural products, are supposed to mitigate the growth in the price range of agricultural goods. Subsidies have also taken the form of Government payments to industries processing basic agricultural products to cover operating losses associated with controlled prices. This ensured the survival of agro-processing firms as well as sustaining industrial demand for certain agricultural commodities by firms involved in grain milling and parastatal agencies involved in, say, beef and dairy processing: the Cold Storage Commission and the Dairy Marketing Board. It is not surprising then that the demand for these commodities has generally been high.

Consumption Projections

There are several approaches to projecting demand into the future. These include econometric modelling, the nutrient and energy requirements and the probability approach. In econometric modelling, for example, the theoretical basis is deterministic consumer demand emanating from individual choice behaviour. The nutrient and energy requirement approach, on the other hand, seeks to ascertain the minimum survival needs of the consumers. The probability approach, however, seeks to arrive at a most likely demand structure at the expense of both sophisticated econometric modelling and the bare minimum requirements suggested by the nutrient and energy approach.

There have been few econometric demand studies of agricultural products in Zimbabwe. Part of the reason has been that there has been no updated Food Balance Sheet. Food Balance Sheets have only recently been undertaken but only for a year or two.

The supply-managed nature of demand in Zimbabwe suggests that demand for some controlled agricultural products is suppressed. Thus, the consumption figures that may conceivably be used in analysis would be an underestimate. This measure of error is compounded when demand systems of agricultural products as opposed to individual product demand are considered. The incorporation of bargaining and decision rules to take into account the suppressed demand further complicates econometric modelling of aggregate agricultural products demand.

Most of the demand projections in Zimbabwe have, thus, tended to be based on per capita nutrient and energy requirements and population projection criteria. Such are the works of Bates (1975), the Chavunduka Commission (1982), Murphy (1985) and Masanzu (1986). Although this method may be a reasonable approximation as far as food crops are concerned, it fails to account for non-food agricultural demand. Furthermore, the effective demand does not follow nutrient or energy criteria and the fact that there is a diversity in nutrient sources makes it difficult to ascribe this to discrete or particular consumption baskets of agricultural goods. The revealed incompatibility of nutritional standards with market prices of agricultural products, for example, suggests that although demand theory has attempted to incorporate the characteristics of goods into its framework, some of these seem unlikely to be objectively measured. As regards taste, it is apparent that foodstuffs that are more processed for better taste or appearance, for instance, cost more than their primitive, though more nutritious equivalents. Therefore, attempts at demand projection based on nutrient criteria fail to take into account the role of price and substitution possibilities. For example, according to the nutrient approach, the following were the demand projections for the major food crops envisaged by the year 2000, based on a population projection of 13,66 million people.

In the final analysis, the nutrient approach is essentially population driven and in this respect it is valid insofar as incomes don't vary greatly within the projected period. However, work by the Food and Agriculture Organisation (FAO) in Zimbabwe indicates that whilst the consumption wage, which is the agricultural wage deflated by the Consumer Price Index, rose by 2,9% for the period 1970 to 1980 it rose dramatically by 14,2% for the period 1980 to 1984.

Table III.4
DEMAND PROJECTIONS OF MAJOR FOOD CROPS BY YEAR 2000 (Estimated Population
13 660 000)

Crop	Quantity (Tonnes)
Maize	1 366 000
Wheat	409 800
Sorghum	40 980
Coffee	9 288
Edible Groundnuts	24 098
Soyabeans	136 600
Beef	136 600
Milk Products	327,84 million litres

Source: Murphy, 1985.

It would be more circumspect, then, that demand projections be based on a range of profitability to take into account the lack of econometric modelling and the inadequacy of the nutrient approach outlined above. This is particularly important with respect to the policy implications of demand projections. The magnitude of error in investment decisions based on such projections would, thus, prove to be large. For example, it has been the case that major irrigation development decisions based on demand projections have contributed to the oversupply of certain agricultural products.

Export Patterns, Sub-Sectoral Shares and Potential

In contrast to demand, there have been more studies of supply of agricultural products with an emphasis on the price responsiveness of agricultural production. The work of Masanzu (1981), Muir (1984), Nziramasanga (1984), Laag (1985) and Kutoka (1988) are examples of this sort of emphasis. The crops covered have tended to be the ones grown largely by the LSCF sector although Kutoka's (1988) work dealt with cotton in the CA sector. In general, peasant producers' output has often been assumed not to respond to a change in the price of output because of geographic isolation, their low degree of monetization and the hindrance of custom (Ghai and Smith, 1987). However, Kutoka's (1988) work proves that peasant producers in Zimbabwe, in conformity with the LSCF producers, are increasingly becoming commercialized. In this respect one would expect more production by both sectors towards the export market. Responsiveness in the Communal Areas, as shown by provincial production patterns earlier, is geographically concentrated around agro-ecology and infrastructure.

Although agriculture's share of total exports dropped slightly at current prices in the period 1965-1984 (see Table III.5.), the actual volume of agricultural exports doubled; from 1980 to 1983 (see also Table III.6).

Table III.5
AGRICULTURE'S SHARE OF TOTAL EXPORTS (at Current Prices)

	1965	1970	1975	1979	1980	1984
Agriculture	41,2	34,2	44,9	36,3	32,6	39,5
Metals/Minerals	22,7	42,4	32,7	40,2	41,3	36,8
General Manufacture	22,4	16,8	14,4	10,1	8,7	7,3
Gold	4,2	4,2	6,3	9,3	12,7	11,4
Migrants' Effects	0,0	0,0	0,0	3,6	4,1	3,4
Re-Exports	9,5	2,3	1,7	0,5	0,5	1,6
TOTAL%	100,0	100,0	100,0	100,0	100,0	100,0

Source: World Bank Staff Estimates.

Before the mid-1980s' slump in real prices for primary commodities, the growth rates of Zimbabwe's agricultural exports were as follows:

TABLE III.6
GROWTH RATE OF ZIMBABWE'S MAJOR AGRICULTURAL EXPORTS (1978-1983)

Commodity	Growth Rate per Annum (%)
Tobacco	4,4
Sugar (raw and refined)	8,2
Maize	-0,6
Tea	1,6
Coffee	7,4
Meat	-13,7
Cotton Lint	0,8

Source: CSO, Quarterly Digest of Statistics, March 1985.

The slump in commodity prices has generally been regarded as being the net result of a large number of factors which are easily identifiable but whose separate effects have not been easily measurable (World Bank, 1986). For example, the short-term movements in commodity prices have been considered to be more or less effected by world debt and currency instability within an overall slowdown in world economic growth. In this regard, the basic determinant of these commodity price movements would then be the total output of the commodity and the demand generated by real per capita incomes. Thus, record surpluses of most agricultural commodities and the associated policies to dispose of these surpluses have essentially depressed world prices. Since most governments are engaged in one way or another in agricultural protectionist tendencies through price support mechanisms, variable levies, import quotas and voluntary restraint agreements, the resultant effect of such policies on world prices has been intricate. This is particularly so in the oligopolistic markets that characterize agricultural products.

The World Bank-projected growth rates of Zimbabwe's agricultural exports, taking into account quotas, international trade agreements and price prospects are shown in Table III.7.

Table III.7
PROJECTED REAL EXPORT GROWTH RATES FOR ZIMBABWE'S MAJOR AGRICULTURAL EXPORTS 1985-1990, 1990-1995 AND 1985-1995

Commodity	Real Export Growth Rates per Annum (%)			
		1985-90	1990-95	1985-95
Tobacco (Optimist Scenario)	Base	5,4	3,5	4,4
	(Pessimist Scenario)	Low	2,0	2,0
Sugar	Base	1,0	1,2	1,1
	Low	0,5	0,6	0,6
Maize	Base	8,4	0,0	4,1
	Low	6,6	1,5	4,0
Coffee	Base	6,1	1,6	3,0
	Low	0,3	1,2	0,7
Meat	Base	5,0	2,0	3,5
	Low	-0,8	2,0	0,6
Cotton Lint	Base	8,3	1,8	5,0
	Low	0,6	0,8	0,7
Total Agriculture	Base	5,6	2,6	4,2
	Low	1,7	1,6	1,6

Source: World Bank, 1987.

Tobacco exports, the leading export item, are projected to grow at a rate of 4,4% per annum because of the leaf's exceptionally high quality even in the face of declining consumption of 1,2% per annum in the traditional industrialized markets. Furthermore, consumption of tobacco is projected to grow by 2,9% per annum in non-traditional markets. The low rate of growth in sugar exports, on the other hand, has much to do with low world prices and the limited quota the country has at present.

In the case of maize, the prices are projected to decline further in real terms as productivity growth outstrips demand. Thus by the year 2000 the real price of maize is projected to be 18% below current levels. Even though maize exports would be made at a loss, these are envisaged to continue at present levels to offset the cost of holding massive stockpiles of the commodity.

Exports of coffee and beef are made under the International Coffee Agreement and Lome III Convention, respectively, and these arrangements are supposed to colour any possible export growth for these commodities. World demand for coffee is projected to increase at 1,3% per annum whilst that of beef at between 1 to 2,8% per annum. The prospects for cotton lint indicate a trend in real export growth even in the pessimist scenario because of the lack of competition to Zimbabwe's high quality hand-picked cotton.

Thus, with respect to employment the above scenario can be regarded as "business-as-usual". However, there are prospects for a shift in demand for agricultural products from the Communal Areas that would be brought about by production diversification in these areas. With a rise in productivity in Communal Areas with respect to certain commodities like dairy, oilseeds, beef and poultry, there would also be an increase in employment. At the same time the Communal Areas would contribute to export and industrial raw material demand in these particular commodities that have market prospects for growth.

PART IV

AGRARIAN PROBLEMS AND RURAL EMPLOYMENT PROMOTION

The Agricultural Policy Setting

More employment can be created in the Communal Areas if there is more land and investment made available. The land, itself, can be derived from a good proportion of that which is underutilized in the LSCF areas. Investment needs for the Communal Areas include irrigation and the means of increasing livestock offtake from these areas.

Pricing policy including consumer welfare, public revenue generation from forex earnings and income distribution can also all be used as a means of accelerating agricultural development in the Communal Areas.

However, growth in social services and distribution investment in the Communal Areas at the expense of direct investment in agricultural production infrastructure, particularly in areas of high Communal Area population density with low natural agro-ecological potential, is not desirable as it encourages consumption at the expense of capital formation with respect to material productive factors.

Evidence shows a marked trend of employment declining in the LSCF over time with a constant increase in casual labour, due to mechanisation. There has been approximately a 40% decline in maize hectareage, which while not labour intensive *per se* has made room for the increased production of more fully mechanised crops such as soyabeans and improved labour management and labour savings through the use of temporary workers. Declines in cotton production are attributed to competing peasantry and Communal Areas labour demands for both cotton and maize growing.

The LSCF sector has shown increasing reliance on short-term credit from both the AFC, and commercial banks *vis-a-vis* the utilisation of its own finance. Entry into large-scale farming has become difficult as opposed to the past where low land prices, capital access and subsidies encouraged land development-based accumulation in the LSCF. That is, investment costs for new entrants, especially Blacks, have become high and perhaps not as attractive an investment as other sectors. In this connection it is instructive to note that most large-scale commercial farms have been converted from family affairs to limited companies (for tax and other purposes), making the transfer process more difficult. This is why only the Agricultural and Rural Development Authority (ARDA) is competitive in the agricultural property business because of its legalist monopolistic position, through the Land Acquisition Act (1985) whereby Government has the first choice in any agricultural land transfer in the country,

In Communal Areas there has been a focus on distributional measures by the State with respect to expanded social services and domestic "basic needs" consumption elements of investments. The recurrence of short-term drought-relief in the rural areas has also assumed a permanency in budgetary and fiscal outlays. The GOZ "growth with equity" policies, thus, have taken a consumptionist orientation in Communal Areas while the urban populations have received the greater proportions of such transfers. Government budget expenditures on agriculture and rural infrastructure are shown in Table IV.1 and summarized in Table IV.2.

Table IV.1

RURAL AND AGRICULTURE RELATED GOVERNMENT CAPITAL EXPENDITURES 1979-80/1985-86.

ITEM	1979-80	1980-81	PERCENT	1981-82	PERCENT	1982-83	PERCENT	1983-84	PERCENT	1984-85	PERCENT	1985-86	PERCENT	1986-87	PERCENT	SUBTOTAL
	\$	\$		\$		\$		\$		\$		\$		\$		\$
Infrastructure	58337800	194985900	224.3873	437507227	110.241702	482314518	90.3479158	435781828	110.817883	482902055	154.483078	745905382	0	0	0	2836728200
Marketing Boards																
Loans	6200000	7999000	112.8018	9031000	168.320230	15201000	185.508749	28198881	101.138180	53899000	60.7851110	32768000	0	0	0	153297152
Subsidies	-	-	-	95180000	81.3041193	77369000	10.1688828	7888000	53.8104154	4217000	38.1442731	164228000	0	0	0	277141999
Afforst.	58300	-	-	-	-	-	-	2290000	200.742358	4597000	100.413313	4818000	0	0	0	12088000
Drought Relief	1000000	20000	100	20000	150	30000	1572758.02	471828807.	0.00105971	5000	100	5000	0	0	0	474478113
Co. s. S. baidies	8109000	33000000	0	-	-	-	-	-	-	22000000	68.1818181	15000000	0	0	0	78109063.1
Ext. (Training)	158000	217500	0	-	-	-	-	1359201	194.58185	2836000	153.128078	4173000	0	0	0	8547053.28
Resch. Serv. &	9287000	33237500	0.080172	20000	150	30000	1577288.89	47183008.	5.20809388	24844000	77.8201590	19178000	0	0	0	561136135
Resch. Stat. Dvpt.																
Annual Fin. Ct. f.	1502600	2155300	309.9336	6880000	98.1377245	6422000	120.074307	7711172	122.160418	9420000	112.388535	10587000	0	0	0	44478623.4
Labour Purchase																
& Compositon	2154000	6342000	0	0	0	0	0	1159201	1812.75117	24839000	153.651809	38351000	0	0	0	64762158
Grants	15332500	271625200	201.1115	54418227	106.001040	581367416.	245.682202	1428199997	42.3138155	604323055.	184.888692	998480382.	0	0	0	4448102152
Grand Total	173329000	55592400	198.8410	109836456	108.001040	1162734133	215.779098	2857759196	43.1556694	1233285111	164.704150	2031271785	0	0	0	9543196162
Percentage	317.318974	98.849087	116.001040	245.779098	43.1556694	64.704150	0	0	0	0	0	0	0	0	0	0

On the other hand, private and/or decentralization of investments, while not clearly quantifiable here, were limited to a few growth points.

Altogether, policies during the past eight years stimulated the improvement of the circulation process and the consumption structure in Communal Areas, as well as initiated the development of decentralized social mobilization and administrative capacities.

Agricultural Investment

Fixed Investment : Long-Term Investment

The trend in the value of fixed investment is an indication of capital formation. However, the situation in the Communal Areas with respect to the actual capital formation is problematic because of the lack of systematic data and a tendency to view investment in the Communal Areas only in terms of livestock. Less apparent, though, is the investment often through urban wage remittances, of a sizeable nature in rural property. The absence of a well attenuated rural property market is thought to mitigate against a systematic collection of data on this form of investment.

Medium-Term Investment

The question with respect to medium-term investment in the Communal Areas is somewhat more clear if movable assets like livestock and implements are considered as such. It is an accepted fact that as much as 40% of Communal Area households have no cattle and 60% have less than four cattle for draught power or otherwise. In a study by Bratton (1983) for three selected Communal Areas, it was found that cattle and implements ownership were a major source of peasant differentiation (Table IV.3).

Table IV.3
STRATIFICATION OF FARMERS BY CATTLE OWNERSHIP

	Richer Individual Farmers		Group Farmers		Poor Individual Farmers	
	N	X Cattle	N	X Cattle	N	X Cattle
Gutu	24	13,1	53	9,3	64	2,9
Chipuriro	21	16,0	37	9,1	38	3,1
Wedza	26	10,7	98	7,3	53	1,5

Table IV.4
STRATIFICATION OF FARMERS BY IMPLEMENTS OWNERSHIP

	Richer Individual Farmers		Group Farmers		Poor Individual Farmers	
	N	X Implement	N	X Implement	N	X Implement
Gutu	26	4,0	55	3,8	63	1,2
Guruve	36	4,5	46	4,0	55	0,6
(Chipuriro)	(35)	-	-	-	-	-
Wedza	37	4,5	102	3,4	43	0,8

Research and Technology Development

Generally, the proportion of GNP invested by the State in research and technology development for agriculture in Zimbabwe is regarded as one of the highest in Africa (Eicher, 1984). Based on past performance, there seems to be significant rates of return on this type of investment. For example, one of the leading private agro-chemical companies estimates that it spends as much as 3 to 4% of its total operating costs on research and development.

This cost would be recovered through sales. It is in bio-technology that returns are more guaranteed because of the more pronounced responses of these technologies to both small and large farmers. One of the world's highest yielding cultivars of maize, SR52, was developed as long back as 1952 and the impact of this quantum leap in yields, then, is still being felt to this day. The possibility of developing other crop strains more suited to the environment could also be realized through similar investments in the applied research field.

On the mechanical side, there is need to buttress peasant producers from the loss of draught animals due to cyclical droughts by providing for assured and accessible draught power and increased mechanisation. Research in this field is not as advanced and, thus, needs more attention. Associated with this would be the organizing of more socially acceptable technology.

Infrastructure Development

The application of appropriate techniques and scales of investment in irrigation development for Communal Areas and related management organisational structures has been underway in a few Communal Area irrigation schemes, and remain to be widely diffused. The financial strategy (National Irrigation Fund) based on private investment credit has not proved practicable, while most large-scale dam construction financed by the State has been geared towards the LSCF producers and State farms.

Labour Availability in the Communal Areas

Communal Households

Due to the heritage of the labour reserve economy there is a preponderance of women, children and the elderly, whilst young and middle-aged men tend to be migrants in the Communal Areas.

Currently, it is estimated that there are around 80 000 households in Communal Areas, although the data on labour available to work on landholdings and availability of arable holdings per household is poorly documented. On average, households have more than five members at the national level (CSO, 1982) whilst the ZIDS survey indicated an average of six members per household (Table IV.5).

Table IV.5
DISTRIBUTION OF HEADS OF HOUSEHOLDS BY AGE AND SEX..

Age Group	Males	Females	Total
10-14	38	115	153
15-19	1 229	2 416	3 634
20-24	4 399	10 482	14 881
20-29	7 115	13 772	20 887
30-34	7 001	11 400	18 401
35-39	7 575	9 640	17 215
40-44	7 960	6 389	13 898
45-49	7 960	8 432	12 892
50-54	7 395	9 055	11 400
55-59	5 200	3 366	9 066
60 +	16 297	13 095	29 392
TOTAL	71 613	80 106	151 719

Source: CSO (Zimbabwe National Household Survey Capability Programme for Manicaland 1983/84).

Labour Hire in Communal Areas

A ZIDS Communal Area survey has shown that the ratio of labour to land (in hectares) varied among areas from 1:0,24 for Ntabazinduna to 1:0,56 for Magunje (Karo). On average, every one hectare is worked on by 2,93 people, inclusive of the economically inactive population. If we weigh this ratio according to age, we are left with a ratio of approximately one active household member to 0,64 hectares. Depending on land quality, equipment use, inputs use and yields, this ratio has implications for labour productivity, land utilization capacity and labour supply conditions.

In some households, persons were hired for specific agricultural and non-agricultural activities (Table IV.6). The largest number of persons were hired for maize and groundnuts production and mainly for weeding and harvesting.

Most persons are hired on a casual basis for payments in cash and kind, such as receiving agricultural products. Those paid in cash received payments below the minimum wage, ranging from \$10-\$40. Incomes from wages in Communal Areas are thus very low and periods of employment very short, a fact which influences labour supply. Overall, less than 33% of households hired two short-term labourers on average.

Table IV.6
NUMBER OF PEOPLE HIRED PER CROP ACTIVITY

Crop	Plough- ing	Plant- ing	Weed ing	Cultivat- ing	Harvest- ing	Shell- ing	Trans- port	Total
Maize	35	-	164	6	109	9	3	326
Groundnuts	-	-	50	-	55	-	-	105
Cotton	-	18	40	-	-	-	-	58
Sunflower	1	-	7	-	9	-	-	17
Rapoko	1	-	-	-	10	-	-	11
Beans	-	-	-	-	9	-	-	9
Tomatoes	-	3	-	-	5	-	-	8
Finger Millet	-	-	-	-	2	2	-	4
Wheat	-	-	-	-	3	-	-	3
TOTAL	37	21	239	6	242	11	3	541

In some cases reciprocal labour arrangements were made. The most common reciprocal labour arrangements were *nhimbe* and *majangano* for weeding, ploughing and harvesting.

Labour Time and Bottlenecks

There is evidence of farm labour shortages in Communal Areas.

Table IV.7
PERCENTAGE OF HOUSEHOLDS WITH AND WITHOUT LABOUR SHORTAGE PER SURVEY AREA

Survey Area	% of Households with Labour Shortage	% of Households without Labour Shortages
Nyanyadzi	30,23	69,77
Zimunya	21,43	78,57
Mwenezi	24,24	75,76
Silobela	60,87	39,13
Magunje	33,33	66,67
Ntabazinduna	42,86	57,14
AVERAGE	35,4	64,5

These shortages are explained by the constraints on field sizes cultivated, non-agricultural chores/work and unavailability of schoolchildren. Some households (15%) deliberately cultivate less labour-intensive crops due to labour bottlenecks (Tables IV.7 and IV.8).

Table IV.8
LABOUR INTENSITY BY AGE AND GENDER (Hrs per week)

Group	Farming Care	Livestock	Fuel	Routine Domestic *	Total**
Men	22,8	9,7	1,2	0,7	43,1
Women	15,5	0,8	0,8	31,6	63,8
Boys	10,1	10,7	0,6	5,0	32,7
Girls	6,1	2,6	2,2	30,0	42,5
AVERAGE	13,6	5,9	1,2	16,8	45,5

Notes:

* Includes water provision, childcare and cooking.

** Includes crafts, food processing, repairs and other miscellaneous tasks.

Source: Preliminary Analysis of Labour Observation Component of the ZEAP 1984 Rural Energy Supply.

The off-farm activities in Communal Areas are wide ranging and of basic economic or social value (Table IV.8). The seemingly short period devoted to farm work is frequently justified by the marginal disutility of labouring technologically underdeveloped agriculture in which returns from labour are frequently too low to prompt further substitution of labour from non-farm to farm activities. These activities thus represent an important sphere of employment development in Communal Areas.

Table IV.9
NON-FARM EMPLOYMENT OF RURAL HOUSEHOLDS IN FIVE COMMUNAL LANDS, 1982

	Murombedzi	Sanyati	Umfuli	Gutu	Chitsa	Average
Heads of Households						
Non-farm jobs	94	74	90	88	83	86
Non-farm employment	27	29	24	32	35	29
H/H with non-farm employment	44	37	29	43	43	39
Type of non-farm						
Worker	35	28	52	23	33	33
Handicraft man	6	2	6	8	31	11
Trade/Commerce	8	10	3	8	4	7
Public Service	27	43	16	37	28	31
Domestic Catering	6	10	0	4	2	4
Own Business	10	0	10	6	0	4
Other	8	7	13	14	2	9
TOTAL	100	100	100	100	100	100

Source: Helmsing (1986).

Time allocation between various daily activities may become more flexible if and when appropriate interventions are introduced, allowing for increasing labour inputs to agriculture. The existence of a range of competing demands on time, however, raises the opportunity cost of agricultural work given current returns to labour (yields and prices).

Shifts in daily work patterns can therefore be brought about only where profitable innovations are available that increase the marginal productivity of agricultural labour sufficiently to offset the attraction of other household and social activities. Given the land quality, infrastructure and capital constraints in Communal Areas such shifts are somewhat limited.

Communal Households Incomes

The diversity in income-generating strategies in Communal Areas reflects the labour and employment contradictions above (Table IV.10). Although the vast majority of households obtain most of their living from selling agricultural products, a wide variety of on-farm and off-farm activities including beer brewing, vegetable production, home industry and casual labour are important.

Table IV.10
FREQUENCY DISTRIBUTION OF INCOME SOURCES FOR HOUSEHOLDS IN SIX SURVEY AREAS

	Nyanyadzi	Zimunya	Mwenezi	Silobela	Magunge	Ntabazinduna
Sell crops	88,1	75	63,6	56,5	93,6	13,8
Sell vegetables	54,2	35,7	18,1	13,0	29,0	13,8
Sell chicken	21,4	7,1	24,2	21,8	9,7	13,8
Sell goats	23,8	7,1	18,1	0,0	22,6	3,5
Sell beer	7,1	14,2	27,3	4,3	3,2	13,8
Craft activities	9,5	17,9	6,1	0,0	0,0	6,9
Casual labour	4,8	21,4	6,1	4,3	0,0	0,0
farming						
Casual labour	0	7,1	9,1	0,0	0,0	0,0
building						
Employ. in	0,0	0,0	0,0	4,3	0,0	0,0
trade	2,4	0,0	0,0	0,0	0,0	0,0
Scotchcart hire	2,4	0,0	3,0	0,0	3,2	3,5
Own business	4,8	3,6	0,0	0,0	3,2	51,7
Husband's	28,6	32,1	24,2	43,5	29,0	24,1
wages						
Children's	9,5	14,2	21,2	8,7	19,4	13,8
wages						
Sell cattle	9,5	7,1	12,1	4,3	29,0	13,8
Informal sector	4,8	3,6	6,1	17,4	0,0	3,5

In general, households tend to have dual sources of income, with less than 5% of households depending on incomes solely from non-agricultural activities.

Non-agricultural enterprises' income, however, tends to be smaller than cash income from agriculture (Table IV.11).

Table IV.11
IMPORTANCE OF NON-AGRICULTURAL ENTERPRISE INCOME IN COMPARISON TO OTHER SOURCES OF INCOME (SELECTED DISTRICTS, ZIMBABWE, 1986)

Income	Households	%
Only source of cash income	36	18%
Greater than cash inc. agriculture	31	16%
More or less equal to cash inc. agric.	10	5%
Smaller than cash income agriculture	102	52%
Unimportant source of cash income	14	7%
Not reported	4	2%
TOTAL	197	100%

Source: Helmsing, 1987.

Surveys in various provinces emphasize also the importance of remittances (Table IV.12), with up to 40% dependent on these.

Table V.12
PERCENTAGE OF HOUSEHOLDS RECEIVING/GIVING REMITTANCES

Province	Remittances	% of Household
Masvingo	Receiving	41,8
	Giving	8,6
	None	49,6
Midlands	Receiving	42
	Giving	6
	None	52
Manicaland	Receiving	34,8
	Giving	3,6
	None	61,6

Source: CSO 1983, 1984.

Households receiving wage remittances in some areas earn nearly twice the mean income of those without, and cannot only purchase more consumer goods, but also invest some of their wage income in agricultural means of production and are more likely to hire agricultural labour.

Corollarily, there is a significant degree of reliance on permanent and casual wage labour on the part of households with little or no access to the means of agricultural production, principally land and draught power (ZIDS survey, 1988).

Commodity Employment Patterns in Communal Areas

One can easily infer which agricultural activities are more labour demanding through analysis of data on additional labour hired per activity per crop. Harvesting and weeding demand more labour compared to the other activities. Of a total of 541 people hired, 481 people were particularly hired for these two activities. This means that 88,9% of the people hired were hired to weed and to harvest.

As a means of determining the employment potential it is necessary to relate labour demand among various commodities. Five crops led by maize, groundnuts and cotton are the most demanding.

Table IV.13
NUMBER OF PEOPLE HIRED PER CROP IN THE SIX SURVEYED AREAS

Crop	Total Hired	% Hired Crop
Maize	326	60,25
Groundnuts	105	19,40
Cotton	58	10,72
Sunflower	17	3,14
Rapoko	11	2,03
Beans	9	1,66
Tomatoes	8	1,47
Finger Millet	4	0,73
Wheat	3	0,55
TOTAL	541	99,95

According to the ZIDS survey, maize possibly had the highest number of hired workers because it had the largest area planted since it is a staple food. In contrast to maize, for example, for every acre planted to cotton, four people were hired. For groundnuts 70,25 acres were planted and 105 people hired, which means that for every acre planted of groundnuts about 1,49 additional labour was hired. Comparatively, cotton required more additional labour per acre compared to the other crops.

Labour inputs, however, vary between communal regions, crops and activities. In Mangwende, groundnuts required 149 workdays/ha compared to 201 workdays/ha for maize, while finger millet (rapoko) required the same labour input as groundnuts (146 workdays/ha). Groundnuts demanded 112 workdays/ha and sunflower demanded 94 workdays/ha. On the other hand, in Chivi, groundnuts production required 174 workdays/ha compared to 118 workdays/ha for maize. Sorghum required the same labour input as groundnuts, while finger millet required substantially more labour. They also recorded high labour demand for weeding and harvesting (Makombe, Bernstein and Rorhbach, 1987).

Given current Communal Area resources and technologies, and crop enterprise choice incentives, the greatest labour absorption and employment development potential is with cotton and groundnuts whose area is still limited. This needs to be assessed in terms of broader market and technological factors.

Technology and Input Utilization

Fertilizer

It is significant that the distribution of fertilizer, seed, chemicals and farm equipment to agriculture is carried out by the private sector, with only four companies involved in the importation, manufacturing and distribution of all the fertilizer requirements by agriculture in addition to handling some of the chemicals. Only nitrogen phosphorus-based fertilizers are manufactured locally, and the country imports up to a third of its total fertilizer requirements (Key *et. al.*, 1986).

In 1981, fertilizer consumption in Zimbabwe was approximately 560 000 tonnes with imports costing \$32 million of the \$92 million total cost for the input. During the same year, fertilizer sales to the Communal Areas accounted for 20% of total sales, with the remainder being taken up by the SSCF and LSCF sub-sectors. LSCF marketing co-operatives handled 45 to 50% of the fertilizer sales whereas direct sales by the two leading fertilizer companies to both LSCF and SSCF sub-sectors was between 30 and 35%.

The usage of fertilizer for the different crops (Table IV.14) reflects the fact that although certain crops are heavy users of fertilizer, they are still relatively profitable even though cross-subsidisation of fertilizer was removed in 1975. Although fertilizer prices are regulated, in practice they are not uniform throughout the country, reflecting transport costs and price incentives/rebates for early ordering, etc (Key *et. al.*, 1986). Government removed retail sales tax on fertilizer in 1986.

Table IV.14
ZIMBABWE ESTIMATED FERTILIZER CROP USAGE (1980/81)

Crop	Percentage
Maize	61
Wheat and Barley	8
Tobacco	8
Cotton	6
Coffee and Tea	4
Sugar Cane	4
Potatoes and Vegetables	3
Soyabeans	2
Other Crops	4
TOTAL	100

Source: Hill, Livingstone and McClune, 1981.

Agro-Chemicals

Of the world's four largest agro-chemicals suppliers, Bayer, Ciba-Geigy, Shell and Monsanto, the first three are represented in Zimbabwe through licensing arrangements. The country does not manufacture any agro-chemicals but imports the technical material for subsequent local formulation (Key *et al*, 1986). Again similar to the fertilizer industry, there are four distributors who do the local formulation, thus making the importation of agro-chemicals highly centralised.

The total technical ingredients requirements for a typical season, say 1984/85, would be made up of the quantities set out in Table IV:15 below.

Table IV.15
ZIMBABWE TOTAL CHEMICAL REQUIREMENTS FOR 1984/85

Chemical	Liquids (Litres)	Solid (Tonnes)
Herbicides	1 750	737
Insecticides	761	2 984
Fungicides	56	402
Seed Dressing	3	65
Soil Fumigants	42	2 020
Miscellaneous Pesticides	584	1
TOTAL	3 196	6 209

Source: Author's own calculations

An analysis of the above table shows that herbicides, insecticides and fungicides account for 40%, 40% and 10% respectively of the agricultural sector's chemical requirements.

Draught Power

The level of technology in the Communal Areas consists of ox and plough together with other animal-drawn implements. Cattle ownership for draught purposes is highly uneven with an average of 40% of Communal Areas households being draughtless, leading to an increase in draught exchange and draught commodification (Bratton, 1983).

In this respect, farmer organisation into groups easily facilitates draught exchange. These groups are now being exploited in certain areas to introduce "upscale" tractor technology (e.g. tractor co-operatives in Muzarabani and Chiweshe through outside funding). The implications of outside intervention on local resources mobilization, however, have yet to be seen.

Labour Productivity

Table IV.16 shows labour productivity figures for selected commodities derived from the CFU Costs of Production models.

Table IV.16
LABOUR PRODUCTIVITY FOR SELECTED COMMODITIES

Commodity	Price \$/ Tonne	Yield t/ha	Labour Days/ hectare	Labour Days/ tonne	Output Value \$/Labour Day
Maize	195	5,6	56	10	19,50
Wheat	365	5,0	30	6	60,83
Sorghum (R)*	135	4,0	26	6,5	20,80
Soyabeans	420	2,3	22	9,6	43,75
Sunflowers	430	1,5	19	12,7	33,85
Groundnuts	638	4,0	100	25	25,52
Cotton	784	1,65	44	26,7	29,36

*Note: *The figures quoted are for red sorghum only.*

Source: CFU Costs of Production models.

If a ranking of the commodities is done according to the labour days required per hectare and the output value per labour day, the pattern depicted in Table IV.17 below emerges.

Table IV.17
RANKING OF COMMODITIES ON THE BASIS OF LABOUR DAYS/HECTARE AND OUTPUT VALUE PER LABOUR DAY

Crop	Labour Days/ha	Crop	Output Value/ \$ Labour Day
Groundnuts	100	Wheat	60,83
Maize	56	Soyabeans	43,75
Cotton	44	Sunflower	33,85
Wheat	30	Cotton	29,36
Sorghum	26	Groundnuts	25,52
Soyabeans	22	Sorghum	20,80
Sunflowers	19	Maize	19,50

The output value per labour day employed ranking suggests that those commodities with a production tendency of being mechanized have a higher output value per labour day employed. The lower-value crops like sorghum and maize are, incidentally or fortuitously, those grown increasingly predominantly by CA farmers. Even on this score, commodities like groundnuts have lower output value per labour day employed as opposed to cotton.

Costs of Production

Even with the most recent cost of production estimates, a ranking of the capital-labour ratios reveals the attractiveness of certain commodities over others. Thus, the ranking of capital-labour ratios based on the estimated cost of production figures for the same set of crops is shown below (Table IV.18).

Table IV.18
RANKING OF CROPS BASED ON CAPITAL: LABOUR RATIO

Crop	Capital-Labour Ratio
Wheat	2,65:1
Sunflower	1,96:1
Cotton	1,80:1
White Sorghum	1,75:1
Soyabeans	1,46:1
Maize	1,05:1
Shelled Groundnuts	0,99:1

A similar ranking on an index of returns per dollar of total variable cost utilized is shown below.

Table IV.19
RANKING OF CROPS BASED ON INDEX OF RETURNS PER DOLLAR OF TOTAL V/C UTILIZED

Crop	Index of Return Per \$TVC 1987/88*
Wheat	92,05
Soyabeans	89,47
Groundnuts	73,87
Cotton	71,81
Maize	65,71
Sorghum	43,75

*Notes: *with 1979/80 returns per \$TVC as the base for comparison.*

Value of labour productivity and returns to capital as indicated in the cost of production figures are partial productivity measurements because these are only two factors in production. It is an established fact, for example, that aggregate land productivity in the LSCF sector is low (Moyo, Weiner, Munslow and O'Keefe, 1985). Total factor productivity, then, for the LSCF sector may be low because of the constrained import dependency in input utilization of this sector. This issue, though, is masked by the fact that agricultural output pricing is predicated on an average measure of the cost of production that is not necessarily a reflection of technical efficiencies in production.

State Farms as a Complementary Option for Communal Area Development

The Rationale for Direct State Participation

It has long been recognized that because of the disarticulated nature of most underdeveloped economies there is a general crisis of accumulation. Furthermore, there are limitations to endogenous capital formation, a sphere in which the State can provide an initiative and incubatory function.

The high investment costs required in bringing undeveloped areas into full production essentially require and warrant State financing that would act as venture capital or seed money. At the same time direct State participation ensures the growth of a national economy.

The Character of State Farm Operation as Infrastructure Development

There is a value provided by State farm operations in giving the participants experience in organisational and managerial skills, a point generally lost to critics of State farm operations as mismanaged and inefficient due to long lines of command and little lower level authority and accountability in decision-making. However, there is now growing recognition of the heterogeneous nature of the agricultural enterprise, where size of operation is no longer considered the overriding consideration in measures of efficiency.

State farm operations insofar as they consist of settler or outgrower schemes can also provide the necessary farming skills to those involved. What is more important, though, is that settler or outgrower schemes should not foster dependency on the State infrastructure on the part of the participants. There is a danger that the State farm operations can degenerate into share-cropping arrangements. This is particularly so if user fees charged to the sellers are set at what are mistakenly believed to be "economic levels" rather than the participant's own "willingness and ability to pay". An element of subsidy will always be evident in agriculture, anyway, because it is a sunset industry. However, the nature and extent of the subsidy should only lie within a range sufficient to allow the target group a "competitive edge". It is here then that the benefits of such arrangements can be justifiable.

The State farm operations have an infrastructural development role in addition to creating a goods market that emanates from the provision of wage employment so provided. Furthermore, the scope for agro-industrialisation is enhanced.

The Strategic Arguments for State Farming

There is an argument for State farming in those commodities outside the domain of private entrepreneurs which the State may consider strategic. For example, the whole notion and aim of self-sufficiency in agricultural commodity production warrants State participation in direct production. The infrastructural development costs of establishing certain farm enterprises may be beyond the private sector's willingness or ability to undertake, essentially because of the high risks and low returns that may be implied. On the food security score, the State may feel an obligation to participate in direct agricultural production for the sake of its citizens. This can also be easily justifiable from a self-interest (State) point of view through enhanced social welfare. The strategic argument suggests State participation should be in areas where it is competitive.

Employment in State Farms

State involvement in agricultural production is principally through the Agricultural and Rural Development Authority and incidentally through the Dairy Marketing Board, the Cold Storage Commission and the Cotton Marketing Board which are essentially marketing agencies but are also involved in the processing of agricultural products. The DMB and CSC, on the other hand, can be classified as the manufacturing arms of State activities. Thus, employment in direct State agricultural production enterprises rests primarily with ARDA.

In the State farms the number of casual workers is much higher compared to the number of permanent workers (Table IV.20). By 1987 the Authority reported a total of 14 961 employees of whom 10 489 were employed on contract basis.

Table IV.20
NUMBER EMPLOYED BY ARDA (1980-1987)

Year	Permanent	Contract
1980/81	2 886	12 700
1981/82	3 241	13 900
1982/83	4 060	13 981
1983/84	4 457	16 411
1984/85	4 573	14 146
1985/86	5 208	11 344
1986/87	4 472	10 489

Source: ARDA.

It is apparent that ARDA has an immense employment expansion capacity given its crop enterprise choice (flexibility), its technological capacity, access to land (first option to purchase), and its long traditions of opening up new lands and large-scale irrigation. Its main constraints are farm management capacity, expansion rates with respect to estate and outgrower schemes and associated service and agro-processing activities.

PART V

CONCLUSIONS AND POLICY OPTIONS FOR EMPLOYMENT DEVELOPMENT

Summary

The foregone discussions lead us to a wide range of conclusions regarding the prospects for development of agriculture and employment in that sector. There are:

1. Formal sector employment declined from 1978, and although there has been an employment growth rate of about 2%, absolute employment has never reached pre-1980 levels. The entire rate of employment growth in relation to the population growth rate (at 3,2%) is extremely limited. Communal Area recorded employment is at 85% of total able-bodied population, while altogether officially there are 40 000 able-bodied people who are not employed. An official unemployment rate of 2,2% is estimated for the Communal Areas, not surprisingly because a high proportion of youth (both sexes) are presumably excluded from the active employment-seeking population. Thus, about 20% of the Communal Area population, which is essentially under 20, as well as recognized school-leavers, are not accounted for in the official unemployment problem definition for Communal Areas.

Given that perhaps at least 100 000 are already landless in the Communal Areas, and that 70% of the Communal Areas population works uneconomically sized plots (less than three arable hectares), with family sizes of up to five per household, and that 60% of the Communal Areas are overcrowded and deteriorated, the prospects for growth in self-employment from land in the Communal Areas are extremely low. Moreover, already up to 15% of Communal Area able-bodied (19 years and above) will be landless under present dryland availability conditions, while non-agricultural enterprises still occupy less than 10% of Communal Area production on a full-time basis.

Overall, the levels of under-employment are self-evident (30% labour time unused), while much labour-time is spent on domestic resource procurement activities (20% of labour time), even if there are labour bottlenecks for harvesting cotton in some Communal Areas. Limited ploughing equipment/tractor distribution constrains potential hectare expansion amongst households where land is available, while rainfall and lack of irrigation constrain full utilization of labour. Labour productivity in terms of yields and financial returns is extremely low, due to technology limitations.

2. Meanwhile, the average rate of growth of the agricultural sector has been around 4%, with GDP contributions below 15% and GFCF below 15%, even though 75% of the population is engaged (on own account or employed) in this sector. This reflects the overall low productivity of labour in the sector, low levels of investment growth and expansion of productivity gains since 1980.

Indeed, this is reflected in the lower levels of private and public sector investments into agriculture, suggesting a reinforced urban-biased resource allocation model evolving in the post-independence era.

3. The land redistribution programme so far has been unsuccessful in terms of:
 - the limited access of CA households;

- quality of land acquired and restricted financial investment levels on most schemes;
- settler's capital and skills level problems.

The result has been extensive land access for a few (50 000) households (by present farming standards) low returns (volume output, productivity and finance) per household and low productivity per land unit. It also appears that even if settlers are relatively better-off than other Communal Area households the national level land-population bottleneck affecting most Communal Areas has not been resolved by the resettlement programme.

4. Communal Area investment, particularly productive resources (infrastructure), has been low and this explains a whole range of bottlenecks discussed, including low labour productivity, cropping patterns not in favour of real labour absorption, low technology use levels. Hence underemployment, widespread over-utilization of land, inaccessibility of irrigable land, and limited naturally productive land available for expansion. Thus irrigation and technology spread seem essential to any further growth in cropped area, yields desirable, crop mixes and labour productivity. However, credit expansion has been severely limited in the Communal Areas.
5. The LSCF has had numerous negative trends including growing capital intensity of production, a broadening burden of Government subsidies, its domination of Government agricultural credit, under-utilization of land, a growing consumption of foreign exchange, energy and infrastructure resources. These have evolved into a farming system which leads to the above-mentioned low employment absorption capacity, even if the sub-sector has a high foreign exchange earning contribution of sectoral comparison levels. Compared to Communal Areas, the latter has had a relatively low level of foreign exchange consumption and/or contribution.
6. ARDA has grown slowly to 25 estates with absolute and relative employment not significant on a national scale and a tendency towards high capital intensity farming. However, it has shown the way for State direct involvement at viable levels, and played a significant demonstration/experimentation and frontier opening role, including evolving national skills development and investment-management capacity amongst blacks.
7. While the current output crop-mix keeps pace with existing domestic effective demand structure, and has capitalised on growing export markets, it is perhaps not been optimal in terms of employment absorption. Directing more arable hectareage to crops such as cotton, groundnuts, horticulture, tobacco and certain legumes, through appropriate incentives, could be expected to broaden the employment absorption capacity of agriculture as a whole - as suggested by current labour utilization rates. However, wage and income incentives for such labour allocations (household or employed) would be necessary and thus call for special pricing policy considerations. Current incentives and subsidies on beef and wildlife have a negative effect on land use extensification, and a tendency towards employment capacity reduction. Meanwhile, foreign exchange allocations to large-scale machinery for grain, dairy and general tillage technologies tend to favour crop mixes that are less employment generating.

However, policies on planning in agriculture do not currently prioritize such issues in relation to central resources allocation for agriculture. Current research and development has emphasized drought-resistant crops which neither have effective demand nor are viable even as a palliative for Communal Areas, instead of systematic research to spread higher-value crops and dairy industry to Communal Areas.

8. The current national demand structure is extremely imbalanced against Communal Areas in terms of absolute quantity and diversity of agricultural commodities consumed (reflected in health statistics) and the consumption of manufactured goods due to constrained household incomes from own production, wages and transfers there.

This suggests the need to enhance the consumption base of the Communal Areas through inter-Communal Areas incomes and production (productivity) development sanctions as well as local non-agricultural enterprises development.

9. It needs to be accepted that the political justifications for focusing on Communal Areas investment are:

- The realisation of the employment constraints of the LSCF and the unrealised potential within the Communal Areas.
- The greater medium- term returns to investment in self-managed labour through assuring a high level of internal absorption of production costs and/or unpaid labour amongst the peasantry.
- That overhead and foreign currency costs in the Communal Areas may be expected to be lower than LSCF expansion costs while the rates of return to investments in Communal Areas per dollar spent are higher.
- There is no other constituency that is politically desirable and stabilizing for the Government than the Communal Areas.

This emphasizes in the medium term the need to develop a peasant-based strategy for both household food cash crop production, on the basis of predominantly family labour, supported to a lesser degree by State farming and cooperative types of efforts.

Policy Options for Employment Development

Introduction

The overall strategy for employment development recommended, therefore, hinges on enhancing the productive capacities of peasants in Zimbabwe and is centred around three broad options : the first option is essentially a conservative option which tends towards the *status quo* by increasing nominally incentives to Communal Areas. The second option is based on significant levels of agrarian structural reform, including land redistribution as a means of expanding private capital accumulation in a more broadly based structure, encouraging and increasing land utilization and productivity on a national scale. The political limits to land redistribution have not yet been fully tested, especially that lower targets pronounced, at 15 000 per year, during the current plan period are hardly being met, nor were sufficient production resources provided for the exercise. While this option may be politically difficult it is economically desirable in spite of the short-term readjustment problems that could arise out of it.

Employment Development Strategy

The recommended strategy combines elements of the above two options through increased resettlement and a large-scale regional investment programme directed at the Communal Areas. The purpose here being first to accelerate the expansion of options available to the peasants, particularly in terms of their choice to enter production of food and cash crops within greater elasticity of demand and per unit returns to investment in terms of both labour and land. This includes the expansion of credit programmes and technical assistance and opening up the marketing infrastructure for diverse crops.

Secondly, to increase the total factor productivity of peasants in order to enable them to be more competitive, through underwriting or subsidising the direct (overhead) investment costs in agricultural infrastructure, particularly irrigation and land development, and at the same time increasing the possibility for further private agricultural capital formation. A massive investment in the livestock infrastructure (field development, fencing, paddocking, veterinary services, livestock watering, etc), and a rapid improvement of beef and dairy breeds as well as livestock supplementary feeding subsidies would all be called for.

The third component of this strategy is to subsidise current producer prices in predominantly peasantry marketed crops (maize, cotton, sorghum, millet, sunflower seed and groundnuts) and for "disadvantaged" Communal Areas as a means of consolidating incomes and to maintain the current momentum in productivity.

The fourth aspect is to promote, through greater incentives, agriculture-related non-farm employment output in Communal Areas, to absorb a mass of growing landless peasants and part-time labourers who will not be able to benefit directly from the agricultural investment programme.

Fifthly, there is need to develop household food self-sufficiency through diversified small food production plots in order to reduce dependence on external purchases and consolidate organic production technologies.

As indicated earlier, this option could benefit from an expanded institutional support and investment complementation from ARDA, the redirection of bilateral donor grant funds for rural development and a reallocation of administrative and technical resources (personnel, infrastructure and operational budgets) tied up in socio-political mobilization into these productive activities. It should be understood that such a shift of resources would facilitate the emergence of a household capacity to absorb and adopt the kinds of social services currently emphasized by both GOZ social programmes and donors.

Possible Employment Development Measures

The following, then, investment areas and targets are possible employment development measures that could be instituted as part of the overall strategy.

- A 66% increase in irrigated farmland over 10 years, covering mainly peasant farming areas of high population density, in the Southern and Eastern provinces; at \$50 million per annum for 100 000 hectares (at \$5 000/ha), out of a maximum of approximately 200 000 irrigable potential (flood irrigation) not yet developed.
- The resettlement of another 100 000 peasant households over 10 years into both underutilized LSCF areas and newly developed lands; at \$15 million per annum!

- Large-scale investments into Communal Areas livestock production activities in the Western and Southern provinces; at \$10 million per annum in long-term capital investments.
- A three-fold increase over 15 years in the availability and "fair" prices of agro-chemicals, short-term credit, draught and small-scale mechanical tillage power, and extension services to peasants within the lower potential farming regions.
- A two-fold increase in the crop production intensity as opposed to livestock production intensity in the LSCF sector.
- An intensification of the current resettlement model (through a 30% arable land allocation reduction and increased provision of mechanical services), within the high farming potential areas.
- The investment into spatial expansion of an optimal national crop combination in terms of employment maximization (see Table V.1. below) particularly for Communal Areas.

Table V.1
EMPLOYMENT POTENTIAL OF VARIOUS CROP COMBINATION.

Crop	Area Expansion (ha)
Horticulture	60 000
Maize	52 000
Cotton	40 000
Small Grains	40 000
Groundnuts	40 000
Soyabeans	20 000
Sunflower	16 000
Tobacco	6 000
Sugarcane	3 000
Coffee	3 000
Tea	3 000
Others	15 000
TOTAL	298 000

Source: Author's own calculations

It seems that 30% of these hectarages should be developed under irrigation, while ARDA support would be appropriate for horticulture, sugarcane and cotton under irrigation. This calls for much greater resource allocations to ARDA in its pioneering role.

Special district agricultural development projects would be appropriate for agro-processing and production of groundnuts, small grains, soyabeans and sunflower. Micro-projects with NGO support should cater for household food security production on small plots (15 000 hectares) spread throughout the Communal Areas. Regional (agro-ecological) specialization would require further balancing with population distribution, so that the bulk of these expanded hectares are focused in the Masvingo, mid-Manicaland, Matabeleland, Midlands and Mashonaland East (extreme) provinces.

- Institutional rearrangements in respect of planning and policy-making related to appropriate employment promotion, related pricing, technology development promotion through foreign currency allocations and broader trade-related aspects, extension services and manpower development reorientation to suit employment maximization of productive activities, and infrastructure (plus energy) development programmes that are conducive to Communal Area productive development.

Financing Agricultural Employment Development

It will, of course, be necessary for the GOZ to mobilize massive financial outlays over the next 10 years for the above recommended actions. Of major importance will be the acceptance that, since agriculture has the most realistic short to medium-term prospects for generating employment, the sector should receive the utmost financial support. Various measures could be taken to guarantee such financial flows including:

- An immediate redirection of at least 10% of all sectoral financial allocations (capital and recurrent) to Communal Areas for direct and indirect agricultural production activities.
- A redeployment and in many cases retraining of a substantial number of field services manpower at district levels from non-agricultural social services and mobilization activities towards agricultural development activities in Communal Areas.
- Agricultural parastatals should similarly redeploy manpower and resources to the Communal Areas, so as to target current subsidies away from the LSCF sector to Communal Area farmers.
- The current National Irrigation Fund should become a Special Irrigation Projects Fund for district development subsidization rather than a private credit scheme for peasants, so as to remove the irrigation overhead costs from peasants, and thus increase their private rates of return to irrigation-related production investments. The State should bear the major irrigation development costs for Communal Areas as it did for large-scale farmers in the past.

Related energy costs to Communal Areas should also be borne by the State and subsidized pricing for unit utilization by peasants be instituted.

- Aid programmes should be negotiated into the productive strategy for Communal Areas proposed, with a marked shift from consumption-oriented projects in Communal Areas into more directly productive activities.

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- **New Government borrowing should be directed at productive projects in Communal Areas, with a moratorium on national level socio-political projects over the next 10 years.**

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