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MONOGRAPHS

ZIMBABWE INSTITUTE OF DEVELOPMENT STUDIES

2

Agricultural Employment Expansion: Smallholder Land and Labour Capacity Growth

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P.O. Box 880 HARARE

MONOGRAPH SERIES
Number 2

AGRICULTURAL EMPLOYMENT EXPANSION: SMALLHOLDER LAND AND LABOUR CAPACITY GROWTH

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HARARE, 1990

P.O. Box 880
Harare
Zimbabwe

First Printing 1990

Published in the Republic of Zimbabwe

The views expressed in this monograph are those of the author and do not necessarily reflect those of ZIDS

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INTRODUCTION AND SUMMARY

This report is based on a synthesis of findings from various publications, ZIDS surveys and numerous Government publications. It is supported by a wide spreading background study report on Zimbabwe's prospects for employment and agricultural development produced with two other colleagues from ZIDS.[1]

In four preliminary sections the report first traces the role and contributions of agriculture in the economy and in employment, and then it assesses the performances of the agricultural sub-sector, focusing on large-scale commercial farming (LSCF) and Communal Area farming in order to highlight the differences in employment and growth impacts of these two dominant sub-sectors. In the two following sections the resources and policy framework of sub-sectoral performance are discussed and identifiable investment policy impacts synthesized, with particular attention given to the employment effects of the post-independence agricultural developments.

These analyses lead to the conclusion that reasonable growth and some small measure of equity were achieved during the period studied, while declining formal employment, increased underemployment and precarious Communal farm employment were achieved in a situation of growing officially "descaled" unemployment.

1 Moyo, S., Mpindu, S. and Ngobese, P., (1989); "Prospects for Agricultural and Employment Development in Zimbabwe," A ZIDS /SATEP Working Paper.

THE ROLE OF AGRICULTURE IN ZIMBABWE'S ECONOMY

GDP in Agriculture

The agricultural sector has maintained a relatively low share of contribution to the national GDP at around 15% in the second half of the 1980s, having risen from around 12% at independence, in-spite of its relative prominence in other such as employment, and export earnings (see Annex Table I). While the average annual growth rate of agricultural GDP has hovered around 5%, during the last three to four years, agricultural GDP growth rates have varied widely throughout the last 10 years.

Following a period of decline during the 1975 to 1979 period related to droughts and the war, the negative average annual GDP growth rate was transformed into a positive real growth rate of 5.7% in 1980 and 1981.[2] This performances reflected political stabilization, good rains and significant increased output of commodities such as sugar, maize, and cotton.[3] The 1982 and 1984 years experienced negative average agricultural GDP annual growth rates (at around -2.8% in real terms) due mainly to persistent droughts and a minor decline in export commodity prices (particularly cotton, sugar, tobacco and tea.)[4] The end of droughts during the 1984/85 season thus saw improved agricultural GDP share contributions and average annual growth rates to 15% and 5% per year in the latter half of the 1980s. Over the longer term, agricultural GDP share declined by 18% in 1965 to around 12% in 1986, even though value added increased from Z$214 million in 1970 to Z$516 million in 1986, at current prices.[5] Decidedly, however, agricultural performance since 1980 has been proscribed largely by environmental factors and, to a lesser extent by a shift towards increased peasant production as well as the world commodity prices declining tendency.

Commodity Production Trends

The estimated shares of agricultural commodities in their contribution to the agricultural GDP, based on sales and total production, reflect the overaching dominance of crops over livestock products. In 1980 the share of crops in total agricultural commodity sales was 75.5% against 24.5% from livestock products, compared to 178.4% in 1965, 66% from crops in 1970 and 74.8% in 1975. By 1986, however, this had risen to 82.6% contribution of sales by crops, while in 1983, for example, it remained at 69.5%. This reflects an unstable but dominant role of crops, whose individual production trends and contributions to GDP need further assessment (see CSO p. 34, table on sales).

Tobacco has consistently led commodity contribution to sales and GDP ranging from 17% in 1975 (lower then perhaps due to UDI sanctions effects), 20% in 1980, peaking to 27% in 1984 (a drought year) and then stabilizing around 25% in the last three years.

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2 GOZ Socio-Economic Review (1986), p.19.
3 Reserve Bank of Zimbabwe, "Quarterly Economic and Statistical Review" (1980).
4 World Bank Report (1987), Annex 2 p.24, Table 4.
5 World Development Report Statistics, p...

Table 1

RANKED COMMODITY CONTRIBUTION TO GDP (1978-1987)

(on basis of sales)

Commodi ty	Share Contribution (%)					
	1975	1980	1983	1984	1986	1987
Tobacco	17.4	20.4	26.4	27.5	25.3	24.4%
Cotton	11.4	14.6	12.0	14.9	12.6	16.9%
Cattle Slaughtering	18.2	16.8	20.5	16.9	8.0	15.4%
Sugar	22.8	15.1	12.8	9.4	9.5	15.2%
Dairy Produce	4.5	5.6	8.1	7.1	6.1	7.8%
Maize	15.1	14.6	10.6	14.1	19.8	6.0%
Wheat	4.6	4.5	3.9	2.7	5.1	5.8%
Coffee	1.0	2.4	2.1	2.1	3.2	3.7%
Others*	5.2	5.9	3.6	5.3	8.1	5.8%
TOTAL						100%

Source:Reserve Bank of Zimbabwe, Quarterly Economic and Statistical Review, Vol. 9, No. 3, September, 1988, p.5.45 Derived from table 8.4

**Other Includes soyabeans, groundnuts, sorghum and pigs, sheep and goats slaughterings.*

Cotton, cattle products and sugar constistently alternate between the second, third and fourth rankings in sales and GDP contributions over the years. Together with tobacco, therefore, these four crops have been contributing approximately 70% of the GDP. Generally however, while tobacco and cotton (and maize) have shown increasing GDP share contributions, cattle products and sugar exhibited a slight declining trend. Maize in general has ranked fifth in contributions to sales, if own consumption were adequately accounted for. Thus, around 10 commodities, led by daily produce, wheat and coffee contribute 25% towards the GDP.

Average Commodity Growth Rates/Per Capita Production

The average index of food production per capita declined from the base figure of 100 in the 1979/81 period to 92 during the 1984/86 period.[6] This reflected to some extent the drought effects of the 1983/84 seasons. Production figures for 1987 and 1988 suggest that per capita figures may be declining further due to the disproportionate food commodity annual rate of growth in relation to the 3.2% population annual growth rate.

In absolute volume terms, however, commodity production between 1980 and 1988 decreased products, while it grew, over 25% for wheat, around 50% for maize, over 150% for small grains, four times for groundnuts after some years of poor performance,

6 World Bank (1988), "World Development Report".

around 40% for soyabeans, over 30% for cotton, an average of 60% for all tobacco types and well over 650% for sunflower.

Thus even though the five major commodities in terms of GDP contributions have been stable in their proportional contributions, there has been an overall high level of commodity production growth among all crops, with the less prominent crops exhibiting extremely high annual rates of growth, as well as overall growth between 1980 and 1988.

Agriculture Employment

Agriculture has consistently continued since the mid, 1970s, through to the present to provide the largest share of formal employment, although this proportion had steadily declined from 34% in 1980 to around 26% in 1988, due to the falling absolute numbers employed (Annex Table I...). Meanwhile, 59% of the total labour force is in Communal Areas, suggesting that as a whole in 1986 agriculture contributed to around 70% of all the employment in Zimbabwe.[7] This comprises approximately 15000 large and small commercial farmers, 280,000 farm workers and around 16 million communal farmers, out of a total active labour force of approximately three million and 4.2 million people above 15 years of age. The share contribution of communal farmers in particular has increased from the 1982 estimates to 1.03 million to 1986 estimates of between 1.59 and 1.75 million farmers, reflecting an increased shift of the residual formally unemployed to communal farming. It would thus seem realistic to estimate that since 1980 alone agriculture has gained approximately a 10% increase in the absorption of the total labour force, regardless of whether these are underemployed or there are some hidden forms of unemployment. Moreover, there are still some 300,000 or more inactive labour force enumerants in the Communal Areas to account for.

Significantly, however, formal agricultural employment which had been growing on average at 2.1% during 1965-1975 declined thereafter at rates of -2.7 during 1975 and 1980, and -3.3 during the 1980 - 1985 period.[8] Recent figures suggest that growth has resumed at rates hovering around 2% between 1986 and 1988.[9] Meanwhile the share of agricultural earnings has been erratic, ranging from 15% in 1979, 9% in 1980, 46% in 1981 and 11% in 1983.[10] It is not expected that this share would have grown much higher, as it is clear that the minimum-wage enactment gains of 1981, have not been equallymatched by real wage increase over the last few years.

While labour productivity in agriculture grew at an average of 6.6% between 1980 and 1984, experiencing declines during drought years and having increased drastically over 1978 and 1979 levels of value added, it has not been expected by GOZ plans that this would grow more than 6% per year up to 1980. According to the GOZ:

> It would appear that changes in productivity have been primarily influenced by economic growth performance, combined with the extent to which individual sectors can reduce employment in response to lower levels of output, among other factors. This explains the relatively good performance registered by the agricultural sector...[11]

7 CSO (1988/89), Labour Force Survey of 1986.
8 World Bank (1987) Annex 1, p.22 Table 3.
9 Ministry of Lands, Agriculture and Rural Resettlement (1988), Table 1.
10 MFEPD (1986), Socio-Economic Review, p.100.
11 Ibid (1986), Socio-Economic Review, p.103.

Relatively professional and skilled labour in agriculture only constitutes 6% of its formal employees, reflecting lower skills than other sectors.

Export Earnings Contribution

The total share of agricultural exports, values, growth rates and actual commodity volumes are presented in Annex Tables II. These show that agriculture's share contribution to export earnings have varied from 18.7% in 1979 to 33% in 1981 and 27.6% in 1984. Current prices, agricultural exports value grew from Z$186 million in 1980 to Z$400 million in 1984: not much considering the steady devaluation of the Zimbabwe dollar over these years. The volume index of the main exports, tobacco and cotton, saw the former change negligibly and the latter improve by about 43% from 1980 to 1986, while in current value terms tobacco gained significant net gains in 1986 of around Z$56 million from 1980, and cotton with its large volume increase over the same period had on average negative gains hovering around Z$5 million per annum. (Annex Table III.)

Commodity export growth ratesshow that while only tobacco and cotton grew positively in 1980, during the previous five years coffee, sugar, tea and other smaller export commodities had grown positively. Otherwise exports of the rest, especially maize and meat, performed badly before and in 1980. Since then, however, the meat exports growth rate grew positively during the drought years, while the maize exports rate grew phenomenally. Tobacco export growth rates were negative for some years, while cotton, tea and sugar have had favourable growth rates by 1986.

SUB-SECTORAL ROLES IN AGRICULTURE

Introduction

Although there are eight identifiable agricultural sub-sectors for practical reasons of data disaggregation and policy analysis it will be expedient to discuss in this section only the sub-sectoral roles of two broad sub-sectors, namely, the "Commercial Sector" largely represented by the LSCF and the "Communal Areas" dominated by peasants but including resettlement farmers. The aim here is to focus on features related to the scale and organisation of production more than on issues of tenure and origin.

Sub-Sectoral Contributions and Growth

The absolute contributions of the "Commercial Farmer" sector (LSCF) and the "Communal Areas" are presented in Annex Table IV. The larger share of agriculture in the GDP is consistently contributed by the LSCF whose minimum ever share in 1981 was 65%. The Communal Area share rose somewhat from its average 25% share contribution before independence closer to 30% since 1980, and declined sharply (in 1983) during the drought years. These gains, of course, reflect the post-independence policy support received by the Communal Areas while the sharp declines in drought years reflect the overwhelming dependence of Communal farming on dryland cultivation. The sustained effects of drought also affected the LSCF by 1985 in the form of reduced stored irrigation water capacities and borrowing capacities, hence the unusual contribution figures then.

When we assess average sub-sectoral annual GDP growth rates, however, we find that positive rates of growth have been extremely high since independence in Communal Areas while during drought periods sharp negative growth rates were experienced. On average, however, during the 1980 and 1988 period the Communal Areas starting from a lower absolute GDP base have experienced a growth rate above perhaps 5% per annum while the LSCF growth rate was around or below 5% per annum.

These sub-sectoral GDP growth trend, are more easily understood when analysed through the sub-sectoral commodity production patterns discussed below.

Sub-Sectoral Total and Per Capita Commodity Production and Yields

It is abundantly clear from Annex Table V that sub-sectoral production is distinguishable among commodities related to their market destination, domestic use-value, economic value and environmental adaptability. The summary sub-sectoral commodity production pattern has been as follows:-

PEASANTS OR COMMUNAL AREA DOMINANT COMMODITIES

Commodity	Status	Distinguishing Features
Maize Subsidized	Dominated by peasant through LSCF withdrawal on basis of returns	The staple wage-food, subsidized but exihibiting declining gross- margins, politically difficult to tamper with price increases. Export markets not lucrative
Cotton	Slightly dominated by peasants LSCF constrained by labour bottlenecks.	Adaptable to drier Natural Regions where peasants are situated and suitable for spread-out household labour for cotton picking. Not ranking high in terms of gross-margins and heavy labour management demands Exports markets value tending to decline.
Sorghum	Almost totally dominated by peasants and specially Mhunga food	Suitable for the driest Natural Regions, where hunger has been problematic. Therefore deliberate policy targeted for Communal Areas to encourage food self-sufficiency.
Groundnuts	Indeterminate but tending towards peasants dominance unless combines made available	Suitable for middle Natural Regions and soils but extremely labour intensive and requiring heavy labour managment Groundnuts combine harvesters not easily available for large-scale farmers

sistently less than 50% of those attained in the LSCF. Land is thus extensively used (productivity-wise) particularly to produce maize for home consumption and sales. These low yields data being averages reflect more the pervasiveness of production in mostly marginal lands with neither reliable water (rainfall or irrigation) nor adequate seasonal inputs

Significantly about 30% of the national cotton crop in 1988 was produced in Gokwe district, dominated by peasants and State farms.[12] The absolute and relative data on cropped hectarages also reveals that Communal Area land is mainly allocated to maize and cotton, while yields data suggest that in all the crops Communal Area yields levels have been consistently less than 50% of those attained in the LSCF. Land is thus extensively used (productivity-wise) particularly to produce maize for home consumption and sales. These low yields data being averages reflect more the pervasiveness of production in mostly marginal lands with neither reliable water (rainfall or irrigation) nor adequate seasonal inputs (as will be discussed later), rather than pure

12 AFC (1988): Bi-annual Statistical Digest, p.8.

skills deficiencies. Apparently, however, even LSCF yields in some crops such as tobacco and cotton are still below optimal due to picking labour problems and curing practices.[13]

These environmental constraints also significantly influence sub-sectoral crop-mix choices. Per capita production figures sub-sectorally are not easily accessible. Based on productivity levels, total output, available land and the rising Communal Areas population, it is safe to assume a declining rate of per capita production.

Sub-Sectoral Contribution to Foreign Exchange Earnings

The discussion here deals only with gross sub-sectoral contributions to foreign exchange earnings mainly because to arrive at net earnings (gross-earnings less costs of farm imports value) is cumbersome given the status of current published data and the aura of confidentiality surrounding such information.

In keeping with the pattern of commodity production among the sub-sectors and the fact that communal maize and marginally tobacco and tea exports, the LSCF has continued to dominate the foreign exchange earnings contributions from agriculture. Estimatedly, Communal Areas contribute well below 10% of the foreign exchange earned by agriculture, which means Communal farmers earn approximately less that 30% of the overall national foreign exchange earnings.[14] The position in 1980 was, however, perhaps three times lower than the above estimates.

Even without accurate figures it should be clear that estimatedly the LSCF consumes over 80% of the direct foreign exchange costs for agricultural imports, through its capital-intensive technology, fertilizer and agro-chemicals consumption, farm transport, electricity and packaging materials. This clearly suggests that Communal farming is not currently foreign currency consumption- intensive compared to the LSCF.

Sub-Sectoral Contribution to Employment

As earlier discussed, almost all registered formal permanent and casual employment is to be found in the "Commercial Agriculture" sub-sector, with perhaps over 90% engaged by the LSCF and the rest split between the State farms of ARDA, the small-scale commercial farms and the forest estates of the Forestry Commission. On the other hand, "Communal Agriculture", inclusive of resettlement schemes, engages almost all peasant or communal farmers, estimated at about 1.7 million, and contributes to most of the "occasionally hired labour" category. Although difficult to quantify, we estimate that approximately 80000 households use "occasionally hired labour" (about 10% of Communal Areas households, for at least one day, leading to perhaps the equivalent of at most 1000 permanent farm jobs per annum.[15]

13 AFC (1988): Bi-annual Statistical Digest, p.7.

14 The proportions have been estimated from various CSO tables and Reserve Bank tables on commodity outputs values and exports.

15 This figure is a conservative estimate from various recent surveys including a ZIDS survey on employment in agriculture (1988).

Ignoring the nuances of employment formality and "communal" farming, in 1981 the LSCF engaged only 21% of all agricultural labour while Communal Areas absorbed 79% of those engaged in agriculture, while by 1986 the LSCF proportion had declined to 15% and that of Communal Areas had risen to 85% (Table...). This pattern reflects both the trend of decline in formal agricultural employment per se as well as the tendency towards the residual absorption of new labour force entrants into communal farming.[16]

As stated earlier, therefore, while the Communal Areas engaged up to 59% of the total CSO, defined active population there is substantial circumstantial qualitative evidence pointing towards the existence of underemployment at least within agricultural work in Communal Areas. Aspects such as the limited land and water resource base, both land and labour productivity, the widespread engagement in non-farm work as well as the domestic resource procurement (energy, water etc) and labour requirements point towards the under-utilization of labour in agriculture.

Similarly, the apparent under-utilization of land, albeit debatable in quantity, represents the under-utilization in both the LSCF and communal sectors, but of a different nature.

The GOZ has been well aware of this sub-sectoral employment development contradiction as highlighted in the following statement:

> It appears that there has been a tendency over the years for farmers (LSCF farmers) to move towards mechanized production methods, and also to switch to crops whose production is labour saving. This trend has been exacerbated during those periods when average earnings rose most, for example from 1980 onwards, when average earnings rose substantially as a result of minimum wage legislation. The falling trend in agricultural employment underlines the need for policies which enhance production by peasant farmers, influence the types of crops produced, and enhance the resettlement exercise and the formation of cooperatives, where larger numbers can be employed[17]

It seems, however, that as the minimum wage effects have waned with real wages falling by 1985 and 1986, the growth of formal agricultural wage employment has resumed, but at a low average annual growth rate of only 2%, and this still not *reaching the pre-1980 formal agricultural employment levels.*

Commercial farmers suggest that the main problem for formal employment growth has been the labour regulations, which resulted in the shedding of unnecessary labour and the resort to more casual than permanent labour.[18] They estimate that a removal of these could improve formal agricultural employment, all things being equal, by 10% (that is, approximately 30000 permanent workers) in the short term.

All this still would not put a major dent into the numbers of rural unemployed who now stand at:[19]

- officially stated unemployed in Communal Areas = 40000
- Population inadequately accounted for amongst the inactive population in official statistics (especially among those 20 years and over = 120000
- ZIDS estimate of underemployed and Communal farmers (1.6 million Communal farmers = 800,000 households of which, according to Riddell

16 The 1982 data are based on the CSO census, while 1986 data are based on the CSO Labour Force Survey data.
17 MFEPD (1986), Socio-Economic Review, p.120.
18 ZIDS interview with CFU officials, 1988.
19 Analysis based on CSO Labour Force Survey, 1986.

carrying capacity is exceeded by 2.5 times by 1979, 400,000 excess allowing for 50% gainful employment 200000 =200000

Conservative Crude Estimate of Hidden Unemployment =360000

This figure equals the additional Communal Areas farmers counted by the 1986 CSO Labour Force Survey over and above their 1982 count of 1.03 million Communal Areas to approximately 10% of the Communal Area population. Neither the current LSCF employment capacity nor Communal Areas as they are can cater for this.

Sub-Sectoral Earnings and Income

Minimum wage legislation and labour shedding in the LSCF increased significantly that sector's average earnings since minimum wages rose by 19% in real terms from Z$30 in 1980 to Z$85 in 1986 at current prices.[20] According to the MFEPD report, over 50% of the LSCF formally employed earned under Z$75 at current prices in 1982, a situation which by 1985 had not changed much.[21] There is little evidence to suggest that this aggregate level of earnings had changed significantly by 1988.

Average household cash incomes in the LSCF were found to be at Z$864 for LSCF employees, while cash incomes for Communal Areas" households averaged Z$837 in 1986.[22] Other studies in general report annual Communal Area earnings much less than the CSO figures.

While there remains much controversy over the absolute earnings and incomes in Communal Areas from farming and their purported heavy reliance on remittances, it is nonetheless clear that incomes there are lower than in average LSCF households let alone than the average poor urban households. As will be discussed late,r this is reflected in the low consumption levels and restricted consumption patterns there.

This, however, cannot be surprising when we consider that the average annual total commodity sales of around Z$150 million have been shared among 800,000 households, before input costs are paid for.($200 per capita). Survey data from various studies corroborated such low per capita sales incomes in communal areas.

20 See also World Bank 1987 Annex 1, p.26. Table 7.
21 MFEPD, 1986 Socio-Economic Review 1980-1985, p. 91.
22 C.S.O. 1986: Incomes and Expenditure Survey, p.

CONCLUSIONS: POST-INDEPENDENCE ACHIEVEMENTS

The discussion above reveals that there have been considerable gains achieved by the agricultural sector and particularly by Communal farmers during the 1980 to 1988 period, in terms of the average rate of growth in production, a fair degree of diversification of output and exports, growth in average earnings of labour, increased value of production and expansion of domestic food consumption (sales) particularly amongst urban consumers in spite of the droughts. Communal Areas participation in a few commodities outputs, earnings and slight output diversification improved significantly from a low base over the period. However, formal employment opportunities declined, while the dependence for livelihood on Communal farming accelerated and unemployment levels amongst the relatively more educated youth increased. The average levels of Communal Area land productivity for virtually all the crops and livestock remained well below those so far attained by large-scale farmers, while there is evidence that below 25% of the total Communal Area farmers, and mainly those on better land, have significantly contributed to this output growth performance.[23] Evidently, therefore, the Communal Area per capita production has on average declined while productivity for the majority located in marginal drier areas, remains dismal. There thus seems to be a fairly high level of underemployment or hidden unemployment in Communal Areas. The above gains, however, reflect to a large extent the positive effects of post-independence policies and relatedly the changing agricultural resources structure. To what extent the resource and policy framework have changed in magnitude and effort is the subject of the next sub-section.

23 Moyo, S. (1986) "The Land Question", Jackson, J. (1987) "Rural Incomes and Food Security."

AGRICULTURAL RESOURCE ALLOCATIONS AND POLICY FRAMEWORK

Introduction to Policy Framework

A central feature concerning the allocation of agricultural resources before independence was the extremely inequitable distribution of land (quantitative and qualitative), water (irrigation) resources, livestock resources, extension and research services, rural and agricultural infrastructure (including markets and broader services) and relatedly financial resources in the form of investments, subsidies and credit. These differences were clearly reflected in the technology levels, labour utilization, and broad productivity indices and efficiency amongst the agricultural sub-sectors. The basic principles which underlay this were, apart from financial privilege, to create a guaranteed supply of cheap labour from the Communal Areas, to reduce agricultural economic competition and maintain social security at little cost.

Since 1980 the GOZ has embarked on a range of agricultural and rural policies (see Chart 2) whose aim was both to encourage overall growth in the sector and to create a more equitable distribution of agricultural resources. The thrust of these policies was to redistribute land, develop the Communal Areas infrastructures, services and markets, extend investments and credit to Communal Areas and to develop Communal Areas skills and technologies in order to improve the efficiency of resource use and productivity. Other critical supportive policy measures including pricing, subsidies, research, land use reorganisation (involving also grazing schemes, conservation measures) were also implemented to instrumentally improve the resource base of Communal Areas and promote growth in production and productivity.[24]

Furthermore, the GOZ targeted Communal Areas for a large investment programme in development (mass education, health, etc), administrative and participatory planning reorganisation (through new provincial and grassroots structures), cooperatives and community development, and income generating activities as a means of improving the standards of living there and hopefully to stimulate overall economic productivity and employment prospects.

These agricultural policy initiatives tended to be guided overall by the GOZ strategy of growth with equity. What has been less obvious, less clearly articulated, and therefore less concretely targeted is the role of agriculture, through its various sub-sectors, in employment development.

The results of these policies and programmes and their implied effects, through resource allocation patterns, on employment development during the 1980 to 1988 period are assessed briefly below.

24 See various GOZ plans and policy documents.

AGRICULTURAL RESOURCES ALLOCATIONS

Land Resources

Out of the 39 million hectares of Zimbabwe's land, categorized into five Natural Regions according to rainfall, soils and temperatures, over 64% of it is in Natural Regions II and V which is suited, under dryland farming, largely for semi-intensive and extensive livestock farming. Up until 1980 the Communal Areas, which occupied 41% of the total land mass, were situated on over 60% of this lower quality of land amounting to approximately 12 million hectares. During the same period the LSCF, which occupied 40% the total land, controlled close to 80% of the prime lands of Natural Regions I and II, suited under dryland conditions for intensive mixed farming as well as specialised and diversified farming. Small Scale Commercial Farmers (SSCF) and State farms (ARDA) occupied a small proportion of the total land (less than 5% together), again largely in the extensive farming areas.

Although land was acquired cheaply, as a result of a long history of speculative activity and subsidized land development investments (building, irrigation, farm infrastructure, etc) an advanced land market had emerged by 1980, with escalating prices, somewhat protected by Lancaster House constitutional guarantees for "willing" traders in land. Unfettered land market forces and the virtual absence of land taxes to control land use efficiencies, and political reconciliation constituted the environment in which the GOZ was to attempt land redistribution by 1980. Then, as today, policy consensus was achieved somewhat over redistributing unused and/or underutilized lands in the LSCF within a willing traders market. Up-to-date there is, however, controversy over how much land in the LSCF was and is underutilized: there is evidence ranging from 10% to 50% rates of underutilization.[25] However this is a subject which can only be resolved by more detailed on-farm research within the LSCF.

This structure of land distribution, therefore, underlines the farming systems whereby the LSCF consists of approximately 5 000 farmers, and up to 1.5 million people comprising farm workers and their families. Individual farmers average around 3 000 hectares in size with an average of 70 permanent workers. Corollarily approximately 800000 Communal Area households of an average family size of 6.5 members are situated on largely deteriorating marginal lands.

Even after the resettlement programme, whose net purpose was to relieve pressure on Communal Land, had acquired up to 2.5 million hectares by 1988, the population in Communal Areas of over 4.5 million people had an average access to approximately 3.9 hectares per household, and even less arable land (3 hectares per person). Only 51000 household, had been resettled by the beginning of 1989, with relatively higher arable land levels available to households (at least 5 hectares).

Even before 1980, prior to resettlement of lower Communal Area populations, it had been estimated that their carrying capacity then was at least three times

25 See Moyo, S. (1986), Riddel, R. (1987) and the CFU unpublished paper on land utilization.

over-saturated.[26] By 1989 it is not unreasonable to expect a four-fold breach of safe carrying capacities.

At any rate it had been estimated that in some areas up to 40% of young Communal Area residents are landless.[27] When we combine the landlesses estimates together with carrying capacity breaches, we estimate that in 1989 at least 300000 so-called Communal Farmers are not productively engaged on land due to access to small quantities of poor and deteriorating land. There is, of course, need to refine, through empirical research, these estimates.

Livestock resources availability in Communal Areas almost matches land's importance as a means of ploughing, food and due to its private invetibility role, as well as its land-consuming capacity in both LSCF and Communal Areas, and its ever-increasing commercial role in local and international markets. As livestock is critical for crop production in Communal Areas, the fact that an average of up to 50% of Communal Area[28] households do not own any means that aggregate Communal Area "overstocking" results from the practices of a smaller proportion of the population there, while current trends of crop production encroachment on grazing land[29] reflect the direction of land conflict resolution in a situation of generalised agricultural crisis within the Communal Areas. This also reflects the growing debatability of the draught power based mixed farming system/technology relevance in both deteriorating Communal Areas and Resettlement Areas, where the little available finite land is required by too many.

Policy efforts since 1980 to increase equity in land resources distribution although, laudable in having secured up to 6% of the land for at least 51000 households, seem, however, not to have attained the magnitude that would meaningfully remove the main constraint on agricultural production growth in the Communal Areas. More critically, given the already cited growing estimated unemployment or underemployment levels in Communal Areas, land deterioration, the unsuitability of land there for intensive farming (labour absorbing), and the extensive land use basis of the main draught-power technology there, prospects for overall Communal Area agricultural growth are severely limited under present conditions. How resettled land has been used will be discussed later.

Irrigation Resources

Introduction

At present irrigated agriculture covers 134,999 ha. This sub-sector is almost exclusively within the domain of commercial agriculture. Only 2% (2680 ha) of irrigated land is located on communal farms. Within the commercial farming sector, medium-scale private farms cultivate 91840 ha of crops under irrigation. Large-scale irrigation schemes are mainly found on large company estates, a total of 30176 ha, and ARDA

26 Riddel, R. (1978) "The Land Question," Mambo Press Series, V.2.
27 Riddel, R. (1977) ibid p.9.
28 Various surveys over the last eight years converge on this percentage.
29 Cliffe, L. (1986), "Agrarian Returns", FAO Consultancy in Zimbabwe.

estates, 9184 ha. Major irrigated crops are wheat, sugarcane, coffee, tea and cotton. Irrigated agriculture provides employment opportunities of a magnitude of 153500 man-years.

Various irrigation studies now demonstrate that less than half of Zimbabwe's irrigation potential is actually used.[30] As with land, irrigation resources have been highly inequitably distributed, while post-independence efforts in water development have been most visible in the construction of boreholes and wells for consumptive rather than productive use in Communal Areas.

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, amended in 1976), call for riparian rights transferable with property. The State has an active role in the provision of subsidized water to agriculture, beginning with the Mazowe Dam (1920) and the Kyle Dam (1960) for irrigation development in the Lowveld. The beneficiaries in both cases were private multinational companies. MOre recently, the state is financing irrigation development for a private company in the Mwenezi District on a joint venture basis.

The settler regime introduced the Farm Irrigation Fund in 1966 to subsidize irrigation development in the LSCF sub-sector through confessional interest rates on irrigation development loans. A significant irrigation infrastructure was set up in the LSCF sub-sector resulting in the distribution of irrigation-based farming sub-sectors at independence as shown in Table III.4.1 below.

Table III.4.1

DISTRIBUTION OF IRRIGATION-BASED FARMING BY AGRICULTURE SUB-SECTOR

	1981(ha)	1981(%)	1988(Area)	(1988(%)
Large Company Estates	30 400	23.4		
Commercial Settlers Farms	10 500	8.1		
Commercial farm units	80 000	61.5		
ARDA (TILCOR) Estates and Settlers	5 900	4.5		
Small-scale Irrigation in CAS	2 800	2.2		
Small community Irrigation Schemes	400	0.3		
Total 1	30 000	1 00.0		

Source: Irrigation Potential of Zimbabwe

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 4 and 5 of the Save Valley. These became the percursors to the later TILCOR irrigation schemes. The schemes in the CA's therefore, have not benefited a many peasantry.

30 Irrigation Potential of Zimbabwe.

The resurrection of State financing to irrigation development under the National Farm Irrigation Fund (NFIF) has been the loans allocated to the LSCF sector being oversubscribed whereas those allocated to the Communal Areas sector have still to be disbursed. The NFIF is administered by the AFC as a long-term facility repayable after 25 years. Whereas this facility as applicable to the LSCF sub-sector, is conditional on the growing of a certain hectarage of wheat, there are none such conditions as it applies to the Communal Areas sub-sector, although co-operative 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 tail-end of his productive life. The issue of transferable debt obligation is obviously important here. It remains to be resolved whether private Communal Areas irrigation should be emphasized over mega-scale Government water development in Communal Areas.

The Communal Areas production base at higher yields and out of the low-value commodities seems feasible only if significant irrigation investment there takes place as evidenced by the growth and development of $21 million in the last three years alone.

However, irrigation so far developed in Communal Areas has experienced certain problems, and hence tends to be unviable, because of the continued lack of crop diversification related to limited skills and inputs packages development, choice of low-value crops, relatively inefficient management of schemes, higher water consumption per hectare due to the choice of less efficient irrigation technology systems and the relatively poorer soils under which such schemes have been implemented.[31]

In spite of all these problems Communal Area schemes have been labour intensive, have provided food security for households, stabilized incomes, increased yield levels comparable to LSCF farms. Furthermore, these schemes have tended to require power initial investment outlays than in the large-scale commercial farms sector.[32] Irrigation resources are thus critical for Communal Area employment development.

Infrastructural Resource Issues

Until 1980 the infrastructural resources planning framework and allocation system were overwhelmingly directed for productive support towards the LSCF areas, within their highveld and interconnecting major towns and centres, for their inputs, markets, storage and transportation needs.

Cheap electricity under special tariffs connected over 80% of the LSCF, while perhaps over 50% of the 2836 kilometres railway by and large was used by agriculture alone (with the LSCF goods taking up over 70% of this). LSCF roads were and continued to be visibly in better condition due to the rural council's need to mobilize resources from

31 NFAZ (1987) Crop Diversification Programme.
32 World Bank (1987), Potential for Irrigation.

rates, while the LSCF consumed 15% of national liquid fuel (diesel and petrol on farms) and agriculture-related transport (still largely servicing the LSCF) utilized approximately 50% of the national liquid fuel imports.[33] The special Road Motor Services (RMS) of the National Railways of Zimbabwe operating on the basis of large minimum payloads beyond the capacity peasants connecting collection centres, was also dominated by the LSCF, given the locations pattern of the railway and the main 85000 kilometres of roads network.[34] The LSCF also benefited from wholesale and tax-deductible fuel prices, shorter distances to the majority of commodity collection centres and inputs suppliers in comparison to Communal Areas. On the other hand Communal Areas suffered high transport, levy and handling costs and poor supplies of physical inputs.[35]

Out of over 50 grain depots and 17 cotton ginneries, as well as the main abattoirs and dairy collection points, over 90% were located within the LSCF, with the ratio having been reduced to 30% with the construction of approximately 15 depots and a ginnery in Communal Areas. In good years (e.g. 1985/86) the capacity of depots was exceeded however, for the first time since independence due to the increases of output from Communal Areas.

The marketing cooperatives intended to bridge the infrastructure gap of Communal Areas in the supply of inputs and in marketing, while having benefited tremendously from post-independence GOZ support, continue to be weak, lack adequate facilities, inadequately financed and confronted with organisational farmer support.[36] As indicated by the president of the National Farmers' Association of Zimbabwe, escalating inputs and marketing costs remain a critical factor in reducing viability in Communal Areas,[37] while also limiting the capacity of Communal Farmers to benefit from available proven technologies, price incentives and a variety of GOZ services.

The GOZ, however, since 1980 reoriented to a fair degree the infrastructural development process in Communal Areas, even if, as suggested by other data,[38] the major resource allocations were allocated to social services, more than to the productive infrastructures. For example, by 1984, through the District Development Fund approximately 22000 kilometres of Communal Areas road had either been constructed or reconstructed at approximately Z$36 million over four years.[39] In spite of such investments, an approximately eight-fold increase in, for example, inputs movements into Communal Areas, and over 40% outputs movements, the scatteration of transportation demand, generally poor roads, lower load sizes and vehicle resources development, transportation costs in Communal Areas remain 4 to 5 times higher than in the LSCF.[40] The result is that marketing costs are up to 25% in Communal Areas,

33 Various sources including Tickner, V. (1979), "The Food Problem", Mambor Press. The Economist Intelligence Unit (1988) "Country Profile: Zimbabwe.
34 ILO (1989), Background Paper on Transport for Zimbabwe Study, p.15.
35 Ticker, V. (1979), ibid. EIU (1988), Zimbabwe, p.17.
36 World Bank (1983) Zimbabwe: Agriculture Sector Study.
37 Interview with ZIDS Researchers, 1989.
38 See Section IV.2. on Investment and ILO Macro-Economic Review Section (1989).
39 MFEPD (1986) Socio-Economic Review, p.154.
40 ILO (1989), Transport Sector Background Report, p.16.

as compared to 5% in the LSCF, while inputs delivery costs are 50% of the ex-factory prices for Communal farmers as compared to 10% for the LSCF.[41] Furthermore, it is reported that there has been a trend of conflict between the maintenance and construction of new roads in Communal Areas, resulting in lags of maintenance and greater road rehabilitation needs.[42]

Passenger transportation in Communal Areas, mainly through "rural buses", has improved since independence, through various policy measures such as licensing and foreign exchange allocation to emergent businesses. These services are, however, inefficient due to poor market planning, financial instability, over-utilized capacities, poor availability and the high prices of spares, inadequate fleets, bus shortages and road quality, as well as poor area overall.[43]

Overall, therefore, the transport situation in agriculture is extremely constraining particularly for Communal Areas and is beginning to rely on rescue operations by the GOZ's own facilities (the army, local government, etc.) due to the lower than optimal vehicle and network capacities, and the cost/price squeezes for operators and farmers.

Other rural infrastructural requirements have been increasingly extended to Communal Areas since 1980 but at rather low absolute physical levels. Thus rural electrification, through growth points, has been allocated less than Z$10 million over the last eight years and has thus since reached less than 25 centres, afforestation has increased since independence with budgets of around Z$3 million per annum its benefits and have begun to be felt in about 24 districts but with low coverage. Environmental activities (including reclamation, control and organisational support) will require approximately Z$1 million during 1988/89, while up to 30,000 boreholes have been sunk mainly through aid programmes during droughts throughout Zimbabwe (before and after 1980) supported by numerous wells which are the main source of Communal Areas water.[44] Interrelatedly, however, environmental instability is a source of major concern in terms of escalating deforestation, soil erosion, veld overgrazing, water management and generally land-overutilization in most Communal Areas.

More recently after the 1984 droughts, significantly the GOZ introduced special public works programme, (SPWP), as part of its drought relief efforts targeted at improving infrastructures such as gullies, wells, dams, buildings construction, dirt roads, brick-moulding and related activities. Given the extent of infrastructural problems identified above and the relatively low financing of the SPWPs, at approximately Z$60 million since 1985,[45] it is unlikely that the magnitude of infrastructural efforts has been sufficient for employment and growth.

41 Ibid, p.6.
42 World Bank, (1988) p.3.
43 ILO (1989), Transport Sector Background Report, pp. 19-21.
44 Various sources including, Moyo, Katerere and Stevenson (1989): "Zimbabwe's Environment" Hancock, Katerere and Moyo (1988), "Rural Electrification in Zimbabwe", and various GOZ Budget Statements.
45 ILO (1989), "Public Works Programmes": Background Paper for Zimbabwe Study.

As far as credit is concerned, the Government has facilitated the extension of credit to the Communal Areas only after independence since the Agricultural Finance Corporation (AFC) as a State-owned corporation had until 1978 lent exclusively to the LSCF sector (Tables 2 and 3).

While the number of loans to both the Communal Area and resettlement sub-sectors have grown tremendously in value terms, the LSCF sub-sector still accounts for a greater share (60%) than the other sectors.

Table 2

AFC LENDING BY AGRICULTURE SUB-SECTOR 1980-86

(Number of Loans)

YEAR	LSC	FSSCF	C.A	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.4

Table 3

TABLE OF AFC LENDING BY SECTOR, 1980-86

Year	LSCF	%	SSCF	%	CA	%		Resettlemt		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	106.6	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 Communal Area, 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.[46]

The AFC, by increasing its loan portfolio, has also had to contend with increased transaction costs with respect to loan default and recovery, given unfavourable weather conditions in three of the last seven years. Default rates are now at least 30 to 40 percent for the Communal Area sub-sector. According to AFC regulations, short-term loans are redeemable over only one growing season expect in the case of disastrous season, usually associated with drought. However, given the precarious financial situation of Communal Farmers, short-term credit in drought years has introduced a vicious debt trap. The usefulness of credit is thus restricted in Communal Areas by land and water resources, as well as its levels and forms of availability.

Research and Extension

Only around 25% of Zimbabwe's agricultural research investment, amounting to Z$2 million or less than 2% of Communal Area output, has been directed towards these less technologically advanced areas since independence. As mentioned earlier land quality, rainfall limitations, irrigation and infrastructural resources at any rate together pose severe constraints on the adaptability and accessibility of proven technologies to Communal Areas. Apart from the draught-power and irrigation technology bottlenecks confronting Communal Areas, and their independent secondary restrictions on broader level technology adoption it has been suggested that the following sets of constraints require research attention for the poorest Natural Regions:

> (i) the low rainfall regime - through improved micro-level moisture conservation, shorter-term maize and millet varieties, possibly periodic deep ploughing by tractor, and introduction of crops like cassava; (ii) the precarious economics of using fertilizers - through better placement methods, refinement of recommended nutrient ratios and amounts, improved availability and management of animal manure especially through better grazing control even to the point of land tenure changes, and planting of fodder legumes which also fix nitrogen; (iii) peaking of labour demands - through continued plant breeding towards within-the-row weeding and, possibly, chequerboard planting techniques (a range of appropriate technology options need continuing investigation); (iv) the conflict over veld management.[47]

Since 1980 various institutions have undertaken such research, although as earlier discussed yield improvements in Communal Areas have not on average passed the 50% growth mark, leaving productivity still well below half LSCF levels.

The range of extension messages carried to Communal Areas since 1980 are aptly summarised by the following quotation:

> For Natural Regions IV and V, improved moisture and soil conservation and proper weeding (although these could all benefit from further appropriate technology research), improved seeds, judicious use of fertilizers and crop insecticides, improved practices for specialized crops like cotton and oriental tobacco, groups calf-rearing schemes, mineral supplements for cattle, reintroduction of veldt management schemes, dosing cattle for worms. dehorning, and general livestock disease control, and woodlot management; for Natural Regions I,II and III, many of the messages, but in addition more widespread use of fertilizers, increased adoption of higher technology cash crop recommendations for

46 Herald, The (1988).
47 World Bank (1983): Agriculture Sector Study, p.60.

tobacco, vegetable and horticultural crops, intensive smallholder dairy schemes, and a wider range of improved crop varieties.[48]

Since 1980 the extension worker: farmer ratio has improved to 1:800 from 1:1 500 in the 1970s, while the quality has been improved by facilities, trained manpower and methodologies used. However, service levels are still inadequate and constrained by Communal Area resources.

It is critical also that the LSCF and the better-off Communal Area farmers are increasingly services by extension agents of private companies independently or in collaboration with the GOZ. These parties emphasise "technical packages" that have as their aim increased agro-chemicals usage, while other input suppliers like irrigation and farm machinery companies complement the technical packaging. A good example being 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 the "Kohwa Pakuru" effort whereby Agritex in conjuction with promote "appropriate" herbicidal and other chemical usage. Additionally, the farmer unions increasingly play an important role, with the LSCF being more sufficiently resource, endowed for this.

The non-governmental organisations (NGOs) are another means of extension, in the Communal and Resettlement Areas, where technical advice is geared to ensuring local control and an accountability of the funding provided by the NGO, and relatively successful attempts to meet the poorest farmers, needs.

Agricultural Investment Resources

As evidenced from the above resource constraints, overall investments patterns since 1970 (Table 4) and the pattern of GOZ allocations perceived in the macro-economic discussions earlier, agriculture has on the whole tended to receive the lowest share of investment (below 12%) and the consequences of this pattern have been borne by disadvantaged infrastructural, water, land and services in Communal Areas.

Table 4

AGRICULTURAL INVESTMENT TRENDS (1980 PRICES)

Period	Agriculture ($mn)	% shares	Total
70 - 74	387	11.0	3 509
74 - 78	328	10.7	3 071
80 - 84	228	11.2	2 038

Source: CSO National Income and Expenditure Report 1987, Harare Table 3.5

In terms of the LSCF, the fact that cropped hectarages have steadily hovered around 600,000 since the mid-1970s, and the suspected underutilization of land, and relatedly the transfer through Government purchase of numerous farms, it seems that we may

48 World Bank (1983) ibid.

have been experiencing a low overall rate of private investment which has tended to decline. This is so even though the LSCF utilized much of the GOZ credit, and a substantial amount of private commercial bank credit, the trend in types of credit used confirm this. For instance, the LSCF has shown increasing reliance on short-term credit from the AFC, and commercial banks vis-a-vis the utilization of own finance. Entry into large-scale farming has become difficult as opposed to the past were low land prices, capital access subsidies encouraged land development-based accumulation in the LSCF. That is, investment costs for new entrants, especially blacks, has become high and perhaps not as attractive an investment as other sectors. In this connection it is instructive to note that most LSCF 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 ARDA is competitive in the agricultural property business because of its legalist monopolistic position.

In Communal Areas, on the other hand, there has been a focus on distributional elements by the State with respect to expanded social services and domestic "basic needs" consumption aspects of investments (table...). The recurrence of short-term drought relief in rural areas has also assumed a permanency in budgetary and fiscal outlays. The GOZ "Growth with Equity" policies, thus, took a consumptionist orientation in Communal Areas while the urban populations have received the greater proportions of such transfers.

On the other hand, private and/or decentralization of investments while not clearly quantifiable here were limited to a few growth points. Thus policies during the past eight years stimulated the trends 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 investment value. Improvement of the circulation process and the consumption structure in Communal areas, as well as the development of decentralized social mobilization and administrative capacities,have been the major source of GOZ resource outlays in Communal Areas.

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 implements are important medium-term investments, livestock tends to reflect more the private investment capacity. Here, with, losses due to drought and livestock quality, aggregate numbers have remained static around three million cattle head, owned by approximately 60% of Communal farmers, since 1980.

As far as GOZ outlay patterns are concerned, infrastructure grants and subsidies dominated the capital expenditures budgets throughout the period (see Annex Table VI). As suggested earlier grants, and subsidies to marketing authorities, while more recently benefiting consumers, tend in the final analysis to have support among the LSCF which utilizes a greater proportion of the services of these institutions. Meanwhile, infrastructural expenditures have yet to be felt in the feeder roads, water, and storage facilities of Communal Areas, to a greater extent than benefits attained in the form of social services there.

Overall Policy Impact

The positive policy effects on steady agriculture output growth in general and on Communal Areas contribution in particular, in spite of drought shocks, results from steadfast and appropriate producer pricing policy support, subsidies to maintain an increased post-independence urban demand boom in a shifted political environment and increased resource outlays to infrastructure, credit and services in Communal Areas. Land reforms and irrigation development played an insignificant role in sustaining the post-independence structure, while apart from aggregate Communal Area output increases, productivity levels remained well below levels attainable in Zimbabwean conditions. Land resources access and gainful employment thereof thus declined since 1980, within the finite deteriorating land resources. Unemployment has since grown, inspire of the "descaling" of numbers suspected in the Labour Force Survey. Overall levels of investment were not favourable to agriculture and Communal Areas in particular, while investment and production patterns in the LSCF effected declining formal employment.

If, on the one hand, the post-independence effects of equity and resource redistributional policies did not yield an expanded employment based in agriculture, through restrained productivity gains in peasant crops, the limited diversification of production and, thus, the limited growth of labour-intensive crops in Communal Areas, then on the other hand neither did the remaining growth oriented policies encourage labour intensification in the LSCF. The most salient and pervasive agricultural growth-oriented policies since 1980; "fair" producer pricing and consumer subsidies policies, led to a national crop-output mix that did everything else (including food security), increased exports volumes, encouraged increasing Communal Areas' low-valued large and small grains food security, maintained LSCF milk and beef viability, etc, but significantly expand labour-intensive commodities such as groundnuts, tobacco, horticulture and even LSCF cotton. Cotton began a declining tendency instead in the LSCF because of micro-level labour shortages[49] and tobacco picking labour was not optimally mobilized.[50] Thus both the prices for the labour intensive crops, and their implied gross-margins' growth trends (that is, effective costs of production), as well as conservative responses to wages[51] and labour regulations policies, have thoroughly militated against aggregated commodity-based labour intensification in the LSCF.[52]

Parri passu, the pattern of the post-independence demand boom exhibited in increased and deepened urban households food consumption, leaving behind abysmally low levels of Communal Areas food consumption (quantities and variety), which was proposed by the current commodity structure of consumer subsidies (maize, milk, wheat and, less so,

49 While CFU officials interviewed seemed to suspect a voluntarist unwillingness of "Africans" to do picking of cotton, this may easily be explained by the low casual wage returns to piece-work.

50 This trend reflects perhaps the medium-term effects of labour shedding of permanent workers in the LSCF in response to minimum wages labour regulations, as well as labour management organisational problems for non-plantation settler farming under an "independence" political environment.

51 As stated earlier, real wage increases have declined as have their proportion in the production costs structure, as shown in CFU unpublished costs of production data.

52 Foreign exchange allocations to technology imports and the capital-intensive trend as a whole identified in the macro-economic section of this paper reinforce this.

small grains) underguided a narrowly based (in numbers of consumers) and low-labour consuming structure of domestic demand. Thus pricing policy and subsidies related to food demand have tautologically reinforced a planning target, and hence beneficiaries, which do not maximize the crop-output-mix which optimizes employment intensification. Moreover, the resultant Communal Areas demand structure remains qualitatively and structurally akin to the pre-independence demand patterns and its various economic consequences. Meanwhile, the long-trodden reliance on urban remittances has been reinforced by this administered demand mechanism. Thus even the incomes redistribution objectives of the GOZ, as they relate to Communal dwellers, may have been mitigated by the pricing signals and consumer subsidies targeting direction.

It is not surprising, therefore, given the apparent evidence on the type of administrative and technical duties of the agricultural ministry which relate mainly to pricing, research and extension services, that employment considerations are not a priority in policy and planning. All this suggests that there is overdue need for an employment orientation in current agricultural policy.

THE RECOMMENDED AGRICULTURAL GROWTH AND EMPLOYMENT DEVELOPMENT STRATEGY

The Strategy

Introduction and Broad Premises of the Strategy

Present patterns of agricultural resources allocation and utilization, agricultural product demand structure; employment and incomes levels and trends and their associated policies have so far encouraged some output growth but little employment development in the sector. Originally premised on a combined growth with equity, the outcomes so far suggest that the strategy has so far been conservative and inadequate to deal with the growing unemployment and underemployment problem in rural areas. Looking ahead, the particular socio-economic costs of continuing the present strategy will be severe. Even currently proposed reforms such as selective trade liberalization, foreign exchange allocations adjustments and their associated increased growth in the industrial, mining and complementary sectors, will not positively influence the rural unemployment and development problems abundantly discussed earlier.

The present policies and conditions will no doubt lead to further increased unemployment, declining aggregate and land and labour productivity, regional and social inequalities, increased malnutrition and drought relief dependency and a worsening public and private capacity to maintain over-subscribed rural services. Under such precarious material conditions the past modest successes in the socio-political mobilization for the transformation of a lop sided and discriminatory socio-economic order may be difficult to sustain or improve, while political stability itself may not be easily guaranteed.

There is need, therefore, for a new agricultural growth and employment development strategy as a key element in the overall resolution of unemployment.

It should be emphasized that formulating a new strategy for rural and agricultural employment development in Zimbabwe in 1989 is rather overdue as will be reflected in the ensuing discussion. In fact, the main advantages realised here are the assessment of post-independence performance over a longer period[53] of eight years and that most studies have not been employment-oriented. Moreover, the last integrated rural development plan for Communal Areas (in 1984) was ill-fated.[54] While previous research findings have been used here, it is clear that these have never been well integrated and sufficiently analyzed policy-wise in relation to broader agricultural development.

In fact, some policy studies which directly impinge on employment and land reforms,[55] apart from their pre-recovery analysis setback, have tended to grossly underrate the

53 Most studies, reports and the development plans are based ou data ending in 1984, while the most copiously used documents here (MFEPD and World Bank) are two years behind and respond to the recovery of 1985/86 whose optimism is not yet real.

54 Another study by FAO (1986) on Agrarian Reforms was not well utilized by policymakers.

55 For example, Kadhani, and Green, R.G. (1985): "Parameters as Warnings and Guide-posts: The Case of Zimbabwe," Journal of Development Planning, No. 15.

employment/unemployment situation. As estimate of "350 000-odd African peasant households" is used for 1985 when other data suggest there are over 800 000 Communal Area households alone!

Objectives of the Strategy

The interrelated set of objectives of the recommended agricultural growth and employment development strategy would thus include:

- Massive employment of the unemployed and underemployed labour force within Communal Areas.
- Reducing of poverty through raising agricultural labour and land productivity, per capita production and incomes generated from these and associated rural activities.
- Reducing rural-urban and agricultural sub-sectoral inequalities.
- Reducing drastically rural-urban out-migration.
- Transforming the one-sidedness of the national economy through rural economic transformation.
- Developing a complementary capacity for self-reliant access to and contributions towards growing and improved social services in Communal Areas.
- Redirecting social mobilization, administrative reorganisation, popular participation in planning, human resources development activities in Communal Areas towards improving their employment and productive capacities.
- Increasing the efficiency of resources utilization.

Requirements for the Strategy.

The strategy will, inter-alia, require the undertaking of a wide range of complementary activities and resources commitments including:

- Improving and expanding rainfed land utilization within all the agricultural sub-sectors: Communal Areas, the LSCF, the SSCF, State farms and Resettlement Schemes. This will entail harnessing unused and underutilized lands, as well as the redevelopment of over-utilized and/or mis-utilized deteriorating lands throughout the rural areas.
- Expanding the intensive cultivation of large areas of land, through irrigation of various spatial and management levels throughout all the sub-sectors.
- Introducing land resources sharing systems between Communal Areas and adjacent tenurial groups such as large farmers, State farms, State parks, State forest estates and resettlement schemes, through appropriate incentives, fees and GOZ institutional support, as a means of relieving immediate pressures.

- Building, through labour-intensive technologies, the rural physical, economic and environmental infrastructures necessary for the effective undertaking of strategies (a) to (c).
- Providing the newly employed and others with the appropriate support services such as credit, research, extension, etc.
- Providing the necessary finance from public and private sources through fiscal redistribution to facilitate (a) and (e).

An imaginative and special agrarian institutional dispensation, in terms of programme identification, formulation and implementation, will definitively determine the success of the proposed strategy. There will be need for critical institutional adjustments, in the role and activities of various central rural ministries, the Ministry of Agriculture, the National Planning Agency, and the role of district level planning organs and administrations, in order for the strategy to take off.

Moreover, specific policies, administrative practices, studies, pilot projects and plans, and human resource considerations, will need to be immediately evolved at the national and local levels in order to effectively implement the proposed strategy.

In the following section, we elaborate therefore the strategy's elements in terms of resource potentials, markets, implementation issues, (guidelines, supportive policies and financial resources requirements) and finally the employment implications of the strategy.

The Resource Requirements of the Strategy

Introduction

GOZ agricultural planning targets of 5% overall agricultural output growth and 8% Communal Areas output growth have so far no been met partly because of the host of constraints surrounding the droughts and the limited expansion of the potential productive capacity in both the LSCF and Communal Areas. To achieve these and higher levels of output growth and the associated employment development in the medium and long term there will be need for expanded investment in the development of land, water and infrastructural resources over the next 10 years.

The proposed strategy envisages a programmatic and coordinated investment into developing rainfed agriculture, irrigated agriculture and infrastructure, through a least-cost overheads and labour-intensive approach. Guided by a decentralised implementation approach (at the district level), in order to optimise local level variations in rainfed land potential, irrigable problems, complementary investments and environmental problems complementary investments into these resources would have to be undertaken after adequate consultations at various planning levels, among various ministries and among various sub-sectoral interest groups.

In the following sections, the three interrelated elements of the strategy's investment programmes, rainfed farming, irrigated farming and infrastructure, are discussed separately, prior to an assessment of prospects for requisite markets for the resultant output growth.

Rainfed Land Cultivation Development

Introduction

Developing the rainfed arable land under cultivation may be achieved through three approaches: (i) one form or another of resettlement on to underutilized or unused land within the LSCF and some State lands, (ii) expanding and improving on Communal Areas, Resettlement and SSCF rainfed lands' cultivation. (iii) resource sharing projects between pressurized Communal Areas and the LSCF and various State land-owning institutions without transferring ownership or resettling peoples.

Although it has become a commonplace checkmate in Zimbabwean agricultural policy discussions to predicate further resettlement on the success of Communal Areas improvements and current resettlement schemes, and while resource-sharing, already operating illegally and consequently under private arrangements, has never been officially considered, it seems clear that appropriately formulated programmes and investments around each of these three aspects constitute the key to the agricultural sector's future output and employment growth.

The temptation to focus most attention on the Communal Area development component has always been greater because of the political sensitivity of the other two components, and because of the presumed lower costs of that approach. In this context even irrigation is presumed too costly an alternative. Individually, however, none of these approaches has the capacity, given the finite land resource base, to satisfactorily ameliorate the current unemployment problem. At any rate, it will be necessary to complement these activities with employment generated through irrigation and SPWP.

Rainfed Resettlement on Underutilized and Unused Lands.

Introduction

The resettlement issue has so far been problematic because of the extreme political and emotional polarization of interests in land among the LSCF, peasants, State bureaucrats and other interested parties. As a result, there is evidence of a conundrum, surrounded by inertia and lethargy, over resolving objectively the land question. Due to past and present perceptions and practices, Zimbabwe was bogged down in decision-making over the following critical issues:

- consensually ascertaining precisely how much land is underutilized, unused or even misused,[56] and therefore the potential for resettlement.
- land use allocative efficiencies among sub-sectors and regions.

56 Misuse of land is usually associated with poor land and environmental husbandry practices of the Communal Areas, while in our view it relates to inefficient land uses (such as extensive beef land use on prime cropping land). This is so in spite of a number of studies as quoted earlier.

- objective assessment of the comparative viability and performance achievements of resettlement, LSCF and Communal Farming, and therefore appropriateness of the various resettlement models.
- the currency and cost-effectiveness of resources - environment preservation and conservation practices, expectations and recommendations and their effects of agricultural land-use allocations, as well as the premises of State institutional landholding for forest, parks and wildlife.
- the appropriate approaches to land accessibility reforms in terms of ways of rights to acquisition, forms of tenure and procedures of resettlement.

These areas of disagreement, and the associated pace of resettlement, have tended to limit the range of policy options and/or approaches adopted in resettlement.

There will be need to resolve finally these issues, through such approaches as high-powered investments into research and local level consultative commissions comprised of the various interest groups and appropriate technical expertise. This is an urgent short-term priority area of action, which has greater economic (not just political) implications for growth and employment development policy-making than seems to have been recognised so far.

Land Access Approaches

Meanwhile, an analysis of past approaches to land acquisition, tenure relations on existing resettlement schemes, current private LSCF land market practices, Communal Area land encroachment practices, unadopted land taxation proposals and the imminent constitutional prerogative of the GOZ when the Lancaster House Agreement expires in 1990, suggest that a broader set of policies and approaches are available to make land accessible to greater numbers of potential producers. New approaches to land access are available on the premises that:

- land access does not have to entail only GOZ acquisition through purchases and ownership under some formal resettlement schemes,
- that State lands under parks and forests should also be made available for access,
- the whole farms purchase approach be complemented and at times even be led by the purchase of part-farms focusing on the actually underutilized/unused land blocks,[57]
- private settlement and access arrangements be encouraged,
- Land taxation is introduced to encourage underutilized land at lower costs,
- GOZ-supervised land-based resource-sharing systems are encouraged,
- tenant farming be facilitated.

57 See also Kadhani and Green, R.G. (1985.

- resettlement does not have to entail large "blocks" of newly serviced schemes, but should include also a number of small re-serviced or redeveloped projects within an LSCF context,
- resettlement should also be about sustained natural resources utilization (timber, wildlife, tourism for householders.

Approaches formulated on the above premises should thus alter the willing-seller willing-buyer context of resettlement, without necessarily having to resort to the post-1990 prerogative to appropriate land, and complement the number of resettlement models so far adopted. Since there is pressure in communal areas for private land by some small capitalist farmers, resettlement should entail models that allow those aspirants with GOZ finances, such as:

- outgrower tenant farm schemes development on underutilized farms, over and above the same such found around large transnational and State farms,
- straight private tenant farm schemes,
- privately owned small sub-divisions of underutilized land sold individually and privately by LSCF farmers.

Within a context of land taxation such land access schemes would guarantee minimal Government management and financial resources expenditure, while ensuring lower land sale or tenancy values due to owner reluctance to pay taxes. Without land taxes, private land costs would be higher but paid for directly by the aspirant small capitalist farmers, again at minimal costs to the GOZ.

An additional temporary and perhaps limited model added would be the resource-sharing system, whereby LCSF farms are encouraged through tax incentives to provide untenured but contractual private access fee to communal farmers on to their lands particularly for the sustainable use of grazing, water, wildlife and forest resources. This already happens through poaching, agreement or perforce of circumstances but has never thrived sustainably because of the lack of a legal framework, incentives and adequate protection of both parties involved.

Finally, models such as Operation Campfire[58] and small agro-forestry farms as well as group wildlife ranches could also be more effectively established on current State forest and parks lands, if and when the legal framework and policy incentives to these institutions have been adopted. This should improve both the image of State concern for deprivation in areas bordering its land and reduce its policemanship role, as well make room for some employment generation.

Resettlement Potential

The objective clarification of the nature and amounts of underutilised lands, as well as acceptable criteria for assessing efficiencies and values of land, land-use models and

58 This is a programme to improve Communal management and use of natural resources experimented on in the Kariba area.

cost-benefits of sub-sectoral investments, and the broadening of the current resettlement policies and approaches as discussed above would result in a much clearer assessment of the overall potential of expanding rainfed agricultural output through land redistribution. In crude and general terms if we estimate that at least 30% of the LSCF is potentially underutilized,[59] and perhaps another 30% of State lands are available in order to give access only to its perimeteral lands, as well as 20% of the communal area lands are unusable due to tsetse infestation, remoteness and population distribution, then we have a minimum cultivated land expansion of 3.9 million hectares, 1.7 million and 2.3 million hectares respectively. This amounts to a total of 8.9 million hectares minimum potential available for resettlement under cropping, livestock, and natural resource exploitation small farmer enterprises.

This minimum total of resettlement potential is, however, insufficient to tackle the unemployment and land pressure problems discussed earlier. At current dryland farming average levels of household access to land, which conservatively hover on average around 20 hectares for cropping and grazing combined per household, this amount of available resettlement land could accommodate approximately 400 000 households. But under rainfed conditions and given that the unused/underutilized communal area lands and most of the State parks and forest lands are in Natural Regions IV and V, it would be more realistic to estimate that available land could cater for about 200 000 households if these are intensively (per land unit) resettled.

This would takecare of less than half of those who are either unemployed or underemployed within communal areas, excluding new entrants into the land markets within the next five years.

Resettlement Performance Guidelines

Progress in resettlement has only accommodated 25% of the estimated households which could be resettled if the land was made available. Moreover, the programme has been undertaken under four models as described below:

Model "A", which has dominated the resettlement programme to date, is based on the allocation to a household of at least five hectares cropping land and 15 hectares of grazing. In areas of high agro-ecological potential, the grazing element appears to encourage under-utilisation of land but does provide a resource for future use. Almost 50 000 families have been resettled on about 2 million hectares, mostly in Natural Regions III and IV. Large groups of former squatters and landless persons from overcrowded Communal Areas were settled under the accelerated Model "A" schemes, without assets and lacking credit and significant assistance. Unsurprisingly, yields from such schemes have been low.

Model "B" is based on the producer collective cooperative with an average of 60 settlers on whole former commercial farms. Collective land use and management rights are held through elected committees. There are approximately 3 000 such settlers on 50 collective farms, many in Natural Regions I and II with an average farm size of 1 500 hectares. Although well-endowed with good land, these cooperatives have had little

59 This is in between % on the basis of various studies including the Tax Commission Report. Moyo, S. (1986), Whitsun Foundation (1983) and the CFU.

access to finance, equipment and support services other than that initially provided by foreign NGOs. Lacking managerial skills to engage in large-scale farming, with a few notable exceptions, they have resorted to cropping small areas of maize.

Under Model "C", approximately 4 000 people, mostly master farmers with histories of competence, have been resettled under Model "C", outgrowers with 10-hectare plots attached to State farms in tea, cotton and wheat. ARDA provides support services, inputs and marketing facilities. In terms of productivity, the model has been successful - largely as a result of offering opportunities to the least disadvantaged of the rural population.

Model "D" resettlement makes provision for the peasants on adjoining Communal Areas to have access to grazing land on large ranches. This model is considered to be very significant in showing the potential environmental gains of resource sharing in Natural Regions IV and V, but unfortunately is yet to be implemented due to a number of interrelated problems.

Originally, targets in the Transitional National Development Plan of 162 000 families to be resettled by 1986 and then a further target of 15 000 families per annum in the 1986-1990 Five-Year National Development Plan have not been realised. In fact, by the end of 1988 only 51 000 households in all had been resettled.

To undertake such resettlement the Department of Rural Development has approximately 1 200 officers, a recurrent budget of Z$8 million, and a capital budget of Z$25 million with the latter augmented by aid.[60]

But the question of costs has been bedevilled by the absence of mechanisms to control land market prices and the system of whole farm purchases as discussed before. On average, land purchase costs have taken up 55% of total resettlement costs.[61] with the purchase of 2 million hectares having cost Z$42 million (that is Z$39 per hectare). At such costs it would take at least Z$200 million to acquire the above estimated potential for resettlement. Little wonder that most assessments of the resettlement options past performance and future have not been favourable!.

These costs could be halved with the introduction of land tax and part-farm purchases discussed earlier, while the remaining costs could be equally shared between GOZ and private small farmer acquisitions. Even if, as is desirable, a land purchase credit schem were introduced, the overall cost-benefits to the GOZ and resettlement overheads per settler and per land unit would be drastically reduced. Together with a more intensive resettlement mode, in terms of reducing land per household and descaling drastically the livestock land component, the resettlement programme could proceed at much lower costs for many more settlers.

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60 The British ODA, Kuwait, the EC and the ADB are the main financiers, while no technical assistance is provided for this.

61 FAO (1986), "Policy Options for Agrarian Reform in Zimbabwe: A Technical Appraisal", p.90.

This should enable the GOZ to more seriously provide to resettlement productive resources such as credit, inputs support, markets and draught power, at reasonable costs to settlers. This latter support is critical because most of the current assessments of the performance of resettlement tend to conclude that the output and productivity on schemes is unimpressive.

The evaluative methodologies of most such studies tend, however, to be flawed for a variety of reasons.[62]

It means that the future performance of resettlement schemes can with appropriate investment support, be relatively more successful than the current promising performance on many Model "A" schemes.

If the resettlement programme is also implemented in such a way that provides incentives for the adoption of labour-intensive crops particularly in Natural Regions I and II, especially horticulture, groundnuts and tobacco, then its employment potential can be expanded. Furthermore, if hired labour use is encouraged on environmentally reliable schemes, through credit for labour as provided by the AFC for the LSCF and adequate social services for labour reproduction, as well as new settler selection criteria and some more household operational degrees of freedom are introduced, then the resettlement programme would have expanded employment development prospects. However, the GOZ has to commit itself to substantial investment and policy modification to make resettlement more meaningful.

Communal Areas Rainfed Agricultural Improvement

Introduction

In Communal Areas there are three aspects that require strategic attention, namely:

- sub-optimally used rainfed lands.
- over-utilized and/or misallocatively used lands.
- underutilized lands.

The underutilized lands which dominate the areas around Zimbabwe's northern borders and a few scattered pockets have been treated for clarity under the resettlement rainfed agricultural land expansion programme, and do not need further discussion here. The spatial character of the sub-optimally used and overutilized land is rather complex and not easily amenable to national policy formulations, beyond systematically defined district level project identification activities. Therefore, these two options cannot be treated in much detail here as is required for the programme recommendations of our proposed strategy.

62 As already mentioned, cost-benefit analyses of the resettlement programme have been prejudicial because of the manner of land acquisition (whole farms) and prices levels which are uncontrolled. This puts off the whole economic and financial assessments. More commonly, however, production assessments tend to compare meaningless averages of settler farmers (in terms of inputs build-up, shortfalls, land quality, and the unrepresentativity of comparisons of current outputs, versus previous outputs on underutilized lands), with expected outputs and LSCF optimal yields.

Resource Requirements

To clarify matters, over-utilized lands constitute a range of Communal Areas or wards which are characterised by heavy human and livestock densities, well above critical land carrying capacity thresholds, where encroachment on grazing lands and streambanks has reached crucial heights, while soil erosion, gullying, veld degeneration, rainfall unreliability, overcrowding and landlessness are typically the problems.[63] Land-use reorganisation and land density reductions are the critical needs.

Sub-optimally used Communal Areas are those where land pressure has not yet reached critical levels, but where yields, already constrained by environmental considerations, are further limited critically by rainfed agricultural resources (inputs, markets, infrastructure, skills, draught power and credit) and services limitations (extension, research, etc), as well as requiring investments for environmentally sustaining activities (such as veld protection, land-use and grazing reorganisation, livestock and human water supplies etc).

Investment Activities

In both areas widespread development activities aimed at improving output productivity levels and output diversification among communal farmers are required with sustainability objectives as follows:

- increased land-use reorganisation
- increased investments in land developments infrastructure for conservation, afforestation, veld improvements, livestock and human water consumption supplies.
- investments in centres or facilities for crop and livestock inputs supply and product support.
- investment in research and extension services as identified earlier.

Integrated projects including; grazing schemes, livestock health, breeding and fattening centres, construction works, micro water projects (boreholes, wells, weirs and small dams), farm inputs delivery centres, draught/fraction power centres, community and individual household woodlots and productive tree planting, and farming systems research centres need to be increased at least three times their current levels, and utilized to substantial growth and service centres within Communal Areas.

Employment and Growth Potentials

A model for developing one million hectares block of Communal Areas in Natural Region IV, assuming a minimum farm household numbers growth of 1.1% per annum, constant stocking rates due to increased off-take and the adoption of maximal improved

63 See Whitsun Foundation (1983), - for details.

dryland farming techniques, was expected over 15 years to improve yields of maize by double (from 500 kg/ha to 900 kg/ha) and groundnuts by 80% (to 540 kg/ha), while gross-margins would increase by 0.9% per annum.[64] This low input development programme would thus create a compound annual output growth rate of 4%, at about Z$3 million invested per year on facilities and equipment for research, extension, animal management health centres, collection centres for cooperatives, rural afforestation, construction of dirt roads and support for input centres.[65] This model, with a 15% economic rate of return, would create up to 5 500 extra jobs in 10 years on 1 million hectares, and on aggregate approximately 46 000 jobs over 10 years (4 600 per year) in all the Communal Areas. Over 10 years the costs would amount to Z$480 million, at an annual rate of increase of Z$48 million on 15 million hectares.

Such projections are too low to deal with the Communal Areas unemployment problems identified in this paper. The strategy proposed therefore assumes high levels of investments, involving approximately five times the above magnitudes of facilities, services and inputs provided for production activities targetted at a wider range of crops and livestock types. This amounts to financial requirements of Z$240 million per year to cover 16 million hectares and approximately 30 000 extra jobs per year in the agricultural activities.[66]

Implementation Guidelines

In operational terms, therefore, an additional Z$240 million per annum split between capital and recurrent expenditure would then be spread over the relevant GOZ institutions that implement programmes such as, the AFC, Forestry Commission DDF, C.S.C., Veterinary Services Department, Agritex, Ministry of Energy and Water Resourcesand Development, Department of Natural Resources, Marketing Boards, Research and Specialist Services, Ministry of Cooperatives and Community Development and so forth.

The district administrations will, however, have to play a central role in the identification and formulation of the integrated phased implementation of these projects. Non-governmental organisations and donors would also be encouraged to participate in these programmes.

In the construction of the various facilities, however, maximum care should be taken to maximise on labour-intensive means of engaging the unemployed, as discussed in the following section.

64 See World Bank (1983).
65 ibid, p.62.
66 Crude estimates are given to give broad indications of magnitudes.

Irrigated Agriculture Options

Potential for Irrigation

Increasing employment through irrigation in Zimbabwe can occur through either of two means: (1) expansion of small-scale irrigation schemes on communal areas; or (2) expansion of large-scale irrigation schemes through State farms (ARDA). Empirical analysis of project proposals reveal that the two types of schemes have about the same employment generation potential per hectare, about 68 man-years per hectare. Private commercial farms, on the other hand, have a much lower employment potential, 0.22 man-years per hectare (see Table 2). A comparison between the two approaches must take into account four important factors: (i) the income generated by the different type of schemes; (2)the amount of funds invested in the construction and maintenance of the schemes; (3) the management required of the schemes; and (4)the irrigation efficiency of the schemes. These factors are now examined in greater detail.

The income generated by the alternative approaches depend mainly on the choice of crops produced (and their respective profitability), and the level of crop management achieved by the farmers. Irrigation schemes in communal farming areas are generally considered having less income-generating potential than commercial irrigation schemes. Thus, communal farming schemes are estimated to generate 1 000 less Z$ per man-year of employment than ARDA schemes (per hectare (see table 2). However, this lower level of profitability may be due to allocation of irrigated land to crops of lower level of profitability. In their view of the irrigation potential on communal farms, the NFAZ argues that one of the major problems of present small-scale irrigation schemes on communal areas has been management recommendations to produce low-value crops. In addition, lack of access to markets further limits the profitability of communal farming irrigation schemes (NFAZ, 1987) while the lower yields achieved by communal farmers may be the result of lower level access to high-yielding varieties, and associated inputs. Further, most communal farming schemes are located in Natural Regions IIIV, regions with low potential for crop production due to low quality soils. Thus while at present communal farming irrigation schemes earn less income than commercial schemes, improved management of the schemes, and increased experience of irrigation agriculture by communal farmers, increased income of these schemes can be expected.

A major difference between the two approaches lies in the amount of funds invested in the construction and maintenance of these schemes. To generate employment of one man-year per hectare, ARDA estates require twice the amount of funds than communal farming schemes. Private commercial farms require four times the amount of funds as compared to communal farming irrigation schemes. Hence in terms of employment, communal farming irrigation schemes are the least-cost option to GOZ. (see Table 2).

The management requirement is greatest for small-scale irrigation schemes in communal areas. These schemes require both irrigation supervisors and extension agents. The analysis of irrigation projects estimated that small-scale irrigation schemes had a management requirement that was five times as much as commercial irrigation schemes, and 40% more than Government estates with settlers (World Bank, 1987 p.17). However, in terms of employment creation for each unit of management constraint,

commercial irrigation schemes were only 37.5% more efficient than small-scale irrigation schemes. ARDA estates, on the other hand generated twice as much employment for each unit of management constraint.

Both commercial and ARDA irrigation schemes are more efficient users of irrigation water. In Natural Regions I and II they are 25% more efficient than communal farming irrigation schemes; in Natural Regions III, IV and V, they are 15% more efficient (Table 3). These schemes are more efficient because they use technologies that are more efficient water users, and less water is wasted as a result of application of water on smaller fields. Small-scale irrigation schemes are less efficient because they use outdated irrigation technologies such as open canals (which lose large quantities of water due to evaporation), and because water is lost when transported among many small fields. On the other hand, small-scale irrigation schemes require less foreign exchange in their construction, and are less costly overall. The lower level of irrigation efficiency means that the communal farming irrigation approach can only cover up to 284 000 additional hectares, while the ARDA option has the potential of irrigating 363 000 ha.

Table 5

FUTURE IRRIGATION POTENTIAL BY NATURAL REGION AND PRODUCTION SYSTEM (X 1 000 ha)

Natural Region	If cultivated in commercial production systems	In cultivated in communal production systems 1
I/II	108	92
III	139	110
IV/V	116	82
Total	363	284

1 The total area is smaller due to higher water requirements in this system.

Source. World Bank, and Kingdom of the Netherlands. Country Report: Study on Options and Investment Priorities in Irrigation Development - Zimbabwe April 1987: p.v.

Table 6

COMPARISON OF THE EMPLOYMENT CREATION POTENTIAL OF DIFFERENT PRODUCTION SYSTEMS WITH RESPECT TO IRRIGATION

Production	EMPL 1	NPW 2	FUND/EMPL EMPL/FUND 3	MCAP/EMPL EMPL/MCAP 4		
Private Large Farms	0.22	13,900	0,004	25,900	100	0.099
Government Estates (ARDA)	0.68	4,160	0.006	17,500	170	0.006
Communal Farms	0.67	3,100	0.013	7,900	77	0.013

1 Employment generated in man-years per ha

2 Net Present Worth at 10% discount rate in Z$

3 Development Funds required in Z$

4 Claim on management and implementation capacity expressed as an index value

Source: Ibid., p. C25.

Table 7

IRRIGATION EFFICIENCY (1987)

Production System	Natural Region		
	I/II	III	IV/V
Commercial/estate farming	70	65	65
Communal farming	50	50	50

Source: Ibid, p.38.

Employment and Costs

Communal Farming Irrigation

According to irrigation potential studies, the maximum land area that can be placed under communal farming irrigation schemes is 284 000 ha. This is 20% less land than if the commercial farming irrigation strategy is followed due to the lower irrigation efficiency of communal farming (see V.3.1). If irrigation schemes are placed under the communal farming areas, employment opportunities can be created equivalent to 190 000 man-years. This investment into small-scale irrigation schemes would require funds of about Z$1.5 billion, and can be expected to yield about Z$600 million as net present worth (Table 8).

Irrigation under Government Estates

Assuming that the total potential land for irrigation is placed under Government irrigation schemes, e.g. ARDA, 363 000 ha of land will be placed under irrigation. In such a case, employment opportunities would be created for 250 000 man-years. Investment into irrigation facilities on Govermnent schemes will require funds of about Z$4.4 billion, and can be expected to result in a net present worth of about Z$1 billion (Table 8).

If all potential irrigatable land was allocated to private large-scale farms, a maximum of 363 000 ha could be placed under irrigation. Such an investment would cost about Z$2 billion, and result in employment opportunities equivalent to 80 000 man-years. Such an investment strategy can be expected to result in a net present worth of about Z$1 billion (Table 8).

Implementation Guidelines

District Irrigation Programme:

The key administrative structure for the proposed irrigation strategy is the District Irrigation Programme (DIP). This programme will be responsible for the co-ordination of the irrigation activities on the district level. The activities carried out under the DIP will vary across the country. In Natural Regions I and II, the focus on irrigation investment will be to increase the optimal use of land on large-scale commercial farms, and the intensification of cultivation in communal areas.

Thus investment into irrigation in these areas relates to improvement of existing facilities, through e.g. extension of credit facilities. Horticultural crops may dominate the cropping pattern in these regions. In Natural Regions III, and IV, and V, the main priority will be the expansion of irrigation facilities in communal areas. This may involve construction of dams which can be jointly used by different types of farmers. Irrigation will consist of both supplementary irrigation for rainfed crops, and dry season irrigation of crops such as wheat. In these regions the co-ordinating role of the DIP will be very important.

The DIP will ensure that irrigation funds are channelled such that the investment results in an optimal allocation of resources to irrigation in terms of employment creation and income generation. The types of irrigation schemes proposed for different production systems are briefly discussed below.

Production Systems:

Communal Areas (Natural Regions I - V)

Medium-Scale Communal Irrigation Schemes (MSCI).

These schemes are thought to encompass 100 or more rural households. These relatively large-scale communal irrigation schemes require a high level of co-ordination among the farmers for their successful implementation. Either the schemes are organised under own management, or as an alternative, under ARDA assisted management.

Small-Scale Communal Irrigation Schemes (SSCI).

These schemes cater for about 30 households. Since the number of households is smaller, their management requirement is likely to be less than the MSCI schemes.

Communal Household Irrigation Schemes (CHIS).

These schemes correspond to an extension of the Rural Water Supply Programme into water uses for productive purposes. This approach is aimed at areas with high groundwater potential. Already, a number of communal farmers are using water received through this programme for productive purposes such as cultivation of gardens or watering of livestock. A major problem with the rural water programme has been maintenance of water pumps. Efforts to overcome this problem will not only have social benefits but also income benefits, if a household irrigation component is added to the Rural Water Supply Programme.

ARDA Irrigation Schemes (Natural Regions II-V)

ARDA schemes with settler components are more employment oriented. On the other hand, they are also more costly in terms of management. Where ARDA estates exist or will be established, expansion of the irrigated area will have a positive impact on employment generation.

LSCF Irrigation Intensification (Natural Regions I and II).

The aim of this programme is to ensure optimal land use through medium and long term credit. This credit scheme will be used for the construction or extension of on-farm irrigation infrastructure.

Table 8

COMPARISON AMONG DIFFERENT IRRIGATION STRATEGY ALTERNATIVES

Production system	Potential Irrigated Area (ha.)	Employment (Man-years)	Investment Funds (Z$) (billion)	Net Present Worth (Z$) (billion)
Communal	284 000	190 000	1.5	0.6
Government Estates	363 000	250 000	4.4	1.0
Private Large Farms	363 000	80 000	2.0	1.0

Source: World Bank, etc. (1987) p.C.25.

Infrastructural Public Works Programmes

Introduction

The above agricultural programmes combined will not be able to absorb fully the unemployed or underemployed Communal Areas population, through direct production activities. There is ample scope, however, for the unemployed to be gainfully employed in constructing the various infrastructures required for the successful implementation of the rainfed lands and irrigation developments proposed over the next 10 years.

Infrastructural Employment Potential

A Special Public Works Programme (SPWP) can be implemented in Zimbabwe, as an improvement on the current food-for-work drought relief programme. This programme, no more a relief activity, should be more categorically defined as an employment development programme to be planned with a fixed recurrent and capital budget, related in accounting and operational terms to the agricultural employment development strategy's infrastructural, land investment and land redevelopment programmes.

The specific activities which could be carried with labour-intensive construction techniques will include:

- Agricultural buildings and facilities: centres for livestock and crop inputs and marketing
- Research and extension centres
- Environmental works
- Forestry activities; communal woodlots, orchards, etc.

- Irrigation, human and livestock water supplies works
- Roads and related works
- Grazing, land demarcation and other redevelopment works
- Construction of materials works, including brick-making, wood, metal and furnishing products development.

The nature of raw materials utilised and the degree of labour intensiveness of the technologies applied will influence the degree of employment made available by the SPWP activities. Investments into the particularly important stages of planning, in the identification and formulation of projects in relation to skills, raw materials, technologies and local entrepreneurial organisational levels available, will yield greater returns to employment development.

Expected Costs and Impacts

Since official labour force figures conservatively identify approximately 40,000 people as unemployed but "active work-seekers", and the demographic growth and land availability patterns suggesting a rapidly increasing annual off-take of the unemployed youth (those between 15-29) within the next five years, we may reasonably target the SPWP efforts at employment at 150 000 people annually. Planners at the district level, the CSO, the Ministry of Labour, Manpower Planning and Social Welfare, and those associated with the infrastructural projects identified, should work actively at refining both the supply side of the SPWP (the nature of available labour in terms of volume, location, skills, etc), and the potential demand side of the SPWP (estimating numbers to be employed, phasing, costs, etc).

On the basis of present rural incomes patterns and desired minimum income levels, it is suggested that an expenditure of Z$3 000 per SPWP worker (divided between recurrent and capital costs) would practicably facilitate implementation.

This suggests the need for an annual budget of Z$450 million dollars over 10 years for the SPWP. As indicated before, some of the finances would be attributable to a variety of implementing organisations and the district administrations' coordinating these activities. The hope is that the improved incomes, and distribution pattern will lead to a more effective demand for agricultural products as well as improve the capacity of communal peoples to pay for social services.

Implementation Guidelines

Apart from the central role of district administrations in the identification and supervision of implementation of the SPWPs, in relation to technical support from the appropriate ministries, there will be need to redirect the social mobilisation and administrative promotional activities of the Ministries of Women's Affairs, Cooperative and Community Development; Local Government; Youth Sport and Culture; Political Affirs; Department of Social Welfare and non-governmental organisations towards the SPWP. Instead of retreating on budgetary commitments to these ministries, a redirection of their raison d'etre for mobilization is urged. Moreover, the social services construction programmes should themselves be re-oriented into the SPWP framework

outlined above. The remuneration of labour so organised at competitive wage rates is a sin qua non of the success of the SPWP.

More broadly speaking, the impacts of the agricultural programmes and SPWP proposed will be felt in the expansion and restructuring of the national demand structure, as discussed in the next section.

MARKETS POTENTIALS

The expected expansion in agricultural output following the implementation of SDRA would find three possible markets, namely:

- Potential increase in the demand for agricultural commodities from the rural population themselves.
- Potential increase in the demand for agricultural products from other sectors of the economy.
- Potential export markets.

The potential increase in demand for agricultural commodities from the rural population will be due to (a) the massive increase in the productively employed labour and (b) the growth of per capita income of the rural population both of which will result from the implementation of the ADRA.

The massive increase in the productively employed labour will consist of three main groups:-

- those who will be employed in the resettlement schemes rainfed areas;
- those who will be employed in extensive and intensive farming in the newly irrigated areas in the communal lands; and
- those who will be employed in the massive programmes of construction of the rural physical, economic and social infrastructure of the SDRA.

In 1985, the average income was very low in the communal lands - about Z$480 - a reflection of the prevailing high rate of unemployment and low productivity compared to more than Z$3 500 in the urban and semi-urban areas. In Harare, the average was Z$4 000. The income ratio between Harare and the rural areas then was 8 to 1.

Table 1a

AVERAGE HOUSEHOLD INCOME 1985 (Z$)

	Communal Land	LSC Farms	Resett-lement	SSC Farms	Urban & Semi Urban	Total
HOUSEHOLD	800 655	259 528	29 092	27 482	559 406	1 676 163
INCOMES IN CASH						
Primary	283	815	415	281	3 495	1 440
Property	4	1	4	1	40	16
Agriculture1	59	-61	540	602	-3	85
Enterprise	36	16	46	27	-3	20
TOTAL INCOME	482	771	1 005	911	3 529	1 560
Income Tax	-7	-7	-3	-7	-496	-170
Gifts, tra	62	86	98	528	228	274
AVAIL INCOME	837	864	1 100	1 432	3 261	1 664

Source: CSO (1988), National Household Economy, Income, Consumption and Expenditure Survey, 1984/85.

As a consequence of the low average household incomes in the rural areas their average annual consumption of food and non-food products is also low. For example, average annual household consumption of cereals in the communal areas stands at 82% of the average household consumption in the urban and semi-urban areas.

The average consumption of meat, eggs, milk in the communal areas accounts for 5% of that in the urban and semi urban areas while the consumption of oil and fats is around 66% of the latter (see table).

It is expected that with the successful implementation of SDRA labour productivity yields per hectare of many crops and hence per capita rural incomes will increase substantially in the medium and long term. Accompanying this growth of incomes will be substantial per capita increase, in expenditure on agricultural commodities in the rural areas.

Table III.3

AVERAGE, HOUSEHOLD CONSUMPTION OF FOOD, 1985,(Z)$

	Communal Lands	LSCF	Resettle-ment Areas	SSCF	Urban & Seml-Urb	Total
Cereals, bread	216	177	238	283	262	226
Meat	171	108	198	276	340	216
Fish	15	33	16	14	15	18
Milk Products and Eggs	75	40	94	235	146	96
Oil and fats	41	37	47	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 1986 Income, Consumption and Expenditure Survey, 1984/85.

Hence the potential demand that will be created by both the massive increase in employed labour and higher per capita incomes and consumption of agricultural products, particularly food, will create a large market for the potential expansion in agricultural products.

Targeting consumer subsidies to Communal Area households through pricing, nutrition programmes, local marketing support and selective drought relief would stabilise demand patterns temporally and spatially in such a heterogenous market environment.

Potential Increase in Demand for Agriculture Products from other Sectors of the Economy

Agriculture and other sectors of the economy like manufacturing, urban and rural informal sector and service sectors are closely inter-related and hence have strong forward and backward linkages. Increases in rural incomes following a successful implementation of SDRA will lead to increases in the demand of the rural population for goods and services produced in other sectors. This in turn will lead to an increase in the demand of non-rural sectors of the economy for food products and agricultural raw materials, which could absorb a major portion of the potential expansion in agriculture output following the successful implementation of SDRA.

Potential Export Markets of Products Produced in communal Lands and Resettlement Schemes.

Presently, the production and export of the agricultural commodities is dominated by large-scale commercial farming while farmers in the communal lands and resettlement schemes play a minor role in this regard. Of course, this is a natural outcome of the uneven distribution of fertile lands, irrigation facilities, credit and extension services, as well as the management and technical expertise of the commercial farmer, relative to other farmers.

Following a successful gradual implementation of SDRA, farmers in the communal areas and the resettlement schemes will be provided with better resources and facilities and they will be able to increase their share in the production and exports of several commodities such as cotton, coffee and beef.

Cotton

In the case of cotton, Zimbabwe produces high-quality cotton, over two-thirds of which is usually exported as lint. Until recently, over 50% of output came from the large-scale commercial farming sector. Over the last few years cotton, because of its drought resistance quality, had increasingly proved to be a good cash crop for the communal farming sector as well, whose share in output rose to 55% at the end of 1986 and may well increase to 60% in the near future. Cotton lint is the third largest export commodity, and remains important to the country by providing employment to as many as 45 000 to 50 000 people. According to the World Bank study the prospects for cotton lint exports are good.[67]

67 World Bank (1987) Country Report.

Coffee

At present coffee is grown largely under irrigation by large-scale commercial farmers and also by the Agricultural and Rural Development Authority. The Government is increasingly encouraging communal farmers to grow coffee but has yet to provide them with essential irrigation facilities, infrastructure and financial assistance. In Kenya 70% of the coffee crop is grown by smallholders. From an employment point of view, coffee offers great employment opportunities because it is labour intensive, and it is the fourth crop in importance in labour employed. Because of the high quality of the Zimbabwe coffee and the high yield, its export prospects are not unfavourable.

Beef - According to the 1982/83 Census the national beef herd was estimated at 5.6 million head with only 40% of the herd owned by commercial farmers and 60% held by communal farmers. Estimates show that the country could carry 6.5 million head of cattle on a sustained basis and with application of technology. Annual production could reach over 900 000. Small farmers in the communal lands and resettlement schemes, if given the necessary assistance by the Government, could contribute substantially to the growth of the beef herd and its export. There is a need to step up the present efforts being made by the Government to improve research, extension and veterinary services for farmers in the communal lands and resettlement schemes.

According to World Bank studies, future beef exports from Zimbabwe are expected to expand as the herd is gradually rebuilt and are likely to grow at around 7% per annum from now through 1995. The medium and long-term prospects for beef price recovery in the world market remain weak with production projected to outstrip demand. Under the circumstances, it is vital for Zimbabwe to meet its EEC quota under Lome III on time and to thereby maximise its benefits from this market.

Horticulture

Horticulture is a rapidly expanding export field still dominated by the LSCF, particularly the large irrigated estates of transnational corporations. Nevertheless, neither ARDA with its current irrigation capacity nor the peasant farmers for reasons of land and water resources, have yet significantly mobilized potential financial and managerial capacities to undertake export production of fruits and flowers, whose European markets are lucrative. Peasant fruit production is constrained by product quality (undesired varieties), while the financial overheads to establish flowers have been prohibitive, given their poor creditworthiness.

The labour-intensive nature of horticulture, and the agro-processing potential of its various products, within the current infrastructure suggest that their market potential would be equally matched by expanded employment. Pharmaceutical, food-processing additions, spicing and related commodities, under specialised production with agro-processing would also suggest a promising potential for domestic and regional export markets.

However, unless the overall output growth trend grows by over 4%, the export potential will be squeezed by the natural growth in demand for food, given the high population growth rates, let alone a sharpened Communal Area demand.

SUPPORTIVE POLICIES AND IMPLEMENTATION ISSUES

Introduction

For a proposed strategy for employment development in rural areas to succeed, it is urged that an employment orientation in agricultural and related policies, as well as in the implementation process be adopted. A crucial caveat is that the strategy's policy recommendations may seem to be crossing the grain of the broader GOZ policy objective of "socialist transformation", especially on the specific forms of land and tenure and aggregate labour protection aspects. These, however, do not constitute the essence of socialist construction, nor can it be said that current agricultural policies constitute a basis for medium or even long-term (10 years) socialist transformation.

A policy framework, which selectively singles out landed property rights for gradual socialisation (State ownership) through a few State farms and resettlement schemes, leaving prime lands as private large-scale landed property and overcrowded Communal Area cropped lands under more-or-less permanent usufruct rights (to the exception of communal grazing lands dominated by the 50% livestock propertied) is certainly not "socialistic" (and is perhaps not intended to be so). Private landed farming, while "capitalistic", has decidedly shown a negative tendency in employment development both on per hectare basis and on aggregate land capacity utilization.

Wages, for example, have declined in real terms to the extent that even casual work for incomes under severe droughts have neither attracted labour to pick labour-intensive crops nor to fully participate in community-based drought relief works programmes. To increase wages per se could not reflect the socialistic nature of the wages policy, especially under conditions of private consumption markets and gross unemployment levels, nor would this guarantee increased casual labour demand as long as alternative crops and technology are available. But it cannot reasonably be urged that farm mechanization be curtailed for, if so, on what basis and towards what long-term productivity vision?

These policy dilemmas and many more yet discussed indicate the need for more detailed research and planning applications towards employment development. Meanwhile, the situation suggests the need for a certain level of policy flexibility and shifts in agriculture if the sector is to create the employment which the other sectors promise little of.

Some form of a higher order level of political consensus should be developed over future employment development and land resources allocative efficiencies.

Areas for Policy Reformulation

As a complement to the employment development programmes presented and issues raised earlier, the following policy aspects are recommended for urgent action:

Land-Related Aspects

- The resettlement programme should be reviewed along the lines discussed earlier.
- Land utilization, land-use and farm systems assessments should be undertaken immediately and as a matter of policy be continuously undertaken.
- Land tenure policies, practices and their implications in all the sub-sectors be studied and reviewed urgently.
- Relatedly a land taxation system should be formulated, to suit appropriate land-use potentials, bearing in mind labour productivity, and be reviewed by all concerned for urgent enactment.
- Encourage LSCF land sub-divisions to 10 hectares minimum and private land transfers of the same.
- Provide incentives (in cash and kind) for Communal Areas land-use re-organisation, reclamation and environmental preservation works.
- Provide incentives to LSCF farmers for land resources utilisation sharing.

Wages, Labour, Pricing and Subsidies Aspects

- Minimise wage labour hiring controls for both permanent and casual labour.
- Increase both permanent and casual labour wage levels minimums.
- Allow for incremental payments on labour for intensive crop picking, utilizing farm credit provisions and tagging producer prices increases proportionally to labour demands.
- Selectively provide price incentives, subsidies and other support mechanisms to appropriate labour-intensive commodities.
- Phase out gradually consumer subsidies targeted at urban populations and redirect consumer subsidy expenditures at increased levels towards Communal Areas consumption support.
- Introduce special producer price and other subsidies for a Communal Areas crop diversification programme.

Credit and Finance

- Broaden the credit base towards Communal and Resettlement Areas, in terms of volume values and recipient numbers as well as for purposes of credit repayment conditions.
- Introduce a wider small farm land purchase scheme for buyers in resettlement schemes and on private sub-divisions, within an appropriate land-use zoning and land taxation framework.

- Invest in irrigation schemes in Communal Areas and subsidize access.
- Reformulate the National Irrigation Credit Programme to provide better finance for overheads in Communal Areas.
- New imaginative livestock management, inputs, marketing and infrastructure credit arrangements should be developed for Communal Areas.

Technology Aspects

- Short and medium-term inputs marketing and supply facilities, and extended inputs procurement schemes should be created in Communal Areas at subsidized service charges, as part of an overall rural development strategy.
- Central tractor power rental schemes should be expanded, while animal draught-power rental schemes based on land-intensive livestock breeding principles or inter-areal draught animal periodic movements should be introduced, to alleviate draught-power shortages and veld stocking pressures.
- Appropriate and broadened applied research into farm technologies related to water harvesting and application, implements, traction, form techniques, farm management, various environmental sustainability issues, livestock, marketing systems, and storage needs to be established extensively in Communal Areas.
- Communal Areas extension services should be developed further in terms of farmer ratios, quality of extension workers, focus of activities.
- Agro-forestry and afforestation activities need to be broadened to introduce the Communal Areas to increased benefits from tree planting in terms of types of products and fruits harvested.
- Wildlife management techniques need to be researched more and spread to greater numbers of Communal farmers.

Research and Planning Aspects

- A master plan for employment development through rural development, which takes forward issues raised in this report, should be financed and developed urgently.
- Special studies on farm labour, technology, capital and land-use relationships in various farm systems should be commissioned for long-term planning.
- Research into specific SPWP needs, capacities, costs and benefits should be initiated immediately.
- Research into the employment aspects of horticulture and irrigation need separate immediate attention.
- Pilot projects for intensive employment development in Communal Areas should be established.
- Refined and broader planning indicators related to sub-sectors, outputs, inputs and costings in the agricultural sector, as well monitoring systems need to be

introduced by the Ministry of Agriculture, Lands and Rural Resettlement and the National Planning Agency.

Coordination Aspects

- The Ministry of Agriculture, Lands and Rural Resettlement's planning role vis-a-vis the National Planning Agency, and the Ministry of Labour, Manpower Planning and Social Welfare in terms of employment planning for rural development will require clarification and precise formulation.
- The Senior Minister in charge of Rural Development should galvanize the co-ordination of various rural directed and/or relevant Ministries into the rural employment development strategy and programmes proposed here.
- The social role (and indeed economic role through employment development) in rural development of parastatals such as ZESA, Forestry Commission, ARDA, NRZ, the AMA and its associated boards, and others should be encouraged and supported politically and financially, rather than diminished as proposed in various quarters.
- Skills and manpower development programmes targeted at rural employment development should be introduced more vigorously, while existing manpower in various rural-oriented or directed ministries should be upgraded technically and pitched towards the proposed employment development strategy.
- Social mobilization of groups, women, youth and NGOs should be encouraged further but directed more at the employment development programmes, which should constitute a framework for undertaking various educational, literacy, consciousness and welfare promotional activities.
- Civil service gradings and remuneration should be made more appropriate for the allocation and retention of senior level technical and administrative officials within districts. The provision of high-level manpower and facilities for rural postings will be vital to the implementation of the strategy.

Implementation Guideline

In keeping with current administrative structures and developments, the proposed strategy will need to be implemented in an effectively decentralized manner, at the district level, with adequate resource allocations, accounting responsibilities, and planning procedures. It is envisaged that each district will be adequately provide with manpower to administer the different programmes of the strategy, while receiving technical support from relevant ministries and organisations.

As intimated earlier, ARDA will have to play an expanded technical and management support, and pilot project leadership role particularly in the irrigation and resettlement programmes throughout the districts. More financial and human resources should thus be provided to ARDA for this purpose. Similarly Agritex and the Department of Research and Specialist Services will have to play much more expanded roles than hitherto envisaged, while most other technical ministries and parastatals may have to at least triple their activities in rural areas.

The VIDCOs, WARCOs, clubs, farmers, savings and cooperatives' groups, as well as farmer representatives (NFAZ and ZNFU) and service organisations (CACU and OCCZIM) will require greater GOZ resources support in order for these to complement the role of district administrations.

A technocratic social milieu directed at employment development in rural areas, on the basis of detailed district plans and decentralized resources allocations and responsibility, is critically required to resolve the rural unemployment problem.

FINANCIAL RESOURCE REQUIREMENTS AND EMPLOYMENT IMPLICATIONS

Only crude financial resource requirements could be calculated at this stage of research, and then in order to merely give a feel of the magnitude of effort necessary to create the level of employment commensurate the burning crisis today. In summary form the required finances are:

Programme	Annual Z$ Allocations	Total 10-Year Allocation Z$ (1990 - 2000)
Rainfed Resettlement	18.7	187 million
Rainfed Communal	240 million	2 400 million
Irrigated Farming	260 million	2 600 million(1/)
Infrastructureb	450 million	4 5 million
Strategy Total	968.7(2/)	9.687 million

(1/) Assumes ARDA Irrigated area, 109,000 hectares; Communal Areas 240 000 hectare

(2/) This equals a contribution of Z$125 per every action per year to rural development

As shown earlier the employment implications of the strategy are that the following additional jobs, whether as Communal farmers, simple small farmers or infrastructural workers, from each programme will be created:

Programme	Annual Number Employed	Total Employment over 10 Years Employed
Rainfed Resettlement	25 000	250 000 (?)
Rainfed Communal	14 800	148 000 (?)
Irrigated Farming		
Infrastructure	150 000	150 000
TOTALS	189 800	548 000

Note: 1. This is an average annual figure which does not accumulate over time.

As is evident, employing an average of 600 000 people over the next 10 years at least caters for the unemployed as identified by the 1986 survey leaving over one and a half hundred thousand extra jobs. This, of course, does not take into account the underemployed numbers. In the same 10-year period, however, the age cohorts between six and 14 years would be added on to the labour force, at the rate of approximately another 600 000 either unemployed or "inactive".

Labour force data and the crude calculations above show that, even if we wish to blindly accept such high levels or rates of labour force inactivity in Zimbabwe, and not taking underemployment in Communal Areas seriously, over 10 years (1986-1996), growths and school leaving will add approximately twice as many as are identified together as

"inactive" and unemployed. Of these at least 600,000 additions, it will be difficult for many to remain "inactive", having finished schooling.

In a worst case, therefore, the Communal Areas by 1996 will have close to one million peoples, over and above the currently employed and farmers, hovering between "inactivity" and straightforward unemployment, while a best case of acceptably high inactivity would give us close to 600 000 unemployed.

CONCLUSION

The massive rural employment development strategy proposed here will barely take care of the best case problem and ignore underemployment. The partially zero-sum game employment implications of the proposed strategy only reinforce the idea that it is possible to tackle Zimbabwe's medium to long-term unemployment problem through even greater investments into rural development activities centred around improving the productive capacity of many small farmers and supporting infrastructural facilities.

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Table III

ZIMBABWE - ECONOMIC INDICATORS

	Volume Index (1980 = 100)						Value at Current Prices (millions US$)					
Merchadise Export	1980	1982	1983	1984	1985	1986	1980	1982	1983	1984	1985	1986
Tobacco	100	95	105	103	101	100	192	256	230	232	227	254
Cotton	100	88	90	101	117	143	91	69	74	93	94	80
Gold	100	197	130	232	335	539	180	185	103	129	123	247
Ferrochrome	100	71	96	81	72	82	138	102	115	125	142	126
Manufactures	100	67	78	97	96	94	260	161	163	198	178	172
Other Exports	100	100	108	92	104	103	560	501	453	386	386	421
Total Merchandise-Export FOB	100	102	102	112	129	157	1 415	1 279	1 137	1 162	1 124	1 300

Table II

EXPORT BY SECTOR ($MILLION) (EXCLUDING RE-EXPORTS AND MIGRANTS EFFECTS)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Agriculture	122	149	134	186	321	304	339	400.1				
(Percent of total)	(22.1)	(24.5)	(18.7)	(20.5)	(33.1)	(31.4)	(29.9)	(27.6)				
Mining(excluding Gold)	140	137	159	195	178	160	210	219.1				
(Percent of total)	(25.4)	(22.5)	(23.6)	(21.5)	(18.3)	(16.5)	(18.5)	(15.1)				
Gold	46	46	57	115	76	141	99	159.6				
(Percent of total)	(8.3)	(7.6)	(9.4)	(12.7)	(7.8)	(14.6)	(8.7)	(11.0)				
Manufacturing	226	257	314	367	332	292	411	600.3				
(Percent of total)	(41.0)	(42.2)	(43.9)	(40.4)	(34.2)	(30.1)	(36.2)	(41.4)				

Table I

ZIMBABWE AGRICULTURAL EMPLOYMENT STATISTICS - SELECTED AGRICULTURAL SECTOR INDICATORS (1967-1990) (At Constant 1985 Prices)

Year	Agric. GDP Absolute Value	Agric. GDP% Contri-bution	Agric. GDP Growth Rate%	Formal (LSCF) Agric. Employ-ment (in 000's)	Formal Agric Employment share of formal employ-ment(%)	Communal Self-Empl Farmers (in000's)	Communal Farmers% oftotal employed	LSCF(%) Shareof Agric. Employ-ment	C. Area (%) Share of Agric. Employment	Communal Area Non Farm Formal Employ-(in 000's)
1976	793	12.7	-2 1	356 1	34.5					
1977	624	10 8	1.0	348.2	34 4					
1978	688	12.1	0.0	341.4	34.6					
1979	688	11.8	1.6	335.2	34 0					
1980	699	10.7	14 2	327 0	32 4					
1981	798	11 2	7.3	294.3	28 4					
1982	740	10.8	-1.5	274.3	26.2	1 038.4	21%		79%	
1983	624	9.1	23.1	263.5	25 5					
1984	768	12.2	23.8	271.2	26.2					
1986	836	11 6	22.6*	284.6*	27 0	1 585.4	59.1%	15.2%	84 8%	187 1
1987*	1 025	15.0	3 0	295 0						
1988*	1 076	15.0	3 0	295 0						
1989*	1 088	15.0	3 0	301.2						
1990*	1 121	14 9								

Notes: 1 = Estimates*

2 Total formal employed = 1,236 390.00

3 Communal Farmers represent 42.0% of the total labour force

Table V

SUB-SECTORAL COMMODITY PRODUCTION CHARACTERISTICS (ESTIMATED)

Commodity	Output Contribution (%)				% Hectarages Cultivated				Yields (tops/ha)			
	LSCF		C. Areas		LSCF		C. Areas		LSCF		C. Areas	
	1980 (act.)	1983 (est.)	1980 (act.)	1983 (est.)	1980 (act.)	1983 (est.)	1980 (act.)	1983 (est.)	1980 (act.)	1983 (est.)	1980 (act.)	1983 (est.)
Tobacco	99.8	99	0.2	1	99.4	93	0.6	3	1.9	2.0	0.6	0.45
Tea	99.0	95	1	5	99	95	1	5	2.3	2.4	N.A	N.A
Maize	75	25	25	75	20	21	80	79	4	2.2	0.6	0.27
Wheat	99	98	1	2	99	99	1	2	4.7	5.1	N.A	N.A
Sorghum	20	10	80	90	5	2	95	98	2.4	1.0	0.5	0.2
Mhunga	0	0	99	99	0	99	99	99	N.A	N.A	-	-
Millet(Rapoko)	1	1	99	99	0	0	99	99	N.A	N.A	-	-
Groundnuts	14	30	86	70	2	5.6	98	94.4	2.8	0.9	0.4	0.2
Sunflower	90	40	20	60	x	x	x	x	x	x	-	-
Soyabeans	91	90	9	10	73.3	93.2	22.7	6.8	2.2	1.4	0.7	0.5
Cotton Lint	93	49	7	51	83.3	50	16.7	50	1.9	1.7	0.8	0.5
Coffee	99	99	1	1	99	99	-	1	1.3	1.2	-	-
Potato Seed	99	99	0	0	99	99	-	-	-	-	-	-
Maize Seed	99	99	1	1	99	99	1	1	-	-	-	-
Livestock	95.7	91	4.3	9	-	-	-	-	-	-	-	-

Notes

1. Sources: C.S.O. 1988 Quarterly digests of Statistics, MFEP, 1986 Socio-Economic Review Ministry of Agriculture, 1988, and A.F.C. Bi-Annual Statistical Digest, 1988.

2. Maize figures include own consumption

Table IV

SUBSECTORAL CONTRIBUTIONS

	Share Contribution to Agric. GDP (%)		Average Annual Growth Rate of Production (%)		Absolute Contribution Agric. GDP (Constant Prices) $ Million		Foreign Exchange Earnings Contribution (Share %)	
Year	C. Areas	LSCF	C. Areas	LSCF	C. Areas	LSCF	C. Areas	LSCF
1975	26.2	73.8	-	-	150.3	573.4		
1976	28.3	71.7	8.6	0.6	163.4	577.7		
1977	27.0	73.0	-5.6	-1.0	154.4	571.1		
1979	25.0	75.0	-28.4	-6.6	131.3	526.6		
1980	25.8	74.2	11.5	7.4	146.0	565.7	97%	below 30%
1981	35.0	65.0	45.8	8.0	213.4	610.4		
1982	33.6	66.4	-3.3	0.5	206.0	619.0		
1983	20.7	79.3	-46.1	-12.4	111.7	538.8		
1984	29.5	69.5	43.2	9.1	159.0	587.7		
1985	46.7	53.3	96.9	14.3	313.9	671.5	90%	below 10%

Notes 1/ C.Areas includes Resettlement, LSCF includes small scale commercial farms and state farms

2/ Source: C.S.O., MFEPD socio-economic Review and Reserve Bank Quarterlys

Table

INDEX OF TOTAL DEMAND FOR ZIMBABWEAN AGRO-PRODUCTS

1980-88 (100 = 1980)

Commodity	1980	1981	1982	1983	1984	1985	1986	1987	1988
Flue-cured Tobacco	100	134	93	87	102	101	108	113	
Burley Tobacco	100	102	31	76	352	205	186	115	198
Maize	100	112	166	228	155	99	140	174	148
Wheat	100	105	107	109	105	115	119	126	130
Sorghum	100	94	134	106	90	177	180	149	249
Mhunga					1002	40	304	12 461	2 109
Millet(Rapoko)					1002	322	621	3 250	13 158
Groundnuts	100	119	74	95	41	31	81	93	455
Sunflower				1001	287	534	683	750	1 624
Soyabeans	100	123	1	135	119	111	120	138	168
Cotton Lint	100	95	102	87	108	130	150	136	136
Coffee	100	165	223	228	288	357	327	327	373
Potato Seed	100	168	N/A	2 276	1 448	1 459	2 105	2 105	2 344
Maize Seed	100	N/A	120	109	113	132	115	141	141
Chilled Beef	100	82	108	120	97	92	75	87	66
Fifth Quater	100	N/A	78	78	68	68	N/A	63	54

1/100 = 1982

2/100 = 1984

Table VI

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

Item	1979-80	1890-81	percent	1981-82	percent	1982-83	percent	1983-84	percent	1984-85	percent	1985-86	percent	subtotal
Infra-structure														
Market Boards	59337600	194995900	224.4	437507227	110.2	482315516	90 3	435761926	110.8	48290255	154 5	745905382	0	2858 26200
Loans	6200000	7999000	112.9	9031000	168 3	15201000	185 5	28198881	191.1	53899000	60 8	32768000	0	153297152
Subsidies	-	-	-	95160000	81 3	77369000	10 2	7866000	53.6	4217000	3894.4	164228000	0	277141999
Afforst	58300	-	-	-	-	-	-	2290000	200.7	4597000	100.4	4616000	0	12086100
Drought Relief	1000000	20000	100	20000	150	30000	1572756	471826807	0.001	5000	100	5000	0	474479913
Cons. subsidies	8109000	330000000	-	-	-	-	-		-	22000000	68 2	15000000	0	78109068.1
Ext Training)	158000	2175000	-	-	-	-	-	1359201	194 2	2639000	158.1	4173000	0	8547053.28
Research	926700	33237500	0.1	20000	150	30000	1577268.7	473186008	5 2	24644000	77 8	19178000	0	5611365
Serv. & Resch														
Staff Devpt														
Anml Pest Control	1502600	2155300	309 9	6680000	96.1	642000	120.1	7711172	122 2	9420000	112.4	10587000	0	44478629.4
Labour Furch. & Consp	2564000	8342000	0	0	-	-	-	1359201	1812.8	24639000	155 7	38251000	0	647792156
Grant	85632500	271625200	201 9	548418227	106 0	581367416	245 7	142819957	42.3	604323055	164 9	996460382	0	4448002252
Grant														
TTL	173829000	551592400	198 8	1096836456	106 0	1162734833	245.8	2857759196	43 2	1223285111	164.7	2031271765	0	95437566
Percent	317.3	198 8	-	106.0	-	245.8	-	43.2	-	164.7	-	-	-	-

Table 1.3

LAND CLASSIFICATION BY AGRO-ECOLOGICAL REGION & BY SECTOR (000 HECTARES), 1986

				RESETTLEMENT*								
Region	**CA**	**SSCF**	**LSCF**	**A**	**B**	**C**	**D**	**State Farm**	**Forestry**	**National Parks**	**Total Lands**	**(%)**
I1	40	10	415	-	3	6	-	6	70	50	70	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
	16 350	1 420	12 0973	2 331	180	14	94	79	920	4 700	39 060	
%1987	41.8	3 6	33 2	5.97	0 46	0 03	0.24	0 2	3 4	12 0	100	
%1969	41.5	3 8	40 0	0 00	0 00	0 00	0 00	0.1	2.3	12.0	100	

*Including Land purchased but not yet settled (Adapted from MLARRD, 1986)

Table

INTERNATIONAL AND NATIONAL DEMAND FOR AGRICULTURE COMMODITIES IN TONNES

Commodity	1980	1981	1982	1983	1984	1985	1986	1987	1988
Flue-cured Tobacco	95 700	128 370	88 663	84 980	83 602	97 328	978	102 944	108 000
Burley Tobacco	1 578	1 608	492	1 197	5 547	3 236	2 935	1 820	3 120
Maize	781 878	878 200	1 295 000	1 786 000	1 209 000	773 000	1 093 000	1 360 100	1 154 200
Wheat	211 528	221 565	226 792	231 099	222 852	243 963	251 000	266 342	275 000
Sorghum	18 853	17 700	25 242	20 041	16 885	33 455	34 000	28 017	47 000
Mhunga	-	-	-	-	128	52	390	15 951	27 000
Millet(Rapoko)	-	-	-	-	76	245	472	2 470	10 000
Groundnuts	9 666	11 478	7 172	9 171	3 938	2 969	7 860	9 000	44 000
Sunflower	-	-	-	2 894	8 303	15 447	19 772	22 000	47 000
Soyabeans	68 287	84 250	82 670	92 368	81 040	75 476	82 035	94 000	115 000
Cotton Lint	68 600	63 300	70 155	60 020	73 914	89 386	102 938	93 251	93 157
Coffee	3 492	5 776	7 787	7 971	10 049	12 471	13 071	11 416	13 021
Potato Seed	128	215	22 866	2 913	1 853	1 867	2 695	2 695	3 000
Maize Seed	23 538	24 310	28 149	25 530	26 468	30 955	26 838	32 921	33 000
Chilled Beef	68 241	72 672	95 000	105 735	85 376	81 349	63 049*	77 145	58 500
Fifth Quarter	44 119	-	34 583	34 356	29 986	30 150	-	27 636	24 018
Hides	-	-	11 227	10 947	10 124	11 059	7 331	9 617	7 650

Source: Ministryof Lands, Agriculture and Rural Development, 1988

Chart

ZIMBABWE'S POST INDEPENDENCE AGRICULTURAL POLICY CHECKLIST (1980)

	Policy Programme	Policy Objectives and Activities
Agricultural Physical Resource Related Policy Programmes	1. Land Resettlement	To redistribute land to Communal Area peoples through the purchase of private owned LSCF land using settler models. Increase the access to land among the poor and landless and promote production growth.
	2. Land Improvement	To re-organize, conserve and improve land use and efficiency through planning activities, grazing schemes, conservation measures, village and ward levels organisation and responsibility within Communal Areas. Also to develop forestry resources for energy and environmental sustainability.
	3. Infrastructure Development	To extend marketing, roads, transportation, consumption and production water, electricity etc, towards Communal Areas through marketing, parastatals, ministries and aid, so as to improve the access to markets, agricultural services, productivity and other agricultural incentives.
	4. Livestock Promotion	The formulation of a national policy by 1988, increasing animal health and production services, improve cattle marketing facilities and extend the livestock lending facility to Communal farmers. Small livestock development activities promotion.
Agricultural Research and Technology Development Policy/Programmes	1. Irrigation Development	To expand the level of irrigation through the continuation of pre-independence activities in dam construction and medium to long term irrigation credit, as well as the creation of a special National Farm Irrigation Fund, a credit scheme extended also to Communal Farmers. Various special studies, irrigation rehabilitation activities as well as increasing the role of ARDA

Table

STRUCTURE OF IMPORTS BY SITC SECTION

	($ million)							(Percent)						
	1978	1979	1980	1981	1982	1983	1984	1978	1979	1980	1981	1982	1983	1984
Beverage and Tobacco	4 6	9.7	28 0	15.3	10 6	21 6	83.6	1 1	1.8	3.5	1.5	1 0	2 0	6 8
Crude materials except	1 4	2.1	3.7	2.2	2 1	3.1	2 7	0.3	0.4	0.5	0 2	0 2	0.3	0 2
fuel	13 1	18.5	26 1	33.4	37 9	41.0	58.5	3 2	3.4	3 2	3 3	3.5	3.9	3 1
Fuels and electricity	91.9	162 2	194.9	211 6	178.6	223 6	290.4	22 8	29.5	24.1	20.8	16.5	21 2	23.5
Oils and fats	0 4	2 2	6.5	8.5	6 9	11.9	10 9	0 1	0 4	0 8	0.8	0.6	1 1	0 9
Chemicals	60.5	76 4	108.9	142.0	125 0	150 6	178.7	15 0	13 9	13.5	14 0	11.6	14.3	14.4
Manufactured goods classified by materials	69.6	94 6	1 • 9 4	196.6	157.3	154.1	178 5	17.2	17 2	18.5	19.3	14.5	14.6	14.4
Machinery and transport equipment	102 1	127.3	208 6	327.4	439 9	365.0	374.0	25.3	23 2	25 8	32 2	40.7	34.6	30 2
Misll. Manufactured articles and commodities NEC	59.5	56.2	83.2	80.6	123 4	90.5	80.4	14.7	10.2	10.3	7.9	11.4	8.6	6.5
To al	403.1	549 2	809.3	1 017 6	1 081.7	1 061.4	1 237 7	100	100	100	100			

	finance and skills in Communal Areas.
3. Incomes and Wages Policy	To improve incomes levels and distribution, job security and employment welfare through minimum wages and labour regulations. This would also influence downstream benefits such as remittances etc. to Communal Areas.
4. General Regional Equity and relief	Special focus and disadvantage regions in terms of economy, and infrastructure and drought relief.

		in its irrigated agriculture development were also undertaken.
	2. Research and extension	To improve the research orientation towards Communal Area needs and to increase the nature and quality of extension services in Communal Areas, principally through increasing staff training, reducing the worker: Communal Farmer ratio and improved methods of farmer targeting.
	3. Agricultural Technology	Through Research and extension services, as well as through G.O.Z. ploughing schemes, group factorization pilot projects, medium term credit extension to Communal Areas, and overall foreign exchange allocations to agriculture, to develop appropriate technological capacities and hence productivity.
Agricultural Finance Policies and Activities	1. Credit Policy	To extend credit, particularly on a short-term basis to Communal, Resettlement and small scale commercial farmers in terms of its value and volume to more farmers. Also to use group methods of access and responsibility for credit management.
	2. Pricing policy and subsidies	To maintain attractive prices for producers and affordable food prices through appropriate price setting and support through subsidies of G.O.Z. marketing boards.
	3. Exports Promotion	To encourage exports development through organisational, transportation, foreign exchange allocations and various administrative support measures for agriculture.
General Incomes, Equity and Organisational	1. Collective Cooperation	To promote collective producer cooperatives on resettled large farms and adopted small production groups so as to increase economies of scale, production, incomes and employment in Commercial Areas.
	2. Other Cooperatives	To promote supply and marketing cooperative, saving groups, pre-cooperative income generation groups in order to achieve economies of scale in the circulation of services, goods,