REPORT

OF

THE PRESIDENTIAL LAND REVIEW COMMITTEE

UNDER THE CHAIRMANSHIP

OF

DR CHARLES M B UTETE

VOLUME II: SPECIAL STUDIES

TO HIS EXCELLENCY THE PRESIDENT OF THE REPUBLIC OF ZIMBABWE

AUGUST 2003

COMPOSITION AND STRUCTURE OF THE COMMITTEE AND ITS TERMS OF REFERENCE

1. The Presidential Land Review Committee was officially inaugurated by His Excellency, President R.G. Mugabe, on 14 May 2003. It comprised the following Members:

Dr.	Charles M B Utete	Chairman
Dr.	Robbie Mupawose	
Dr.	Liberty Mhlanga	
Dr.	Tobias Takavarasha	
Dr.	Boniface Ndimande	
Prof.	Rudo Gaidzanwa	
Dr.	Mavis Chidzonga	
Dr.	Misheck J M Sibanda	
Miss	Grace T. Mutandiro	Secretary

Administrative Secretariat

Mr.	Kossam Mupezeni
Miss	Pauline Mahoya
Mr.	Edward O Mamutse
Mrs.	Ruth M Chikwira
Mr.	Taonga Mushayavanhu
Ms	Nditwani Muleya
Mr.	Jabulani J Ndebele
Mr.	Alfred Mutiwazuka

Technical Unit

Professor	Sam Moyo	Head
Dr.	Prosper B Matondi	
Dr.	Emmanuel Manzungu	
Dr.	Johannes Makhadho	
Dr.	Renneth Mano	
Dr.	Chrispen Sukume	
Dr.	Lovemore Rugube	
Mr.	Langton Mukwereza	
Mr.	Walter Chambati	

2. **Structure Of The Committee**

In its work the Committee actively liaised with the Minister of Special Affairs in the Office of the President and Cabinet, the Honourable John Landa Nkomo, and the Minister of State for Land Reform in the Office of the President and Cabinet, the Honourable Flora Buka.

The Committee was supported by an Administrative Secretariat and a Technical Unit (TU). The Secretariat provided administrative, logistical, secretarial and related services and support to the Committee and its entities, both at the Provincial and District levels. The TU comprised resource persons who provided support and technical advice to the Committee by way of specialist studies that constitute Volume II of the Report. In addition the Committee worked with the sub-committee of the Task Force on Land Reform.

A Provincial Co-ordinator and a deputy were appointed to superintend the activities of District Data Collection Teams in all the country's eight administrative provinces. Each of the country's fifty-seven (57) administrative districts had a three member District Data Collection Team.

3. The Terms of Reference given to the Committee were:

- **To assess progress achieved in the implementation of the Land Reform Programme as a whole; the extent to which policy objectives of the Programme and principles underlying it, as contained in the guiding documents, were achieved and implemented; and recommend measures necessary to address any of its administrative and material shortcomings.**

- **To outline any on-going challenges and constraints in the implementation of the Programme in order to successfully address the more fundamental agrarian reform agenda; and**

- **To recommend policy interventions and other measures necessary for the undertaking of targeted crop and livestock production.**

In carrying out its work, the Review Committee will need to pay particular attention to the following pertinent issues and make appropriate recommendations to Government:

- **The verification of the implementation of both the A1 and A2 resettlement programmes;**

- **The provision of agricultural inputs and support services for the optimal utilisation of land;**

- **The situation regarding the existing infrastructure in the resettled farms and any additional support required in this regard;**

- **The productive capacity of the resettled farmers and support required therefrom;**

- **Measures necessary to ensure targeted production for each province and suggest appropriate hectarage for each type of crop, including livestock production;**

- **The impact of the Programme on former commercial farmers and farm workers;**

- **The role of agro-business (including indigenous companies) in the agrarian reform programme;**

- **The merits of the demarcation undertaken on on-going agricultural concerns vis-à-vis productivity and viability considerations;**

- **Skills required to enhance agricultural productivity and food security;**

- **The situation of farms not yet settled or demarcated and, how these could be incorporated into future land resettlement programmes; and**

- **The nature of governance in the resettled areas.**

4. The Terms Of Reference Given To The Technical Unit Were:

- **To assist in designing review methodology with particular reference to defining the data required and methods of its collection, including the design of questionnaires; and**

- **Undertake specific short-term studies on key issues of concern for the Review process.**

The list of papers (Special Studies) undertaken by the Technical Unit are reflected in the table of contents.

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VOLUME II : SPECIAL STUDIES

1. AGRICULTURAL PRODUCTION TARGETS*

1.1 Introduction and Methodology

The primary objective of this chapter is to establish a methodological framework and policy proposals on agricultural production targets setting. The chapter identifies the broad policy objectives and strategies that could inform such a policy and the key constraints that need to be considered in setting production targets to mobilise stakeholder support.[1]

The Fast Track Land Reform Programme (FTLRP) of 2000 to 2002 changed Zimbabwe's agrarian structure by expanding the number of small producers through the model A1 scheme, and small, medium and large scale commercial farmers through the A2 scheme, in addition to the communal areas and the remaining large-scale commercial farms. Changes in external factors (drought and economic sanctions) and in internal policy as regards marketing and pricing, exchange rate and foreign exchange allocations and land tenure are critical aspects shaping agricultural production and support systems.

For various reasons this transitional FTLRP period was characterised by reduced food production, and a reduction in foreign currency earnings. To reverse this trend, the nation requires a well co-ordinated, multi-faceted stakeholder plan of focused investment into clearly defined priority areas for improved agricultural production and inputs supply. In order to set production targets, a sound policy framework is essential. Such targets could assist the GoZ to improve agricultural planning, resource mobilisation, and guide various stakeholders in the provision of support services, by providing a tool to monitor progress in achieving national food and raw material requirements and inputs.

The chapter illustrates aspects of the proposed methodology for production target-setting by providing tentative suggested targets for selected commodities: three food crops (maize, wheat and small grains); two export crops (tobacco and

[1] *Original Research and Draft for this Chapter by Prof. S. Moyo and Dr P.B. Matondi

cotton); three key industrial oilseed crops (soya beans, sunflower and groundnuts); and two livestock commodities (beef and dairy).

1.2 Proposed Targeted Production Policy

1.2.1 Policy context and framework

1.2.1.1 Time frame for targeted production planning

Long term production targets should be in line with stated agricultural policy objectives. The targets set should, however, be based on an analysis of historical production patterns of the various sub-sectors, the diverse land and natural resource capacity which exists, the potential production capacity of the new A1 and A2 farmers and on existing market opportunities.

The policy adopted in setting the future production targets should aim at radically increasing the levels of output and diversifying the range of agricultural products to ensure an expanded agro-industrial base. Targeted production should be based upon the facilitation of research into new products, technologies and potential markets.

The setting of production targets should anticipate that it will take some time for various resources and outcomes to be mobilised in response to policy. Yields will take time to increase across all commodities, the functional irrigation capacity will possibly take over 10 years to reach its potential of 500 000 hectares; farmers' production skills will require time to grow; and farm infrastructure will only be developed over time. Assumptions are that increased and adequate financial allocation are made by the GoZ and private actors, and that the economic environment becomes more conductive to expansive agricultural investment, the response by farmers and support agencies to new incentives will also follow policy decisions. Therefore, it should take 3 to 5 years before optimum production targets are met.

1.3 Broad production policy objectives

Policies should become more facilitative rather than restrictive, better regulated in the interest of all actors, better prioritised on the basis of improved information and effective monitoring, and be more co-ordinated across various central and local government departments. The opportunity exists for the nation not only to overcome the agricultural commodity deficits experienced in the last two cropping seasons, but also to harness the new demands being made by new producers and support agencies towards a new vision for agricultural production and natural resource utilisation.

Policy flexibility and differential targeting will be critical to the necessary orientation of releasing all the diverse capabilities and resources which the various actors possess, within the wide agro-ecological potential and other opportunities offered by Zimbabwe's proven comparative advantages (in skills and technology) and by its established and new market niches. The underlying approach should be to move all producers to diversified and higher value commodity production and to encourage greater beneficiation to expand industrialisation. This means that production targets need to be set on the basis of a broader composition of commodities within agriculture and natural resource utilisation.

The targeted production policy should also enhance efficient utilisation and increased productivity in the use of various sources of energy, water and other natural resources, as well as promoting sustainable environmental management. Most critically, land policies should encourage optimal land utilisation including higher productivity among all producers and in all commodities.

Targeted production should also promote the objectives of enhancing sub-sectoral and spatial equity. Thus targeted production should have a clear aim to reduce poverty in general. Targeting should assist the various vulnerable groups and regions towards mitigating their resource deficiencies.

1.4 Investment and inter-sectoral co-ordination framework

Targeted production is intended to provide a framework for national development and investment. To achieve the proposed transformation in production, the GoZ should invest substantially more of its own resources into the production process as a whole, and radically alter the current structure of the policy incentives provided to producers, support agencies and industry, so that they all conform to new targets for economic development and social protection. The GoZ's investment will, in turn, lead to long term growth in tax revenue, foreign exchange earnings and employment benefits that will emerge from the change. These investments should be accompanied by massive private sector and farmer innovation and investments into production.

The GoZ should enhance the inter-sectoral co-ordination of policies and decision-making and of resource allocations (finance, personnel, logistics and administrative back-up). This should entail the involvement of the Ministries of Finance and Economic Development; Lands, Agriculture and Rural Resettlement; Environment and Tourism; Energy and Power Development; Industry and International Trade; Rural Resources and Water Development; Transport and Communications and Local Government Public Works and National Housing.

1.5 Agricultural production targets policy objectives and direction

The broad assumptions which should underlie the setting of production targets include: the increasing demand for domestic food and industrial raw materials; an expansive export demand for most of the commodities; the existence of an adequate land and farmer base to produce; the existence of tested technology to sustain increasing yields; attractive returns to invested finance, and the commitment of GoZ to policies and resource allocations required to meet the targets.

The main agricultural policy objectives which need refinement, improved co-ordination and calculated trade-offs based upon informed cost-benefit analysis include: food self-sufficiency; its contributions to earnings; its role in agro-industrialisation;

and the relative allocation of land for sustainable natural resource exploitation and sustainable irrigation water and dam development and utilisation.

The GoZ should guide enterprise choices by farmers, the hectarage planted and output, according to set production targets through both directing land uses in return for providing new farmers with access to land and by providing appropriate incentives. The method of directing this targeted production should be carefully crafted as it is not certain whether the use of production directives placed on farmers is desirable in the long term. Producer persuasion through public campaigns would seem better. However, these would need to be backed by the real threat that non-performers will lose their land. Both farmers and agricultural support institutions will respond to policy incentives (producer prices, inputs and credit subsidies to farmers, tax and production support to inputs industries and other incentives to financial institutions) which clearly target some commodities preferentially. A deliberate focus of GoZ resources (budgetary, foreign exchange and support schemes) and such incentives could be more effective in moving production in the given targeted direction.

1.5.1 Commodity prioritisation: food self sufficiency versus exports

If the GoZ adopts a policy of total self-sufficiency (including keeping an adequate rain reserve stock) in maize and wheat production in the long run, it will be more realistic to limit the targeted output to domestic demand levels and to phase the maize and wheat production growth *parri passu* with per capita increases in demand. This underlines the fact that the demand (internal and external) analyses undertaken in establishing the medium term output targets should be refined and calculated over a 10 year period. More research and planning to improve the demand assumptions, based not only on historical production and per capita consumption projections but also on expanding the agro-industrial export base of the country, should be commissioned.

Policy makers should reprioritise the allocation of resources to some crops over others. Conscious trade-offs among the crops should be made. For instance, it might be most productive for more of the irrigation resources to be allocated to higher value exports (horticulture, tobacco etc.) and some oilseed crops with strong agro-industrial export potential than to expand the areas of irrigated wheat or even sugar. Importing 30% of domestic wheat consumption using new increases in export earnings might be prudent. In livestock production, pigs and goats might well do better than other livestock alternatives.

1.5.2 Productivity growth, land use optimisation and production stabilisation

Agricultural policy should, in the short term, be based upon promoting production recovery to the new structure of land ownership and increased agricultural output. The re-allocation of land; droughts; limited availability of inputs and finance; and a constrained domestic and external policy environment, have led to a shift in land use patterns and a decline in the production of some agricultural commodities. It will take some time for production to stabilise among new farmers although better weather could lead to an immediate recovery of production of the main food crops.

1.5.3 Commodity-wise targeted support

Policy intervention should address the differentiated effects that the various constraints place on the production of each commodity and the opportunities that commodity faces.

The commodity-wise policy support framework focuses on the GoZ mobilising the requisite resources.

Chart 1.1: Critical Factors for Production Revival Post FTLRP

Commodity	Drought Effects	Reduced Production Inputs/incentive effects (yields)	Land Use/access area (reduced planted)		Settler Capacity Limitations	Livestock Market Risk Aversion/ Rustling (livestock)
			LSCF	A2 uptake		
I. Smallholder crops						
1. Maize	X	X				
2. Small grains	X	x				
3. Groundnuts		X				
II. LSCF Field crops						
1. Wheat		X	X	X		
2. Tobacco		X	X			
3. Soya beans			X			
4. Sunflower			X			
5. Horticulture			X			
III. Animal Husbandry						
1. Beef cattle	X	X	X		X	X
2. Dairy		X	X		X	X
3. Wildlife tourism						X

The following matrix summarises the specific recommended interventions necessary to achieve targeted production which the GoZ should elaborate and refine.

Chart 1.2: Policy Matrix for Targeted Production Interventions

Policy Arenas	Specific constraint	Commodities Affected	Policy Actions arena
1. Exogenous Factors			Irrigation; appropriate agro-
(i) Drought	Moisture	Maize, groundnuts	ecological cropping (prices, other
(ii) External policy effects	Finance		incentives and marketing support
("sanctions")			
(a) Foreign finance (forex		All commodities (esp.	Dialogue
gap)	Tourists	exports)	
(b) Market loss (publicity/trade)		Wildlife based tourism	Publicity
2. Endogenous Policy Factors			
(i) Land transfer/access (a)	Area cultivated	Wheat, tobacco,	Max LSCF farms policy resolution
Land expropriation (less	(forex)	Soyabeans, sunflower,	Establishment of A2 and resource
area/producers)	-supply effect	Dairy, beef	Farmers; irrigation support
(b) Land uptake/use (limited)	-farmer access	Tobacco, wheat	
(ii) Agricultural Policy Factors	-credit	Soyabeans, beef	Imports subsidies; 'custom'
(a) Inputs policy	Forex		ploughing/harvesting
(Pricing/distribution)		All field crops in A1/A2	Service/scheme incentives;
(b) Output marketing		All commodities	Subsidise A1 &C. Areas; Liberty
-pricing incentives			Supply industry;
-forex incentives		All commodities	-Liberalise prices; targeted
-market controls		Maize, small grains,	consumption subsidies
		Wheat	-improve forex access
© Farm machinery		Tobacco, sugar, beef	-Remove controls in gen. sup.
		Maize, wheat	A1 marketing;
(iii) New Farmer capacity	Imports (forex)	All field crops	-Broad based skills development
(a) Skills		Wheat, tobacco, dairy	-Expanded concessional loans
(b) Investible resources		Horticulture, seeds	(A2, ICFU)
(access)		Beef	
(iv) Economic Policy			
(a) Inflation			
(b) Interest rates (c) Exchange		All commodities	
rates/allocations		All commodities	
		Main exports	
3. Politics and Security Factors		Tobacco , wheat	-dialogue and mediation on
(a) Settler/old farmer conflicts	Disturbances	Horticulture beef,	partnerships
(b) Livestock/Crop thefts	Losses threat	maize	- stepped up prevention of thefts

Spatial production targets should thus be set such that all productive land which is allocated is put under the production of commodities adapted for the weather and irrigation resources but bearing in mind that, since Zimbabwe is prone to drought and floods, production targets will not be met nationally in 2 out of the 10 years and, that the southern regions will face localised drought in 4 out of the 10 seasons. Targets should be set to limit the damage caused by such failures.

1.5.4 Natural resource utilisation policy objectives

The optimal utilisation of all natural resources whose potential is not being fully exploited should be a key production target objective. This kind of natural resource utilisation could assist in poverty reduction by broadening and supplementing the income base of small-scale farmers beyond mainstream crop and livestock production.

The aim should be to develop untapped natural resource potential and to expand and beneficiate the utilisation of more conventional natural resources such as forestry, wildlife-based tourism, fishing, and crocodile farming. The latter component should target the better resourced landowners (A2 and some self contained A1's LSCFs, conservancies, forest estates) and public sector ventures such as the Forestry Company of Zimbabwe, while small scale natural resource enterprises focus on small holders. These programmes require different sets of policy frameworks with different emphasis in terms of developmental and commercial strategy and policy incentives. The basic policy objective is to increase the number of indigenous participants in expanded natural resource based production targets.

The specific natural resource based production objectives and targets possible are: to increase and diversify the sources of nutrition providing products; to increase the contributions of small producers

towards agro-industrialisation through their provision of raw materials for, and undertaking small scale processing of, natural resources; to increase the local availability of directly produced products (e.g. pharmaceuticals, cosmetics, vegetable derivatives, spices, paper, sugar products and juices); to save energy through products such as briquettes and biogas fuels; to supply more natural fertilisers through various plants (e.g. neme trees); and to increase the sustainable production of crafts and other artefacts.

Apart from increasing the range of products and income sources realised locally, the production targeting policy should promote efficient strategies of water capture (village micro-dams, household water harvesting, and water purification). These should be tied into more effective local micro-irrigation activities to enhance agricultural and natural resource productivity, and provide inputs to the electricity grid from the micro-hydro generation capacity which emerge from this.

Another objective should be to fully utilise all wasted resources (e.g. sawdust converted into briquettes, banana leaves converted to paper, cotton seed chaff turned to stock feed, baobab leaves used for thatch, wild animal dung processed into fertiliser etc.) and thus add to the stock of products derived from land and natural resources. These more sustainable local or village micro economies can be build at low financial cost but realise high returns and provide incentives for sustainable natural resource utilisation.

The underlying production objectives are to broaden the income base, improve equity and enhance natural resource productivity through: sustainably increasing the stocks available per hectare (animals, trees, fish) and sustainable off-take per hectare (hunts, fish, cubic metres of wood, numbers of tourists, etc); and ensuring greater biodiversity, and protecting rare or endangered species or ecosystems.

1.6 Land policies and production targeting

1.6.1 Land allocation, farm sizes and production targets

Meeting production targets requires that land allocation processes be rationalised and completed immediately. In the medium term, current recommended farm sizes can serve potential production targets and thus should be maintained, with the exception of the land needs of some 'special commodities'. The sectors which should be provided with larger farm sizes include among others, dairy, seed production, forestry estates and wildlife conservancies, because of their larger spatial requirement to ensure viability and ecological sustainability. Larger farm sizes should, however, be provided against the meeting of set production targets. To ensure equity in the distribution of benefits, the ownership of these concerns should be given to consortiums under special management arrangements.

Flexibility in land access within current official farm sizes should be permitted to enhance optimal land use and to meet the medium term targets. In the long term the farm sizes policy and land transfer mechanisms should be reviewed towards further 'right-sizing' and to accommodate land transfer (sales/market) mechanisms in a manner which restricts either excessive land concentration or land fragmentation.

1.6.2 Land use and production targets

From an ecological and economic perspective production targets should be based upon intensive land utilisation and protection of the environment if land is allocated to its best land use. The allocation of extra land for draught animals, which require extra herds for reproduction purposes in high potential areas, for instance, is a misallocation of land use.

Current allocations of arable land in Natural Regions (NRs) I, II and III are less than half the land reserved for grazing. Similarly, crop production in excessively dry and stony areas should be discouraged because this generates low economic benefits and yields ecological problems.

Varied livestock land uses should be the main production target for southern Zimbabwe. Small ruminants (goats and sheep) should receive more attention due to their hardiness especially under the conditions in NRs IV and V, low veterinary costs and ability to utilise pasture through browsing. Government can help promote these livestock through provision of guaranteed domestic and export markets through the Cold Storage Company (CSC) and the private sector.

An inventory of areas with high natural resource utilisation potential among redistributed farms and remaining LSCFs should be undertaken by the GoZ, and these should be designated for the natural resource based land uses, state investment support and public protection. Natural resource management practices should be defined and individuals or groups of landowners be required to produce land use and production plans in pursuit of set production targets and to qualify for public investment and technical support. To encourage targeted land use Government should institute measures such as land taxation, land use regulations and incentives to support optimal land uses.

1.6.3 Land tenure and production targets

The land tenure rules which govern access to and use of land, farm infrastructure and natural resources found in resettlement areas should be modified to accommodate the sharing, leasing and renting of land based upon demonstrated and current capabilities to utilise supplementary land. Such leasing of supplementary land should be allowed on the basis of

agreed targets to produce specified volumes of commodities on fixed land areas. The owners of properties re-planned for natural resource utilisation should be allowed to collectively combine their landholdings into larger estates and conservancies. They should be required to hold equity shares commensurate with their original landholding sizes and to augment their shares according to their contribution to the costs of infrastructure and other running costs.

1.7 Suggested Targeted Commodity Production and Strategies

This section presents some suggested production targets in outline form and identifies some of the strategies required for developing key commodities. These indicative guidelines are accompanied by suggestions on how sub-sectoral and spatial targets could be directed. The constraints which will be faced and which need redress are briefly identified.

1.8 Agricultural Production Targets

1.8.1 Crop production targets: hectarage, output and yields

The total target hectarage suggested for the major crops should be increased substantially but, to be feasible, 3 to 5 years should be given for new farmers to establish their enterprises. The national area under maize could rise from 1.3 million hectares by 50% and remain at not more than half of the potential cultivated area of about 3.5 million hectares. Expectations of continuously increased yield in maize among small holders should be staggered over the next 5 years. The area targeted for small grains production should be conservatively defined, and a cost-benefit analysis made of investing in the use of the land in drier ecological regions for small ruminants. Wheat production target should be increased, in terms of cultivated area, to the 1990's averages and assume a gradual increase in potential yields to 5.5 t/ha, over 3 to 5 years which must be sustained.

The present irrigation infrastructure should be expanded substantially.

The area targeted for flue cured and burley tobacco should be increased in the next 5 years, to a total potential cultivated area of 100 000 hectares. Of this targeted area, 70% could be devoted to flue cured tobacco and the rest to burley and oriental tobacco. The strong anti-tobacco lobby which, in general, has led to a decline in world tobacco prices is not expected to constrain production in the next 5 years in Zimbabwe, given the high quality leaf produced which must be sustained.

Soya beans and ground nuts should become a major growth area due to the unfulfilled industrial and nutritional requirements of the nation for these commodities. The area committed to groundnuts and output from this crop could be doubled in 5 years.

There is need for targeting of sunflower production. The production of sugar has been a growth area, with major investment plans having been made, even in NRs II and III, to produce sugar. Once the funding is available, sugar cane output can be expected to increase by 30% from the current levels.

1.8.2 Targets for Beef and Dairy Production

To satisfy the current potential export market requirement of 35 000 tons of de-boned beef a commercial beef herd of at least 1.2 million should be developed, and the national herd size should eventually reach the pre-1991/92 season stock levels of 1.7 million. The future beef industry should selectively target livestock rearing in all the sub-sectors. The desired target commercial herd from natural breeding will take at least 5 years (until 2008) to be attained.

The high capital input and the long term nature of the dairy business should be founded on long term and large scale investors. It will require at least 5 years to

reach the targeted herd of 250 500 dairy cattle. To meet the estimated 13 million litres of milk required each month and demand increase of 5% per annum over a 5 year period, supply should be doubled from the current 9 million litres/month in as short a time as possible. Broadening the milk supply base by proactively developing the indigenous large scale and small scale producers to contribute milk output should be at a rate of 10% growth per annum (DZL, 2003). Concrete plans by GoZ should be made to increase the number of new indigenous farmers in milk production through various support programmes, so that the producer base increases from 300 to 700 in 3 years.

To achieve stability in milk supply, 20 000 dairy heifers should be imported to boost the national herd, producer finance schemes expanded and the resuscitation of dairy farming on the 268 farms that were once producing milk should be prioritised. These former dairy farms partly equipped with milk production infrastructure have a potential to supply the milk requirements of the country. These should also provide an opportunity for linkages with and learning by new indigenous milk producers. Existing dairy infrastructure and producers could reduce entry costs significantly, and the current supply base could be enhanced through subsidies towards improving viability and producer confidence.

1.8.3 Tobacco curing woodlots for A1 and A2 Areas

The Forestry Company should undertake a cost-benefit analysis of the development of potential small woodland plantations for tobacco curing, as well as quantify the savings to be realised from the reduced usage of indigenous woodland. A spatial inventory of the farmers and areas targeted for such woodlots and their outputs over the next ten years should be prepared and a sub-plan developed to define the resources required, outputs and returns of such an investment. The potential resource inputs by GoZ,

new farmers, private sector and NGOs should be estimated, as should the long term credit requirements of new farmers and explicit woodlot subsidies (seedlings, technical advice, duty free tree processing equipment and tax breaks) related to the long gestation period required to establish woodlots. These targets should be incorporated in the larger sub-sector plan.

1.9 Recommendations

1.9.1 Targeted production policy framework

The GoZ should adopt a focused, comprehensive and realistic policy on promoting well co-ordinated, facilitated and supported targeted production to improve its planning and financing of agriculture and natural resource utilization, and to guide the related activities of different types of farmers, government and private sector support institutions and agro-business, banks, farmers' organisations, NGO's and external financing agencies. Such policies should be refined appropriately. They include: efficient land use; appropriate commodity-wise farm sizes and secure land tenure policies, agricultural policies such as prioritised commodity production support and incentives; food self sufficiency balanced against the capacity to import some foods and earn more from exports; higher value commodity production by agro-processing; and natural resource utilisation policies such as optimal exploitation of all resource potential, related value adding activities and maximising resource productivity through improved yields and energy savings. The policy promotes innovative production and marketing strategies and is based upon better definition of public and private sector roles. To implement such a policy the following specific recommendations should be adopted.

1.9.2 Integrated targeted production plans

1.9.2.1 Overall targeted production plan

The GoZ should immediately mobilize resources to produce an integrated agricultural and natural recources production plan, based upon three sub-plans; agricultural, natural resources and agro-industrial plans.

These production plans should be reviewed against implementation each year, and used to guide public and private resource mobilisation for sustainable commercial and environmental development purposes. The GoZ should also mobilise external resources for the plans on the basis that these natural resources will contribute to global public goods (e.g. carbon sinks, species heritage, etc.), and that they contribute to poverty reduction and social development.

1.9.2.2 Agricultural targeted production plan

Firstly, a 10 to 15-year time-frame within which to meet production targets should be set by GoZ for outputs to be achieved. This is particularly important with regard to the production levels for the several commodities (wheat, soya beans, tobacco, beef, and dairy) which faced output declines, caused primarily by a reduction of large scale commercial farmers sector and the cropped area allocated to them last year. The plan should be phased to take into account that it may take more than 2 years, following the completion this year of land uptake and allocations, for more farmers to re-establish pre-FTLRP period cropped areas. Thus the expected medium term increases in the production levels of these crops should be spread out. The area expected to be cropped in maize in the medium term, for instance, should grow by 50%. The time-frame for livestock production recovery is likely to be 5 years.

1.9.2.3 Natural resources targeted production plan

A natural resources sub-sectoral sub-plan of the 10 year Targeted Production Plan, should be produced by the Ministry of Environment and Tourism. This should refine the above objectives, provide an inventory of sub-sectoral (wildlife, woodlands, endangered species) projects and micro-projects according to province and agro-ecology, and define the public and private resource allocations to be made and the outputs expected.

1.9.3 Spatial co-ordination of targeted production plans

The spatial patterns of targeted agricultural production suggested below should be refined and capitalized upon by the GoZ. The GoZ and private actors should pursue an integrated agricultural and natural resource planning and support system focused on key clusters and functional zones, building upon the existing rudimentary zones of clustered production. This should be tied in to a clearly articulated spatially sensitive framework of the agro-industrial strategy proposed above. These spatial-commodity clusters might include: the maize and other field crops cluster of the Mashonaland highlands; the cotton cluster around Midlands; the beef cluster, spanning Midlands, Matabeleland and Masvingo; a dairy cluster in Manicaland and peri-urban zones; a dispersed horiticultural cluster; and the plantations commodity cluster of Manicaland and Masvingo.

1.9.4 Natural resource utilization extension strategy

The GoZ should immediately revamp and integrate agricultural land use and its natural resource conservation and utilization extension and training programme to redress continued low production and the degradation of natural resources.

1.9.5 Land use monitoring and support for targeted production

The GoZ should monitor the appropriateness and sustainability of the land utilization practices, agricultural outputs and resources off-take rates, maintain appropriate databases on this and enforce agreed land use and environmental management practices. The GoZ should evict those who do not use land effectively.

1.9.6 Targeted production committees

The above plans and extension services should be co-ordinated in a decentralised manner which is accountable centrally and locally, and to all stakeholders. The processes should thus be backed by the establishment of multi-stakeholder committees at the various levels (national, provincial, district and ward) to promote and monitor targeted production.

1.9.7 Role and strategies of public institutions

An agency which monitors and rationalises land policy in line with progress in targeted production should facilitate production and land use processes among all farmers. The administration of future land allocations and land tenure, etc should be the responsibility of a new autonomous land administration agency.

1.10 Resource mobilization

The GoZ should ensure that adequate resources are mobilized, for the implementation of the production plans and that these are effectively co-ordinated. Effective targeting of finance to priority commodities, effective monitoring of the use of the resources for intended purposes, and transparent accountability should be cardinal rules.

The GoZ should create a specialised independent unit which facilitates such co-ordination, monitors progress and addresses constraints. Such a unit should be effectively decentralised and have a monitoring mechanism of financial

resource distribution, which allocates equitable support to the various targeted production clusters. This would entail a resource mobilisation strategy in which the GoZ funds are focused only towards promoting the main food crops and natural resources, while the private sector covers these as well as the rest of the commodities.

The GoZ should pursue dialogue to reverse the negative effects of its international isolation and thus seek new flows of bilateral and multilateral funding to Zimbabwe. The donor community should support wider agricultural recovery through funding to both the A1 and A2 farmers as well as communal areas farmers.

2. SKILLS REQUIREMENTS AND KNOWLEDGE SYSTEMS IN THE NEWLY RESETTLED LANDS*

2.1 Introduction

The land reform process has been successful in distributing land to the needy. The major challenge is to make the resettled land productive. The farmers need to be enabled to have all the vital elements of production in place. These have to be available at the right time, in the right place and in adequate quantities. Apart from the inputs, the farmers have to have proper skills and access to knowledge and information to manage the farms and be productive on a sustainable basis.
This calls for imparting knowledge and skills to the farmers through the research and extension system.Therefore,this chapter will examine the research and extension capacity of public and private institutions in terms of meeting the demand presented by the sudden influx of new farmers created by the Land Reform Programme. Furthermore, the farmer training strategies, skills and knowledge imparting approaches will be discussed.

The approaches used in this study were desk studies, consultations and data analysis. Documents pertaining to various issues on farmer training and extension approaches were reviewed. The technical team recognised the importance of consultations with as wide a cross-section of the stakeholders as was possible. The major tools for consultation were discussions, and formal and informal interviews. Interviews were carried out with selected stakeholder institutions. Farmer interviews and/or interviews of their representative unions were used to identify the farmers' training needs at the local scheme level, as well as the constraints and opportunities for accessing information required for sustainable agricultural production and management.

The objectives of imparting skills to the new farmer are as follows:

1 To give the farmer the necessary technical skills and knowledge to enable him/her to utilise their land, capital and labour to the best advantage[1]

* Original research and draft for this Chapter by Dr M Makhado

2 To develop the ability of the farmer, given the input resources available to him/her, to choose the enterprise that would give the most profit through the use of proper farm budgeting and record keeping;

3 To enable the farmer to assist with agricultural extension by passing on technical information to neighbouring farmers and by demonstrating good crop and animal husbandry practices; and

4 To develop confidence and self reliance among farmers to enable them to look for information by themselves e.g. input requirements, producer prices and other technical information without depending entirely on the extension agent.

Below are major areas of crop and animal production in which farmers have to acquire skills either through training or through access to information:

2.1.2 Crop production in general

Skills development for crop production should cover both theory and practice, including the following major areas: land selection (soil sampling); land preparation (use of implements); arable rotations, conservation farming, causes of erosion; crop varieties and their suitability for specific areas; composting, fertiliser types, rates and application; knowledge of common diseases and pests (use of herbicides and pesticides); planting (timing, spacing, plant population); thinning and cultivation; top dressing and scouting techniques; farm accounts and budgeting; harvesting, grading and storage; marketing; and record keeping.

2.1.3 Livestock

Livestock farmers have a different and specific set of knowledge requirements, pertaining to: breeds, animal selection, causes of low fertility, fattening (selection and management, supplementary feeding and rations), castration and de-horning, bull management and bullying, dipping and tick control, fencing, paddocking and dosing, disease control and

vaccinations, pasture management (legumes and grasses), cattle handling facilities (bale and race), training of oxen, and de-stocking. In addition, they seek business skills in the area of budgeting, marketing and record keeping.

The above inventory of areas in which skills are required suggests an urgent need for a system that will impart the right skills through training and/or dissemination of relevant information to the new farmers.

The farm workers previously employed on the former large-scale commercial farms (LSCFs) do possess skills that can be exploited by the new commercial farmers. Even though most workers were limited to the manual labour provision with no planning and managerial experience of farm business, they can pass on experience by providing the manual labour. Specific targeted programmes should be launched to tap skills and experience by encouraging new farmers to employ former farm workers.

2.2 Research and Extension Capacity

There are four public institutions that are currently responsible for research and extension. These are the Department of Agricultural Research and Extension (AREX); Department of Agricultural Engineering (AE); Department of Veterinary Services and the Department of Livestock Production and Development.

2.2.1 Department of Agricultural Research and Extension (AREX)

AREX was born after the amalgamation in 2002 of research and extension functions in the former departments of Agritex and Research and Specialist Services. This coincided with the peak of the Fast Track. The capacity of AREX and its relevant experience cannot meet the research and extension demands created by the influx of new farmers. Efforts have been made to increase the number of extension

agents from one per ward to 6 per ward. As a result, the extension agent-to-farmer ration has been reduced on average from 1:1000 to 1:600. The move to reduce this ratio is most welcome but the challenge beforehand is to train the extension agents on the job and make them effective in delivering knowledge and skills to the new farmer. The new farmers, without sound farming experience, require more frequent training and stronger linkage with knowledge and research systems. The immediate thrust is to design strategies that facilitate the new institutional strategies that facilitate the new institutional framework of AREX whereby research knowledge has to be delivered through extension. Part of this strategy involves the training of extension agents on the job and making them effective in delivering knowledge and skills to the new farmer.

The process of merging research and extension was quite sound but had its inevitable limitations and risks. These are noted below and need immediate attention for the merger to bear fruit:

- The expanded frontline extension worker base has no corresponding match of increased officers to provide adequate technical backstopping.

- The expanded extension worker establishment is not matched by intensified research capacity.

- The level of uncertainty created by the institutional reform resulted in high staff turnover particularly in extension. In 1999, 90% of the Chief Agricultural Extension Officers had 10-15 years' experience and in 2002 this was reduced to one year's experience. Vacancies for subject matter specialists are 50% in some branches. However, the challenge of how to train 6 000 extension workers on the job and make them competent to deliver an effective service to the newly resettled farmers who have no sound farming experience remains.

- There is need to move in fast and stabilise AREX by improving staff morale through better conditions of service. The geographic spread and increase in numbers of both commercial and small-holder farmers is an issue that limits their access to adequate extension services because the extension agents are not provided with sufficient transport.

- The training branch of AREX needs to be boosted and produce quality extension staff on the job to implement relevant farmer training programmes.

- There is a need for fine-tuning of the existing technology that applied in the former large-scale farms to suit the new farm sizes and scale of operations.

- The Land Reform Programme has created intensive land use systems in which agronomic considerations such as crop rotations might be difficult to adhere to. This calls for more subject matter specialists, such as soil analysts and agronomists, to meet the new requirements. AREX did not incorporate this requirement in its expansion programme.

- Before the Fast Track, seed production was done by the private sector but this sector has now cut down production quite significantly. AREX may need to take up this new challenge of seed production.

- The influx of new farmers, the majority of whom have no adequate knowledge on the impact of cross border movements of materials, calls for increased information dissemination on this issue by AREX.

2.2.2 Department of Livestock Production and Development (LPD)

The Department was formed in 2002. The Department has an establishment of 800 livestock extension workers who link up with veterinary services and

AREX. They operate through the livestock development committees which are the community entry point for all livestock development programmes. LPD is responsible for building the capacity of the committees responsible for infrastructure, animal production and health issues.

Furthermore, LPD has a challenge to come up with a database of the spread, quantity and skills of new A2 farmers who will lead in milk and meat production in the future. This database will form the basis for the design of appropriate support services by the Department. The success of such programmes depends on the capacity of animal production specialists in the field. The LPD is also responsible for general animal husbandry and consists of two divisions. The livestock production division is the outreach arm that supports the enhancement of animal production activities. The livestock development and schemes division links up with technology transfer, multiplication and breeding of animals and forage. It also looks after the breeding nucleus herds, gene banks for fodder and grass as well as new initiatives.

Access to infrastructure by farmers is of concern to LPD, particularly the distribution of heifers and access to bulls. There is need to hire staff and implement the outreach programmes in order to service farmers, particularly where artificial insemination programmes are designed to sustain the breeding programmes. The impact of the programme is dependent on the capacity of animal production specialists in the field, so that the growth of the livestock industry is assured. Since this is a newly formed Department, it needs adequate resources for equipment and vehicles at the outset.

2.2.3 Department of Agricultural Engineering (AE)

The Department of Agricultural Engineering was formed in 2002 to look after the engineering requirements of the new farmer in the areas of farm

power and machinery, farm structures and environmental engineering, produce handling and storage, training, and irrigation management. The high staff turnover that has occurred ever since its formation will make operations quite difficult. Engineers have to be deployed to the farms but the Department does not have adequate staff housing, offices, equipment or transport. The engineering activities of the Department are quite critical during the expansion phase of the Land Reform Programme. The personnel currently available is relatively adequate in terms of numbers but inadequate in terms of experience and ability to impart skills and knowledge to the new farmer. Table 2-1 below shows the staff establishment before and after the land reform programme.

Table 2.1: Staff Establishment Before and After Land Reform

Before land Reform		After Land Reform	
AGRITEX	2411	AREX	8008
R & SS	500 (Approx.)	Agricultural Engineering	725
Veterinary Services	800 (Approx.)	LPD	1052
		Vet. Field Services and Tsetse Control	1320*
		Vet Research and Public Health	56*
Total	3711		11153**

* To be approved
* The total projection is that the figure may increase to 15 000

2.3 Research and extension in Universities

A closer look into activities of institutes at the University of Zimbabwe (UZ) such as the Centre for Applied Social Sciences (CASS) and Institute of Environmental Studies (IES) reveals that research and knowledge generated at universities does not have much relevance to the practical production issues the new farmer is faced with.

The current research efforts by universities are not designed with farmers in mind but on goodwill or special liking of the subject by the researcher involved. Opportunities should be explored where research programmes are based on formal linkages with public institutions or farmer organisations.

2.4 Research and extension in the private sector

Some work is also undertaken especially by Farmers Unions and some private companies in the provision of extension services, advice and assistance.

2.5 The Research and extension linkage loop

Generating information and knowledge, and testing and adapting technology are critical in achieving in creased agricultural production capacity, particularly where new farmers are operating under different input levels and resource endowment. The achievements of the public research institutions are well documented. Nevertheless shortcomings emerged in the early 1990's pertaining to budgetary constraints, which gave rise to dwindling research capacity, weak linkages with other research institutions and the gap between communal farmers needs and those of researchers who may have pre-set agendas and be concerned with immediate technical results. On the other hand, knowledge services for farmers are critical for enhancing productivity. Technology and knowledge are essential at the outset for an effective Land Reform Programme. Extension strategies should be responsive to the immediate and long term needs of the new farmers whose productivity is expected to create a vibrant agricultural sector, thereby reviving the economy. The public sector institutions provide the bulk of the extension services and their performance declined in the 1990's due to fiscal constraints and poor linkages with research. In response to these constraints, some institutional reforms described in sections 3.1 to 3.3 took place in 2002, which were designed to revive the research and extension linkages. The institutional development process has its risks and opportunities in service delivery performance of the newly formed departments. There is, therefore, need to pay attention to the organisational interface between farmers and service providers. Within this context, the following are observations on how the institutions can craft this interface to ensure the expected responsiveness to the land reform and farming community.

Firstly, there is need to establish a system that generates more information based on research in response to the different constraints the new farmer encounters. Alternative technology ought to be generated to address production problems brought about by constraints, such as shortage of inputs. New products for specific problems require more experienced personnel, more analytical methods, less blanket and packaged techniques, more new approached to outmode the old . The bulk of current research and extension messages are based upon the use of high input of inorganic fertilisers and chemicals that are not locally available. There is, therefore, need to scientifically assess the previously sidelined initiatives that use locally available resources and technical knowledge. This change in approach calls for experienced research and extension specialists with a strong and innovative extension agenda. However, the majority of frontline extension workers in AREX, AE and LDP have very limited experience to embark on this new approach.

The above scenario implies that the new farmer would need new technology that would enable them to produce new crops. As a result, the new farmer would require new markets in the near future which can absorb the new commodities that the new farmer can easily produce, most likely with lower technology levels that are less dependent on imported input requirements but are economically viable and environmentally sustainable. This calls for intense market research, quick production models and work-study information. Therefore, the research and extension linkage has to be expanded to incorporate market information systems and policy.

During the first season of the Fast Track programme, the Government had to support new farmers in various ways, resulting in farmer reliance on what the programme provided. The research and extension system had to respond to these provisions where the issues of availability, access and affordability of inputs by the farmer were not paramount. This intervention has to some extent killed the drive, particularly in the new A1 farmer, to procure resources without looking forward to handouts from Government.

The current research and extension system was developed over a long period of time for large-scale production systems. The scenario that is evolving now indicates that it would be erroneous to adopt and adapt the same production practices

because their prerequisites are no longer existing. Thus a programme is needed to quickly refocus the research and extension institutions as well as redesigning the institutional framework to meet the new demands.

The sustainability challenges of the public institutions engaged in research and extension activities may become an issue in the long term giving rise to poor service provision. The commercial farmer base has increased, but with less funding and non-existent farmer organisations in the newly resettled areas, extension services have stretched their capacity to a level where they may not provide their services as expected without institutional strengthening. The private sector research and extension system, particularly in the CFU, has already down-sized its operations to 50% due to its diminishing farmer base and political expediency. However, there is need to tap the skills and experience among the CFU members while it is still available.

2.6 Training Needs for Farmers and Extension Agents

Experience has shown that the extension service department is the best institution to link with the farmers.

Farmer-to–farmer training is a recommended communication tool for transferring management concepts.

Proper and appropriate training of farmers or demonstration of new technology is an important prerequisite to farmer managed production systems. Farmers must manage and organise themselves into legally recognised institutions that are credit worthy and raise their own collateral. Government assistance might be required here in providing favourable conditions for borrowing through a Government controlled lending institution. Whether farmers are managing their scheme or not, they still need some form of extension support and it has been proven in Zimbabwe that intensified provision of extension services after independence in the 1980's led to a boost in small-holder farmers' production levels.

- **Farmer mobilisation:** The staff complement of 11 000 in the Agricultural Services Division should be strategically deployed into the resettlement areas to exploit new opportunities for application of new technology such as irrigation, mechanisation, crop handling and storage as

- tools to enhance farm productivity and farmer production potential. Furthermore, the frontline extension agents have to encourage farmers to work with farmer organisations and commodity associations. These organisations constitute the leadership within the farming sector. The production potential of the resettled farmers can be enhanced when farmers are involved in creating production targets that are achievable. The idea of planning together with the people will have to prevail and the extension workers should supervise these organisations to ensure a sound basis for viable agricultural production.

- **Farmer training:** Apart from the day to day farmer training by extension workers on technical issues, it is most important that farmers are trained on business management.

- **Publicity of services:** The Government has put in place a massive programme for agricultural production support, comprising the irrigation rehabilitation programme, the input support scheme, the tillage programme, the livestock development programme and the new farmer programme on the national radio and television. The extension service has to take up these programmes in its training and mass media campaigns to ensure that farmers and extension workers are aware of such facilities for farmer development. The MoLARR and its departmental publicity sections must ensure that farmers know where to access these inputs.

- **Trials and demonstrations of appropriate technology:**
  The extension service has to be more aggressive in demonstrating appropriate technology to the farmers. The skills training methodology must be based on practical demonstration in the same environment the farmer is operating.

2.6.1 The role of the formal training institutions

The Land Reform Programme has created demand for qualified graduates and diploma holders to assist

the newly resettled farmers in their new farming operations.

There is a need for experienced researchers, extension agents, agricultural engineers and farmers who can assist the newly resettled farmers.

2.6.2 Farmer training institutions

2.6.2.1 Kushinga Phikelela

Government has set up a training programme at Kushinga Phikelela to play an important role in the development of the agricultural sector in Zimbabwe by providing the bulk of the key skills needed in production of food and exportable surpluses. The National Farmer Training Board (NFTB) was launched in January 1999 and has since developed the Young Commercial Farmer Training Programme (YCFTP) and the Practising Farmer Training Programme coupled with the Training of Trainers Programmes. In addition, the programme has established the Information Centre to develop, package, reproduce and disseminate farmer education and training materials.

The last two years saw a number of changes in the structure of the agricultural industry, resulting in significant entry of indigenous Zimbabweans aspiring to acquire farming skills and to produce commercially under the land and agrarian reform programme.

The Commercial Farmer Training Programme at Kushinga Phikelela takes 40 farmers per annum with a minimum of 20 years of age. The programme courses include natural region targeted compulsory and optional modules, covering crops, livestock, farm machinery and equipment, agro-business management, environmental conservation. The use of existing training centres, facilities, trainers and resource persons from strategic organisations in the private and public sector, within and outside agriculture, has been adopted. The NFTB was mandated to develop project proposals to solicit financial support

from the private sector, donors, farmer organisations, finance institutions, trainee farmers and foreign currency retention schemes. Given that Kushinga Phikelela is already serving as a national centre, the NFTB was mandated to identify another seven strategic provincial training centres where training should start as soon as resources become available.

The objectives of the commercial farmer training programme at Kushinga Phikelela are geared towards addressing the challenges confronting both the existing farmers and land reform beneficiaries (MoLARR undated). The programme makes training the focal point for mobilisation and organisation of farmers for the establishment of a more efficient and effective agricultural production system, and linking farmers with financiers, input suppliers, technical and marketing service providers.

The Kushinga Phikelela farmer training programme has been a giant step in the right direction but the following areas need to be looked into:

- The farmer training programme could be shifted from a centralised to a decentralised modular training system, involving selected institutions accessible to the majority of the land reform beneficiaries aspiring to acquire skills to farm commercially;

- The NFTB could replicate the Kushinga Phikelela training model by identifying strategic provincial satellite training centres where training should commence as soon as resources become available;

- The decentralised programme could be managed by the NFTB in collaboration with other relevant institutions in terms of providing resource people and trainers;

- Resource mobilisation could be geared to meet initial capital outlays for trainee farmers for the establishment of minimum infrastructure such as animal housing and handling facilities, irrigation and purchase of livestock, and enhancing mobility of the trainers and coordinators to ensure effective supervision of on-farm training components;

- Strategic companies in the private sector could be invited to participate and contribute towards the land and agrarian reform through provision of resources and expertise to augment Government efforts in farmer training; and

- The NFTB could engage experts to work out theoretical and practical course content details and logistics of the implementation of college and farm modules and resource requirements for implementation of the proposed programme nationally.

It should be noted that there is a whole range of similar farmer training institutions in both the private and public sectors. These are given in Table 2.2 below. There is need to create some mechanism through which these institutions share skills and experiences thereby establishing some formalised working relationships and linkages among themselves.

Table 2.2: Farmer Training Institutions and Their Output

Farmer Training Institution	Annual Trainee Output
Blackforby	**35**
Trelawney	**38**
Dozmary	**30**
Wensleydale**	**780****
Nyamazura	**25**
Cotton Training Centre	**45**
Nyamasinga**	**780****
Watershed	**25**
Kushinga Phikelela	**40**
Total	**1798**

**** Wensleydale and Nyamasinga run short courses at 30 trainees each on average per week for 26 weeks per year.**

2.6.2.2 Ministry of Youth, Gender and Employment Creation

The Ministry of Youth Development, Gender and Employment Creation runs vocational training programmes for youths. Currently there are 60 vocational training centres operating in the country. The major objective of the programme is to empower youths to participate in national development. To date, two farms per province have been allocated for use under the training programme. The target is to have two farms per district. All vocational training centres have an agricultural component and the annual output of trained youths in agriculture is 3 000. After training, the youths are fully fledged to set up a business enterprise in farming. The Ministry has a mechanism to monitor and trace whether the trained youths are fully engaged in some agricultural activity. However, the major constraint is availability of funds for establishing agricultural business enterprises after training. The trainers in these centres are agricultural diploma holders and this ensures high quality input into the training programme.

This training programme has great potential in imparting skills to the youths in agricultural production and should be supported by providing farms for use during training. More training centres should be established at district level.

2.7 Recommendations

The following recommendations were derived from the study findings.

2.7.1 Policies and strategies

In view of the prevailing droughts in the past two decades and the imperatives of agrarian reform, irrigation development is now a national priority and must be placed fairly high on the national agricultural development agenda. Therefore, farmer training and the process of imparting skills should be deliberately

targeted at, and biased towards, irrigation development and management . This then calls for a legal instrument to be put in place in the form of and Irrigation Act that would guide and control all irrigation activities across the board.

Government should create an enabling environment for investment by the private sector and institute credit policies that encourage borrowing for agricultural development by new farmers.

Government should put in place an enabling environment including provision of targeted funding to strengthen institutional arrangements for a speedy development of the agricultural sector.

There is a need to set up a system that regularly collects and collates accurate national, provincial and district data and information on what the farmer skills and training needs and requirements are for strategic planning.

2.7.2 Institutional framework

There are a number of extension and research institutions in both the public and private sectors which are providing services to the farmer. However a team approach is called for to minimise duplication of effort and tap and exploit the potential and capacity inherent in these institutions. Some consultative and coordinated forum for interested parties and supportive institutions has to be created to harmonise the current situation.

There is need to build and strengthen the service delivery capacity of the public institutions. Resource mobilisation, infrastructure development, equipment, transport facilities and communication are required for all the newly born institutions if they are to be effective in reaching out to the new farmer with the needed extension services.

2.7.3 Skills and training

Farmer training facilities similar to the Kushinga Phikelela model should be developed and expanded at provincial level. Universities and agricultural colleges should develop and run short specialised courses for A2 farmers. Such initiatives should be supported by public institutions.

Information dissemination through village libraries and ward information kiosks should be established and strengthened by supplying them with appropriate, timely information collated for the local farmer.

2.7.4 Agricultural production systems

The private sector should be encouraged to play a more significant role by supporting the mainstream programmes, such as input distribution, credit extension, farmer training and information dissemination. This is part of the business that is expected to grow in the reform process. Business should not be restricted to the monopoly of formal institutions such as parastatals and commmodity associations. The reality is that the informal sector and small to medium businesses have the potential to grow and create employment, thereby providing alternative livelihoods in rural communities.

Research institutions must be supported to develop alternative initiatives such as, for example, indigenous knowledge for pesticides. Inorganic fertilisers could be substituted by compost manure developed on site.

3. FARM SIZES, LAND USE AND VIABILITY CONSIDERATIONS*

3.1 Introduction

This chapter provides a conceptual and empirical framework for understanding the structure of farm holdings in agriculture, taking into account current farm size regulations and the existence of various types of large scale and small, intensive on-going agricultural concerns in Zimbabwe. The Land Reform Programme has changed the structure of the rural community by creating a large number and a wide range of new holdings in terms of farm size. This provides one guide for the choice of agricultural commodities to be produced, while raising questions concerning economies of scale and economic viability among various land size classes for a variety of commodities. The actual utilisation of land is also influenced by the distribution of beneficiaries among the various size classes in relation to their access to capital, skills and technology. In both the A1 and A2 farms there is a differentiation of both the farm sizes allocated a d the endowments of beneficiaries.

The key research question we sought to answer was: what farm sizes are suitable for different enterprises (crops, horticulture, livestock, plantations, wildlife, forestry and woodlands) in various provinces and agro-ecological zones in relation to the envisioned technological mix. Emerging land use patterns in the new settlements are assessed in relation to issues of agro-ecological potential and farm holding sizes. Small samples of emerging land use systems, production profiles and productivity trends are examined in relation to the variety of farm holding classes in various agro-ecological regions. The interaction of landholders in the sharing of land for extensive uses is explored.

3.2 Background, Concepts and Policy Context

3.2.1 Land allocation and farm size policy aspects

During the Fast Track Land Reform (FTLRP) government maintained the old Model A scheme type of land allocation for small scale redistribution

[1]

[1] Original research and draft for this Chapter by Dr C.Sukume, Prof S. Moyo and Dr P.D. Matondi

schemes (Model A1), but at significantly reduced plot sizes. Whereas households are allowed 5 arable hectares in the wetter regions and 10 arable hectares in the drier regions, land reserved for grazing per beneficiary has been drastically reduced to between 7 and 60 hectares from between 20 to 200 hectares in the old Model A scheme. Thus the official policy on farm size allocation in the different schemes, sub-schemes and natural regions (NRs) creates a *priori* variation in the structure of land holding and related benefits. This is part and parcel of an approach, which differentiates what could be called an official notion of social (or for some 'subsistence'/survival') farming from commercial farming, at farm size levels below their historical level.

The prescribed farm sizes for A2 land allocations provide for four categories of farm sizes, namely small, medium and large scale farms, and peri-urban plots. The amount of land allocated in this gradation varies with agro-ecological zone, with larger farm sizes prescribed as we move from Natural Region I to V. The small, medium and large scale commercial farmers are expected to engage in either crop or livestock farming, or a combination thereof, while the peri-urban farmers are expected to engage in horticulture, market gardening or crop farming. The actual farm size allocations in practice, however, showed wide divergences from pronounced policy.

3.2.2 Farm Infrastructure policy aspects

The nature of existing infrastructure on land plots allocated to new farmers and its utilisation, the utilisation of land in relation to farm size, is of critical importance to farm viability in particular. Existing farm infrastructure range from productive facilities (agricultural processing units, tobacco curing barns and grading sheds, off and on farm dams and irrigation infrastructure and associated water rights, dip tanks and cattle spraying facilities), to social infrastructure (schools, clinics etc.) and residential

facilities (farm homesteads and farm worker compounds). Since the redistributed plots have varied farm infrastructure endowments or opportunities to access these, their choice of enterprises, land use and productivity levels can vary among different plot holders irrespective of farm size differences.

Uneven access to farm infrastructure raises various policy concerns over the equitability of resource distribution among beneficiaries, the nature and effectiveness of their tenure security (ownership/leasehold), the effective utilisation of infrastructure capacity, the beneficial maintenance and improvement of the infrastructure, the valuation and distribution of the costs of acquiring and/or leasing the infrastructure, and the co-ordinated utilisation of the infrastructure towards targeted production.

The current policy on infrastructure allocation, use and management varies between the A1 and A2 settlement schemes. In A1 areas GoZ policy treats social infrastructure (schools, clinics etc.) as state property to be used for specified public purposes, and productive properties (irrigation, barns etc). as state assets to be used on a shared basis through various sharing mechanisms. In general, the infrastructure policy concerns in A1 schemes pertain more to the efficacy of 'sharing' mechanisms and the adequacy of infrastructure capacity utilisation. These problems, as well as those of assets ownership, access and equity, bedevil the potential utilisation of A2 infrastructure. The chapter's focus on farm size and viability issues compels us to concentrate on the issues which affect A2 farmers, given the concerns with farm size viability for that scheme.

The policy pronouncements on the allocation and utilisation of A2 farm infrastructure are found in various sources: the conditions stipulated in the letters of offer; in verbal and in written statements made by Governors, local government and other GoZ officials to settlers on particular farms, in farm subdivision plans which either

site or do not site such infrastructure on particular beneficiary plots; and more recently, in the draft 'A2 and A1 self contained Lease Agreement'.

The letters of offer stated that the plot holders on whose plots the infrastructure is located are the 'custodian' of the infrastructure. The letters did not definite custodianship or mention the access and use rights of other settlers on the same farm. In practice, most A2 infrastructure tends to fall within certain individual plots, while field evidence shows some cases (e.g. Norton) where some infrastructure falls in plots on 'no man's land', and is treated as 'state property'. These two scenarios of custodianship of infrastructure lead to varied experiences of the control, use, maintenance and distribution of access to infrastructure among the new farmers.

The procedure for assessing lease rental fees for A2 schemes and their implementation has not yet been clarified. Standards and procedures for full cost recovery charges for infrastructure, based upon transparent inventories of infrastructure need to be set.

3.2.4 Farm size, land and productivity trends

Studies in Zimbabwe (Bruce 1990, Roth 1990, Chasi et al 1994) have demonstrated that there was significant under–utilisation of a land in the large scale commercial farming (LSCF) areas. Research on the relationship between gross turnover per hectare of land owned, representing farm productivity, and farm size in the different agro-ecological zones, shows that productivity decreases exponentially with increase in farm size in all natural regions of Zimbabwe .

3.2.5 Exceptional cases for larger farm sizes

Even though smaller sized farms are in general efficient, there are a number of enterprises which, due to a number of factors, may need extra amounts

of land. One reason could be the ecological needs of the enterprise. Examples of enterprises in this cluster of special enterprises include forest plantations and wildlife enterprises.

Another reason in the existence of significant sunk costs in enterprises. The problem of huge sunk costs is that such enterprises have not had enough time to recuperate initial costs and special provisions need to be made to allow such enterprises to realise their investment. Enterprises in this class include huge agro-industrial complexes which need certain minimum throughputs to remain viable. In such cases it is prudent for the concern to maintain enough land to cover minimum throughput requirement. Where such concerns are used as the core estates for some form of out-grower scheme, extra land might be needed to support the out-grower venture, including land to provide planting material, research and training plots for out-growers. Examples of enterprises in this cluster include seed company farms, horticultural exporting company farms, as well as plantations with processing infrastructure.

Yet another factor requiring special consideration in land provision is the technology embedded in some production forms. For example, some irrigation systems are designed to operate as one integrated system. Breaking them up into smaller units may involve substantial costs and/or loss in efficiency. The same can be said of some dairy production units in which a milking parlour and support infrastructure was designed in such a fashion that units broken down from the main farm will not optimally use the existing infrastructure. Closely linked to sunk costs is the issue of market organisation in which a company owning land again needs a substantial amount of core estate land to ensure minimum export quantities.

In A2 production systems, the relatively large sizes of plots preclude the use of animal traction as they need mechanical traction and implements. These

require huge investment by farmers and hence would need high levels of production to recuperate the costs. Producing the commodities and their processing needs large infrastructural investments. Cattle production needs dipping facilities and cattle handling facilities. Tobacco production needs curing facilities while wheat production needs combine harvesters. Reducing the need for such investments is key in containing costs and enhancing the viability of beneficiaries of the land reform programme.

Before looking at farm size adjustments to enhance whole farm incomes, there is a need to thoroughly review the effects of government price and taxation policies on the profitability of farming. In the past three years government has sought to keep down the prices of food commodities at the expense of farm profitability. Granted, government has controlled both official selling prices of maize and wheat and the main inputs that go into their production. However, few farmers manage to obtain all their input needs from official markets, fulfilling their total requirements through the unofficial markets where prices have been at least twice official input prices, leading to negative margins if farmers sold on official markets.

For soya beans government has affected producer prices indirectly through export bans. This effectively insulates local production from the international market leading to depressed producer prices. For tobacco, the over-valued official exchange rates have depressed net realisations from sales at a time when imported inputs used by farmers are being sourced using parallel exchange rates. This has greatly reduced margins and affected viability.

Viability in high technology industries, such as horticulture, has been significantly affected by government policy. Customs duty on imported farm inputs and equipment increases the costs of input acquisition, thus reducing profitability. All plant material for the export horticulture industry is imported

from overseas breeders who require payments of royalties for use of their genetic material. Currently the Zimbabwe Revenue Authority (ZIMRA) is taxing these royalties, which are legitimate costs of doing business. Given the tight margins the industry operates under, these taxes have a significant impact on the viability of producers.

3.3 Land Allocations, Infrastructure and Farm Sizes: Issues and Conclusions

3.3.1 Land allocation aspects

The various issues and conclusions pertaining to the patterns of land allocations, particularly in relation to the prescribed A2 farm sizes, can be summarised as follows. Firstly, there is wide variation between the official farm size prescriptions and the sizes of land demarcated for allocation, across the natural regions, in both the A1 and A2 schemes. Farm size allocation patterns also vary within provinces as various districts located in similar agro-ecological regions also demarcated varied sizes of farms for allocation to beneficiaries. There is further variation across the provinces in the land sizes demarcated for the farm size categories – small, medium and large – even within similar agro-ecological regions.

Thus there is much greater diversity in the range of land sizes offered to beneficiaries because land allocations in general tended to be given below the prescribed maxim to accommodate more smaller and medium scale beneficiaries. The prescribed farm size maximum tended to be used as a broad guideline, adapted to local circumstances.

However, in most provinces a small percentage of oversized (exceeding the maximum) large scale A2 plots were allocated to new farmers. In addition there is a sizeable number of remaining LSCF (indigenous and white) which are above the prescribed farm sizes. A number of plantations which are well above the farm size prescriptions also exist as agro-industrial concerns and ‘de-listed’ entities.

3.4 Farm Size Viability and Suitability: Issues and Conclusions

We conclude that if A1 farmers depend on family labour and animal based traction, the current plot sizes are adequate. They are limited in the amount of land they can crop by available production technology and labour. Increasing the cropped areas under such schemes would entail moving to tractor based traction power and hired labour. The minimum land allocated per household if settlers decide to opt for 'self contained' (SC-A1) and A2 types of schemes is adequate to boost cropped areas to about 15 hectares. Two specific farming activities in this category are discussed below:

- **Cropping:** We argue that the smallest plot sizes allocated are capable of giving reasonable returns using common enterprises. Even for tobacco in which there has been an argument for increasing plot size to take care of rotation and fallow needs, our analysis demonstrates that a reasonable income can be derived by planting 4 hectares of tobacco on a small scale (20 hectare) A2 plot. Viability of tobacco production is instead threatened by non-land factors. These include high set-up costs for curing infrastructure, and tillage, the shortage of coal and fertilizers, and the high cost of borrowed capital.

- **Ranching and Livestock:** A2 Land allocated to pure beef ranching in the large scale commercial (LSC) plots in NRs IV and V is enough to give reasonable returns. Our analysis demonstrated that herd sizes of 170 Livestock Units (LU) operating breeding for weaner production or buying in weaners to sale at 3.5 years, can yield reasonable farm returns and can be managed sustainably in the larger plots allocated in NRs IV and V. In the medium scale plots, scaled down beef herds mixed with small ruminants, or pure small ruminants, should yield reasonable farm returns. However, small scale plots are not viable as pure rangeland based livestock enterprises. Combinations of small ruminants, poultry, pig production and vegetables, where there is water, should yield more reasonable returns.

Our analysis finds that while current farm sizes are suitable for the viable production of most agricultural commodities,

there are few special commodities which will require larger land allocations. These include seed production, wildlife, dairy and on-going or new plantations with large 'sunk costs'. They are discussed below:

- **Seeds:** There is concern that more land for seed production be allocated to seed companies and individual seed producers. Seed companies will need larger farm sizes in all agro-ecological zones in order to accommodate sizeable areas of seed growing, seed research, seed processing (cleaning) and storage. Individual seed producers will need larger seed growing areas and space to ensure seed isolation.

- **Dairy:** Livestock farming is a long term investment. At current rates of interest, it is difficult to finance such investments using debt. Moreover, most financial institutions do not offer long term finance for livestock production. Dairy production involves economies of significant scale in on-farm production and in milk collection. The dairy cow requires large amounts of food and milking infrastructure requires a large enough herd to absorb the cost of putting in such investments. For this reason, there is a need for large plot sizes in the dairy sector. Plot sizes in the larger A2 farms in NRs I – III, where conditions are favourable to dairying, are not adequate to run economically sized herds.

- **On-going large and integrated irrigation farmlands:** There is concern that there are few well established large irrigation farms. Plots are not easily divisible without loss of efficiency in the utilisation of the invested irrigation infrastructure as single units of a few land-equipment modules. Some of these have been subdivided into small units in which attempts to co-ordinate production and use of equipment has been failing. Although this problem does not apply to the majority of irrigated farmlands which have been acquired, the selective right-sizing of these few problematic farms is necessary.

- **Wildlife and forestry:** Wildlife ranching and forestry have demonstrated the ability to earn critically important foreign currency. However, ecological constraints require that these be operated as large units, with 50 000 hectares being suggested by some as the minimum for an ecologically

viable unit. In very rough grazing and rugged terrain, this may be a land use to consider. However, the idea of one person owning such a vast amount of real estate can be socially alarming. The long term cyclical growth and rotation requirements of sustained forest production as well as scale of economies embedded in harvesting equipment also require large farm sizes, particularly in on-going plantations.

3.5 Land Tenure and Land Administration: Issues and Conclusions

3.5.1 Land sharing, subletting and rental tenure arrangements

There are cases where real, generalisable farm size limitations exist, such as in the case of dairy farms with high sunk costs, and in which some farmers could benefit from formally renting a little more land from neighbours. There is also evidence of some plot holders with large farm infrastructure (barns etc). that could only be used to optimal capacity of the custodian plot holders or their neighbours could gain access to more arable land.

Then there are also cases where 'ecologies of scale' would require new farmers to enter new land use sharing arrangements or re-demarcation of plots into natural conservancy corridors, which would require the partial ceding or renting out of land among equity shareholders or to new conservancy landowners by non-shareholders on contiguous plots. These and other cases in the long term will all call for flexibility in the tenure rules to allow plot holders and local communities to redefine their landholdings and tenure relations.

The adjustment of land allocations to new farmers and encouraging the use of under-utilised A2 land, particularly among A2 scheme beneficiaries and to other potentially effective land users who do not have land, given the existence of 'unallocated' land, is a potentially critical mechanism for increasing the production of various crops other than maize, small grains and cotton.

Thus, re-planning and the re-allocation of some arable land, where demarcations lead to inequitable distribution, is called for.

The land allocation policy refinement process should focus on prohibiting land alienation and re-concentration.

3.6 Recommendations

3.6.1 The land allocation process

We recommend that this immediate term (2003/4) period, in which land allocations processes are adjusted and completed, be treated in land policy formation terms (farm sizes, land allocations, land sharing and land access mechanisms) as the baseline period *for levelling of the new land distribution structure.* Accordingly, during this immediate and medium term period, the current farm sizes should be maintained, with the exception of some 'special commodity land use' cases, for reasons already discussed.

Flexibility in access to varied land sizes within current official farm sizes should be promoted especially among new allocatees, and land sharing and land use partnerships arrangements should in some cases be allowed in the short term. In the medium and long term (5 years and beyond) the farm size policy and land transfer mechanisms should then be reviewed towards further 'right-sizing' and to accommodate land transfer (rentals/sub-letting and sales/market) mechanisms which restrict either excessive land concentration or land fragmentation.

During the transition, greater attention should be paid to removing the various land use, production and support system constraints, which appear to be more critical to meeting targeted outputs than the question of farm sizes in general. At any rate, it is in the next 5 years that we can realistically expect most plot holders to have made the 'minimum developments', required.

This is when greater and materially invested activism for freehold title and land markets can be expected from a larger constituency of landholders, and then would be an appropriate time to review land tenure, land markets and farm size policy.

Given these land allocation problems, land access needs and land use constraints, the GoZ should promote farm planning in general and adjust some of the land allocations to improve access to arable land in relevant cases. There is no need for the generalised upward revisions of A2 farm size prescriptions, except in special cases.

3.6.2 Infrastructure allocation

3.6.2.1 Productive infrastructure use and access

A clear pronouncement on infrastructure allocation, use and maintenance needs to be made, namely: that infrastructure is not meant to be free; the state owns the infrastructure and intends to lease and sell it at full cost to new farmers; and that the state will lease and sell to both groups of new farmers where they can form effective contracts or to individuals where this is a transparently feasible option.

Rental charges for the use of infrastructure or for its price when exercising the ‘option to buy’ should be valued on the basis of the full costs of developing the infrastructure as established by independent valuers. Standards of full cost recovery charges for appropriately inventoried and valued infrastructure should be set.

Once these policy clouds are cleared, model rules and regulations for group utilisation of infrastructure can be designed. Infrastructure sharing can be promoted on the basis of co-ordinated agricultural production, output processing and infrastructure expansion plans promoted by extension specialists. These should be given due legal recognition and

support by financial institutions. In general, however, the capacity of GoZ land and extension personnel to monitor land use and infrastructure utilisation and maintenance, and the capacity of its land information system (LIS), let alone its capacity to mediate disputes which arise over the use of infrastructure, should be expanded.

Those who do not use the infrastructure adequately could be relocated to land with fewer infrastructure or be compelled to grant access to other farmers, or else the infrastructure could be excised and turned into state or share equity property owned by groups of other new farmers.

GoZ agricultural policy should deliberately provide targeted subsidies for the development and improvement of farm infrastructure. The benefits of this subsidy should be spread to those A2 plot holders without infrastructure or access to common or sublet infrastructure, as well as to other smaller farmers in A1 and communal areas. This subsidy should be transparent and contingent upon visible production outputs (e.g. tax breaks reimbursements).

3.6.2.2 Farm compound infrastructure use and control

Policy revision towards the collective management of farm compounds by groups of farmers and local authorities with the latter playing a more direct role in farm workers' welfare and social service provision, is the most desirable option. The idea of creating satellite rural service centres or hamlets within the redistributed lands, through excising the land with farm compounds and social facilities from any individual plot holder's farm, is recommended. Government, local authorities, non-governmental organisations (NGOs) and farmers should invest large amounts of resources towards the planned development of these centres and their social services.

3.6.2.3 Investment in new infrastructure

New farmers suffer viability problems due to the high capital requirements to erect essential infrastructure on their farms, including curing facilities, dipping facilities, pack houses etc. In most cases, such facilities are only used sparingly and they represent a significant drain on the farmer. Where these can be shared among many farmers, government could encourage agencies to invest in such infrastructure for custom servicing to farmers. This could be accomplished through provision of financial incentives as well as an enabling regulatory environment facilitating such developments.

3.6.3 Land use recommendations

Specific recommendations related to land use are:

To encourage correct land use patterns, we propose that government institute measures such as land taxation (and in this case subsuming the present unit tax), land use regulations and production incentives.

All landholders in A2 and remaining LCSF's as well as state agencies (ARDA and CSC) should pay land taxes as shown above to compel them to adopt the most appropriate land use.

- **Optimising capacity through diverse intensification on small farms:** Small ruminants (goats and sheep) should receive more attention due to their hardiness especially under the conditions in NRs IV and V, low veterinary costs and ability to utilise pasture through browsing. Government can assist in this regard through the provision of market facilities.

- **Optimal use of irrigation resources:** Water resources are essential for stability of yields as well as for intensity for production on farms. In addition,

effective use of water resources improves farm viability. To achieve these benefits, regulations and incentives must be put in place to make sure existing water delivery infrastructure is shared by most beneficiaries of the reform programme. Incentives are needed to encourage more efficient water usage through use of efficient delivery systems as well as choice of water efficient crop enterprises.

3.6.4 Farm size suitability, productivity and viability

Specific recommendations relating to areas of production requiring greater land size are discussed below:

- **Seeds:** Seed security is essential for the nation and the needs of seed production must be accommodated.

- **On-going large and integrated irrigation farmlands:** The GoZ should openly identify those integrated and high cost, large on-going irrigation farms that are truly not amenable to being subdivided into small plots. These should be re-planned and sold at full value to those with resources to acquire and use them, and equity share holding arrangements promoted amongst them.

- **Dairy:** Given the high feed requirements of dairy cows and special technology and milk collection economy requirements, we recommend that land provisions be made for dairy production including the following;

  a) Increased plot sizes for some plots with large infrastructure;

  b) Existing dairy infrastructure being shared among adjacent farms to lower the overall infrastructure cost, and

  c) Government facilitating provision of such financial assistance if the sector is to recover and prosper.

- **Wildlife and forestry:** Given the ecological demands of wildlife and the scale and volume sequencing needs of forestry production, we recommend that such enterprises be allocated more land than provided for under current government policy guidelines. However, to ensure equity in the distribution of the benefits thereof, we propose that ownership of these concerns be given to broad consortiums under special management arrangements.

- **Custom services and reduction of machinery costs to farmers:** As is the case with large infrastructure investments, costs of acquiring tractors and equipment can overburden most farmers. We propose:

  a) That Government facilitate the setting up of private and quasi-public mobile machinery services by agencies through financial and regulatory incentives;

  b) Removal of duties on imports of machinery and parts; and

  c) The GoZ expand the tractorisation of both A1 and A2 farming areas;

  Development of small-farm-friendly technology:
  Most technology that has been developed or adopted in Zimbabwe have tended to be geared to the needs of large scale commercial agriculture. To optimise on the small land holdings of the new farmers, SIRDC and the research and extension services should put emphasis on the development of appropriate technology.

In general, government should adopt a pro-farm macroeconomic and sectoral policy stance including giving priority in foreign currency allocation to industries supporting agriculture (fertiliser, packaging, machinery, seeds and stock-feeds), lowering or removing duties on imported agricultural inputs, and ensuring farmers get the best prices for their produce.

3.6.5 Land tenure policy recommendations

The land tenure rules which govern access to, and use of, both land and infrastructure found on A2 leaseholds should be modified to accommodate the need for larger pieces of land for land uses such as wildlife and forest plantations, a few large scale dairy farms and company based seed production agro-businesses. These should merely be allocated leases on larger farm sizes commensurate with the specified production plan based on overall national targets. The GoZ should provide technical support to the development of appropriate tenure and management arrangements for the equity shareholding of such larger land concerns.

The GoZ should create certainty and security of land tenure by rapidly issuing of land leases in A2 areas with appropriate terms of tenure and conditions of land and infrastructure use. The GoZ should shortly begin to evict those who do not use their land based upon transparent criteria and procedures.

3.6.6 Land policy administration

A new integrated system of land administration should be set up as an autonomous agency. This should co-ordinate the administration of future land allocations, land tenure particularly the A2 leases, charges, developments, 'evictions', land sub-letting, supplementary rentals, land utilisation intensities, enterprise mixes, land infrastructure access and rentals, and land conflicts resolution. This agency should rationalise access to land and its utilisation while promoting and facilitating land tenure lease variations which enhance tenure security and land use optimisation. An important concern of this system should be to guarantee the physical security of leases and their infrastructure and equipment, as well as their products (cattle and crops) in collaboration with security forces. This will require a more advanced LIS, incorporating data on land, leases, micro agro-

potential, actual land uses, rental and levy payments, and cadastral information and surveys. This should be funded adequately and well staffed. Public access to its information and reports on land control, use and transfers should be adequately catered for.

To mitigate the concern over under-utilisation of land, and encourage full time farming, is recommended that a cost be attached to the holding of land. This should be enforced in the form of a land tax applicable to all forms of land ownership including resettlement land and land owned by state agencies. These should be additional to lease fees, infrastructure fees and local unit taxes.

3.6.7 Land policy improvement strategy and time frame

Some policy flexibility in the above recommended land policies is required, especially to allow for the adoption of desirable policy positions in the long term, while building empirical evidence in the short to medium term on the emerging patterns of land use and tenure among new farmers. Three categories of land policy evolution should guide decision making:

1. Immediate term – the levelling off of the landholding structure under current farm sizes should be given time to settle as more beneficiaries are allocated land;

2. Medium term – policy analysis measures should seek to discover optimum farmer practices and capacity, and evaluate the potential effects of the various land policy options and mixes (learning by doing), and some flexibility in the use of specific policy instruments should be encouraged.

3. Long term – once land allocation and the economy have stabilised, land policy should accommodate the evolving social demands, resource utilisation opportunities and the differentiation of needs among new farmers, markets and state capacity to finance or implement policy.

4. TOWARDS SUSTAINABLE WATER RESOURCES AND IRRIGATION DEVELOPMENT IN THE POST FAST TRACK LAND REFORM ERA IN ZIMBABWE*

4.1 Introduction

The objective of this chapter is to discuss the role water resources and irrigation development can play in improving agricultural production in Zimbabwe. The general water scarcity in Zimbabwe is the most limiting factor to agricultural production. Recent structural changes regarding access to land and water, key factors in agricultural production, because of the Fast Track (FTLRP), further justify the focus of the chapter.

It is important to note that Zimbabwe has taken steps to address the water challenges. The major highlights include the water reforms that began in the mid 1990's which culminated in the promulgation of the Water Act and the Zimbabwe Water Authority Act which provide for sustainable water resource management. The country has also put in place a policy framework "Towards Integrated Water Resource Management" which aims to strike a balance between land, water and environmental aspects with human development needs.

There are, however, a number of challenges that still remain.

Major challenges facing water resources management include the following:

- Regularising water use;
- Inculcating a culture of paying for commercial use of water;
- Ensuring that (part of) the water revenue is invested in water development;
- Prioritisation of the development of water/irrigation projects according to well defined criteria;
- Strengthening new water institutions by ensuring that they are adequately funded; and

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[1] Original research and draft for this Chapter by Dr Emmanuel Manzungu

- Strengthening the statutory aspects of water resource management, which include planning of the country's water resources, undertaking collection and analysis of hydrological data, and water quality monitoring.

The challenges that face irrigation development need to be addressed as well, as it is the largest water consumer in the country, using about 80% of the developed water resources, with the balance being used by urban, industry and mining (UIM). The challenges, which have increased particularly in the aftermath of the land redistribution exercises, include:

- Ensuring that existing irrigation facilities are used efficiently and effectively;

- Carrying out a proper assessment of irrigation investments and projects for their financial sustainability, without ignoring social and political objectives;

- Streamlining institutions for cost effectiveness and efficient service delivery;

- Promotion of low cost irrigation and water harvesting technology to contribute to increased agricultural water productivity, as well as ensuring food security for the poor;

- Determining the respective roles of private and public sector irrigation;

- Establishing mechanisms to achieve equity as irrigation tends to benefit a privileged few;

- Putting in place a comprehensive policy and legal framework, which is lacking at the moment, to, among other things, promote integrated rainwater management encompassing both irrigation and rainwater harvesting (Rockstom et. al, 2002), given that 80% of total crop production is from rain-fed agriculture.

These issues will be further explored in the concluding section of this chapter.

4.2 Water Resources Development and Management: Issues and Challenges

This section undertakes three main tasks. First, it presents an inventory of water resources in the country, focusing on

developed resources as well as those under development. Second, it describes the main policy and legal framework that governs water management. Third, the challenges and issues that should be addressed in order to achieve sustainable water resource management are outlined.

4.2.1 Inventory of water resources

It is estimated that just over 70% of the country's water resources are committed (Annex 1) with actual utilisation estimated at 60 to 65 %. Of the total committed water, flow permits account for 16%, illustrating that inexpensive water is generally no longer available. Groundwater is generally not considered to be significant for irrigation development.

It is estimated that 45% of stored water is in government owned dams. The rest is in some 5 700 dams found in the former large-scale commercial sector and on privately owned plantation estates.

There is considerable unutilised water in government dams. The Department of Irrigation (2003) estimates that there is water in 23 government dams that could irrigate up to 15 600 hectares (Annex 2). This has been, and continues to be, a cause of concern to policy makers. This emphasises the importance of sound planning in the development of water projects, as part of a national water master plan.

There are also a number of projects that are under development (Annex 3). The major ones include Kunzwi, Gwaayi/Shangani (part of the Zambezi Water Project), Tokwe Mukosi and Marovanyati. The first two are predominantly for domestic water supply to Harare and Bulawayo respectively, while the last two are for irrigation development.

4.2.2 Main policy elements

4.2.2.1 Principles of water resource management

There are a number of principles that guide water resources management in the country. First, except for primary purposes (mainly for domestic uses such

as drinking, cooking and washing), any commercial use of water requires a water permit since the state owns all surface and underground water. Second, water is now managed by catchment areas, i.e. on a hydrological basis, as rivers do not match administrative boundaries. To this end, the country has been divided into Catchment Councils (CCs), which are further subdivided into subcatchment councils (SCCs) . Third, people with an interest in the use of water (stakeholders) have an opportunity to participate in making decisions at all levels about its use and management. All stakeholders are represented in CCs and SCCs, on the ZINWA Board and can be part of the panel of assessors at the Administrative Court. Further to this, the environment is considered a legitimate 'user' of water and competes with other uses, such as industrial, agricultural, mining and domestic. To this end, environmental water requirements should be provided for in catchment outline plans. Penalties against pollution, to maintain water quality, have been made more of a deterrent than previously, in accordance with the 'polluter pays' principle. Finally, water is now regarded as an economic good and not a free good. People who use water commercially are required to pay for it in accordance with the 'user pays' principle, so as to recover costs incurred in administering and managing water. However, the Water Act provides for the Government to ensure that water prices are socially acceptable.

4.2.2.2 Water Charges

Water charges that are liable to be paid by commercial water users relate to:

- A water levy meant to finance statutory aspects of water management.

This is paid by every permit holder allowed to abstract water from a river of bore hole or to share water. It is currently fixed at Z$40/ml an is being reviewed to Z$150/ml. It is collected by ZINWA.

- Agreement water charged to users of raw water from state dams: This is meant to recoup state's investment in the dams as costs associated with management and maintenance of facilities. As of July 2003 it rose to Z$740 from Z$270.

- Rates and fees collected by sub-catchment Councils from every commercial water user: This is meant for administering and managing water.

All water charges are approved by the Minister of Rural Resources and Water Development.

It is also important to note that dam construction projects implemented by ZINWA are 100% funded under the Public Sector Investment Programme (PSIP). The money that is collected by ZINWA from the sale of agreement water from these dams forms part of its revenue. There is no specific legal provision for the money to be reinvested in water development. The water levies that are collected from water users form part of the Water Fund. Other sources of the Fund include appropriations from treasury, donations and proceeds from investments. The Fund is administered by ZINWA on behalf of, and in accordance with directions from, the Minister. Purposes for which the Fund can be used include carrying out of ZINWA's statutory functions, reimbursing ZINWA for administration of the Fund and any other purposes that the Minister may consider are in the interest of water resources development.

4.3 Characteristics of the irrigable area

4.3.1 Extent and distribution

The estimated irrigable area in Zimbabwe is 550 000 hectares, of which 200 000 hectares has been developed. This includes functional and non-functional irrigation systems, as well as informal irrigation schemes. On the basis of physical criteria, only some extra 200 000 to 250 000 hectares can be irrigated (FAO, 1990).

Currently 120 000 hectares is functional. However, is has undergone significant structural changes, because of the Fast Track land reform, in relation to the composition, size and geographical distribution of the sub-sector (annexes 4 and 5). The size of the irrigated area in the communal and resettlement areas has changed marginally as has the area irrigated by the Agricultural and Rural Development Authority (ARDA). New entrants in the sub-sector include A1, A2 and indigenous large-scale commercial farmers, who between them now account for about 30% of the irrigated area. The number of out-grower farmers, who have a variety of relationships with the state-related or private estates that are attached to, is not known.

Plot size is another important parameter that determines agricultural productivity. A plot that is either too big or too small offers constraints in agricultural production. In the pre-FTLRP era, the average irrigated area in the large-scale commercial sub-sector was approximately 100 hectares while in the small holder sector, it ranged from 0.1 to 2 hectares. It has been observed that about 30% of farmers in the small holder irrigation schemes lack the ability to fully utilise their irrigated plots. It will be interesting to see whether the new irrigated plots are fully utilised in future.

4.3.2 Technology

Most of the irrigated area (over 80%) is under overhead (sprinkler) irrigation, with the remainder under surface irrigation. These two systems have efficiencies of 60 to 65% and 25 to 30% respectively. It is generally accepted that Zimbabwe's water use efficiencies are low. Attempts have been made to rectify the situation. Large-scale commercial farmers had started to invest in water use enhancing technology. For example, an estimated 250 to 300 centre pivots were brought into the country before the Fast Track programme. There was also some investment in drip systems.

Even in the small holder irrigation sector, some attempts have been made to improve water use efficiency. Beginning in the later 1980's, there was an attempt to introduce overhead irrigation, representing an improvement from surface irrigation. Some drip systems have also been installed in the small holder sub-sector by the Food and Agriculture Organisation (FAO) in conjunction with the Department of Agriculture, Research and Extension (AREX). Some Non Governmental Organisations (NGOs) are also distributing low cost drip systems. What remains to be established is the performance of the systems and their likely adoption by farmers.

4.3.3 Crops

Close to half of the irrigated areas is under a variety of perennial crops (Annex 5). In the LSCF sub-sector, the main irrigated crops grown include wheat and sugarcane, followed by tobacco, cotton, tea, coffee and horticultural crops like baby corn, asparagus and peas for export, among other crops. 'Normal' irrigated hectarage under annual crops include wheat (60 000) to 65 000 hectares), tobacco (20 000 to 35 000 hectares) and cotton, soya beans and maize (20 000 to 35 000 ha).

A wide variety of crops is grown in small holder irrigation schemes, including maize, cotton, wheat, tomatoes, leaf vegetables and other horticultural crops for home consumption and marketing. The problem in this sub-sector is low yields.

4.3.4 Irrigation rehabilitation

Table 4-1 shows that close to 50 000 hectares needed to be rehabilitated because of problems arising from the FTLRP. Through the Irrigation Support Fund, the Government has provided finance to undertake rehabilitation, mainly in the former large-scale commercial sector. ARDA administered the Fund for

which an interest rate of 20% was charged. There have been suggestions to reduce this to 10% but this appears unsustainable in the current high inflation environment.

It is impossible to deduce the average size of the irrigated plot or the cost of rehabilitation per hectare because of the unavailability of data. However, Z$10.8 billion having been used to rehabilitate 45 000 hectares means that the cost of rehabilitation per hectare was Z$240 000. Since it is government policy for the A2 model to be based on cost recovery, it is important for the fund to be converted into a revolving fund. Also, the pledge by the Government to compensate former owners for improvements on the farm makes it important for the people that benefited to pay back the money.

Table 4.1: Extent and cost of rehabilitating damaged irrigated area

Province	Extent of rehabilitation			COST OF REHABILITATION (Z$) IN 2003		
	Minor area	Major area	Total area (ha)	Money disbursed (Z$m)	No of Beneficiaries	Per capita Disbursement (Z$m)
Mashonaland Central	2 680	3 820	6 500	2.167	168	12.9
Mashonaland East	4 610	200	4 810	2.938	239	12.3
Mashonaland West	13 440	9 480	22 920	2.890	189	15.3
Manicaland	6 580	640	7 220	632	65	9.7
Matabeleland North	170	350	520	156	29	5.5
Matabeleland South	230	890	11 110	175	23	7.6
Masvingo	50	1 450	1 500	213	43	4.9
Midlands	4 300	490	4 750	409	41	10.0
TOTAL	32 060	17 320	49 380	10.083	797	78.2

Source: Extrapolated from data provided by the Department of Agricultural Engineering (2002) and ARDA.

4.4 Legal and policy framework

Legal issues in irrigation development touch on land, water, and the irrigation infrastructure. In the former LSCF areas this was not problematic because the farmers had title to their

land, had water rights and bought their own irrigation infrastructure. This was not the case in irrigation schemes found in communal and resettlement areas, where there was a lack of legal clarity in relation to farmers' 'rights *vis-à-vis* these three factors. Irrigated areas acquired under the Fast Track have been affected by the same lack of clarity.

Some of the policy objectives and strategies that need to be considered include:

- Establishing a water pricing structure consistent with cost and social efficiency;
- Establishing an effective institutional structure;
- Implementing efficient drought mitigating strategies;
- Promotion of farmer managed and operated systems;
- Better co-ordination in implementation between public-public and public-private/NGO sector bodies; and
- Formation of effective, farmer-defined water users' associations,

The development of the policy and legal framework is now urgent, given the numerous concerns in the irrigation sector today.

4.5 Institutional framework

A number of government institutions are involved in irrigation development (Table 4-2). Government's efforts are complemented by the private sector, which manufactures and supplies various irrigation components. Zimbabwe is one of the few African countries where there is a local irrigation manufacturing capacity. There is enough manufacturing capacity to meet local demand in relation to piping (both aluminium and plastic) and pumps (one manufacturer can produce 70 types). The Irrigation Institute of Zimbabwe (IRRZ), representing the major players in the industry, promotes irrigation development in the country by advocating acceptable standards (through a certification process) and dissemination of information.

Table 4.2: State institutions in irrigation development

INSTITUTION	FUNCTIONS
Department of Irrigation (DI)	Responsible for irrigation development in the small holder irrigation sector. Also responsible for policy formulation
Department of Agricultural Engineering (DAE)	Field water management, operation of infrastructure and irrigation research
Department of Agricultural Research and Extension (AREX)	Undertakes soils surveys as well as providing extensions to farmers
District Development Fund (DDF)	Irrigation development for small holder irrigation schemes of up to 20 hectares for rural communities
Agricultural and Rural Development Authority (ARDA)	Irrigation development for large scale, state funded irrigation schemes. Also operates its own irrigation schemes and administers settler schemes that are attached to it
Rural Development Fund (RDF)	Develops small holder irrigation schemes, usually 5 hectares or less
Zimbabwe National Water Authority (ZINWA)	Participates through construction of dams, pipelines, and water treatment works, canals and irrigation systems

4.6 Issues and challenges for sustainable irrigation development

4.6.1 Policy, legal and institutional deficiencies

Policy deficiencies in irrigation have resulted in a lack of clear direction for irrigation interventions. Examples include lack of secure land tenure arrangements, which has the effect of hampering long term investment in irrigation by the farmers. Evolving institutional arrangements in the public irrigation sub-sector are hindered by 'turf wars' and duplication of effort between various government departments.

4.6.2 Subdivision of on-going concerns

Challenges facing irrigation development as a result of the Fast Track mainly relate to the sub-division of

on-going concerns. Plot allocation did not take account of the fact that the irrigation systems were meant for a single user and were, therefore, not amenable to being used by multiple users without either physically changing the system or devising new rules of operation. There are reports of lack of co-operation in relation to sharing the water and irrigation infrastructure, and settling water and electricity bills. Some irrigators are denied servitude to convey water across other people's fields. This has been compounded by lack of experience in utilising and managing water, which is low at both the field and catchment level, resulting in low crop yields and poor water resource management. Yet another problem is that the allocated plots, as in Middle Sabi, are too small for viable crop production, at least in relation to growing field crops such as wheat and cotton.

Scale problems have also arisen. The new smaller farm sizes require smaller pumps, transformers, tractors and other equipment, which are not readily available on the market.

4.6.3 Out-grower irrigation schemes

Out-grower schemes attached to ARDA estates have always had problems relating to the fact that they were designed for a block of farmers and not for individuals. This system, which used to be workable when farms were growing the same crops as ARDA, is no longer satisfactory in a deregulated environment where farmers grow different crops. There have also been problems relating to the rights and responsibilities of the out-growers. A further problem has been a perceived cheating on the part of the core estate, regarding grading of produce for crops like tea. These problems have also been reported on privately owned core estates.

In the aftermath of FTLRP, one other problem has emerged. There is a view that all the land of the core

estate should be given to settlers leaving the private sector to processing produce. This seems to be the view that led to the demarcation of Mkwasine Estate. An opposing view is that the private estates represent a concentrated source of expertise without which the settlers would find it difficult to operate.

4.6.4 The irrigation industry

The irrigation industry is facing a number of problems, namely:

- **Operational problems –** relating to power cuts, lack of credit finance and sizing equipment for new farmers.

- **Lack of quality standards –** for both domestic and international markets.

- **Lack of foreign currency –** against a background of 50% import content for raw materials.

- **Unfair duty structure –** that penalises local manufacturing/assembly or irrigation components.

4.6.5 Compromised financial sustainability

The administration of the Irrigation Support Fund demonstrated the need for putting in place measures that ensure financial sustainability in the public irrigation sector. These need to be complemented by the private, NGOs and donor sectors, based on clear policy direction.

4.6.6 Poor agricultural water productivity

The generally acknowledged poor level of agricultural water productivity points to the need to seriously explore relevant issues. These relate to complementarity between irrigated and rain-fed arable production to make efficient use of the available land and water resources, promotion of water saving technology, and strengthening of the local irrigation industry with a view to making irrigation components more efficient and affordable.

4.6.7 Research and Training

Since the 1980's , the FAO, in conjunction with Agritex and later AREX, has offered on the job training for irrigation engineers. It started as an in-house intensive training course. The course has since been upgraded to a regional one and the organisers are actively seeking accreditation from the University of Zimbabwe. It uses facilities at the Zimbabwe Irrigation Technology Centre (ZITC) at the Institute of Agricultural Engineering in Hatcliffe, Harare. Zimbabwe could benefit from hosting this regional course. While it does so to some extent already by hiring out the ZITC facilities, the lack of standard accommodation reduces the benefits that can accrue.

There is a need for training of junior staff because trained personnel have left the public service for a variety of reasons. Training of new staff is, however, constrained by the lack of adequate funds.

The situation is different in the private sector in that it is the technician grade that is required. There has also been a flight of skills from the country at this level. For example, IRRZ reckons that some 200 designers have left the country. Replacing these is difficult because of the high cost of training. The other problem is that the courses offered by various colleges contain very little on irrigation. This is made more difficult by the fact that irrigation encompasses many disciplines.

The Zimbabwe Manpower Development Fund (ZIMDEF) is not helping as virtually no money is given to industry for training, despite the fact that industry contributes to the fund.

4.6.8 Energy problems

Generally, irrigation development in Zimbabwe is hampered by high-energy costs. Efforts should be made to find a way of keeping the charges within reasonable limits or searching for cheaper alternatives.

4.7 Conclusions and Recommendations

In Zimbabwe water is a limiting factor in agricultural production because of its general scarcity. It is, therefore, critical that it be used wisely for the socio-economic development of the nation through increased agricultural production. The FTLRP, despite its limitations, offers an opportunity to restructure simultaneously two key factors in agricultural production, namely land and water.

Efficient water management comes from managing water as a component of a system made up of land, water, ecosystems and human activities that should be integrated. This concept, called 'integrated water resource management' (IWRM), has been adopted as the strategy for water resource management in Zimbabwe on order to achieve sustainable water resource management (SWRM), in which the rate of water utilisation does not exceed its replenishment. Irrigation development, in which the management of human, water, financial and infrastructure resources plays a central role, is an important component of SWRM since irrigation is the largest water user in the country.

This section addresses some of the issues that were identified as posing challenges to water resource and irrigation development. Before going into the specific recommendations, there is a discussion of what are regarded as crosscutting issues for both water resource and irrigation development.

4.7.1 Cross-cutting issues

4.7.1.1 The need for a national water master plan

This study has highlighted a number of weaknesses regarding water resource and irrigation development in Zimbabwe that need to be addressed if sustainable water resource is to be achieved. These include under-utilisation of developed water resources, the low status accorded to statutory/non-commercial aspects (catchment management, water quality monitoring and research), a lack of mobilisation of non-state funds for water development, unauthorised

water use and lack of strong local participation, among other things. These issues are best addressed within the framework of a national water master plan, which would have the added advantage of redressing loss of institutional memory due to staff turnover.

A water resource management strategy, as the one that exists today, has the advantage of being flexible. It, however, tends to be too broad and to lack enough detail to operationalise water resource management. This explains why catchment councils are supposed to produce catchment outline plans. However, the expectation that a national water master plan is an aggregate of catchment outline plans produced by the various catchment councils is misplaced. The lack of capacity among the majority of stakeholders makes production of a good catchment outline plan unlikely. This is borne out by the quality of the preliminary catchment outline plans, which, in the words of Swatuk (2002), concentrates on supply side issues and are comprised mostly of 'platitudes and wish-list objectives'. Given the dynamics of the situation it would be better if the state, through ZINWA and the Department of Water Development (DWD) and in conjunction with CCs, took the initiative of producing catchment outline plans, not as a new and separate process but as an enhanced process during this transition.

A national water master plan has also to engage with irrigation development since irrigation is the largest water user. This requires assessment of physical, human, financial, material and technical resources and how they will be mobilised.

Some of the elements of the proposed national water master plan which are elaborated in the subsequent sections include:

- Assessment of water resources, including surface and groundwater, developed and undeveloped,
- Irrigation (blue water) and rainwater harvesting (greenwater);

An assessment of the water demand of the various sectors (primary, urban, industry and mining, irrigation, environment) taking into account demographic and socio-economic issues in the short, medium and long term;

- Prioritisation of different water uses, between and within sectors, according to objective criteria;

- Identification of technology and institutional support for enhancing agricultural water productivity;

- Establishing environmental requirements;

- Ensuring financial sustainability, including the foreign currency component.

It should also be added that there already exists part of a national water master plan in the form of the National Master Plan for Rural Water Supply and Sanitation (Interconsult/Norad, 1985). This is a comprehensive document that has been used to great effect and perhaps explains why Zimbabwe has made great strides in this area.

4.7.1.2 Funding of research

Research into various aspects of water resource management is critical for sustainable water resource management. The research budget of public institutions is negligible. To improve the situation, it is proposed that a Water Research Fund be established. This could be financed by dedicating a certain percentage (say 1%) of sales of raw water to this Fund, along similar lines to this Fund, along similar lines to the Rural Electrification Programme that is administered by the Zimbabwe Electricity Supply Authority. A competent Board, drawing its membership from the academic community, private sector and civil society, should run this Fund. The Fund should have laid down procedures, such as who is eligible for funding and what areas can be funded on a competitive basis. The Research and Data Section of ZINWA should co-ordinate this Fund.

To improve irrigation research, the Zimbabwe Irrigation Technology Centre (ZITC) should be revived as a testing centre for irrigation equipment. If this is done as part of the certification programme, the chances of success may be enhanced.

4.8 Water resource development and management

The legal, policy and institutional framework in place is generally adequate for sustainable water resource management. The problem lies in the operational realm. The water reforms that were legislated for in 1998/99 are still to take shape in terms of establishing the relevant institutions and operational mechanisms, such as creating a functional water permit system and collection of the various water charges. The Fast Track has provided more development challenges to the Institutions, which are still in their infancy. Some of the institutions mandated to oversee water resource development have found it difficult to cope. The required interventions needed to bring about improved water resource management appear below.

4.8.1 Assessment of water resources

The country has limited water resources, which should be carefully assessed. The assessment should include all the sectoral requirements in the short, medium and long term. The current level of water utilisation should also be assessed. Such information could be used for developing catchment outline plans. Collection of information should involve local water users, ZINWA, and catchment and subcatchment councils. With regard to agriculture, the assessment should include both blue and green water as a basis for promoting complementarity between irrigated and rain-fed farming.

4.8.2 Regularising water use

In order to regularise water use, a mixture of carrot and stick measures is required. The main measures are described below.

- **Towards water permits:** Essentially, regularising water use means that water users take measures to obtain a water permit or agreement for use where this applies. To this end, a directive should be issued to the effect that all users of water should, by a certain date, start applying for water permits. Advertisements placed in the media could be used to indicate that by a given date, everyone should at least have indicated that they are using water.

- **State to assume ownership of dams in newly resettled areas:** The Ministry of Rural Resources and Water Development, as the custodian of the country's water resources, should, through ZINWA, be mandated to become the owner or all dams in the newly resettled areas. Farmers should then enter into negotiations with ZINWA about using the water.

The proposed take-over can also be justified on the grounds that dams belong to the Government, since it has given an undertaking to compensate displaced farmers for improvements on the acquired farms, including dams.

- **Information dissemination:** There is a need to undertake information dissemination campaigns on the importance of regularising water use, as well as the role of catchment and subcatchment councils. This is an exercise best co-ordinated by the Department of Water Development . There is a need to have in place a defined budget from the Water Fund for this exercise.

- **Strengthening local water management:** Stakeholder participation in water resource management needs to be strengthened by creating a third tier that will ensure that there is more participation by local people. This has already happened in Mazowe and Sanyati catchments.

- **Co-opting new settlers in water management structures:** To ensure the co-operation of the new

settlers, they must be made part and parcel of the water management process. Since the situation is evolving, the best approach is to set interim catchment and sub-catchment councils and hold elections when the situation stabilises. As part of their duties; the interim committees should be mandated to conduct elections. The Minister can issue such a directive under the current regulations.

4.8.3 Prioritisation of water development

Prioritisation of water projects is key for sustainable water resource development. This mostly applies to dam construction. There is a need to prioritise on-going projects so that they are completed before new projects are embarked upon. The under-utilisation of water in some dams, while other dams are being constructed suggests a lack of prioritisation and pre-occupation with dam construction. Measures such as limiting demand for water, leak, detection, water recycling, and reducing wastage of water, can lessen the urgency for the building of expensive structures.

4.8.4 Water pricing

Water pricing can be used as a tool to control water use. However, the right balance between economic and social objectives is critical. Some proposals appear below.

- **Economic water charges:** As far as possible, economic water charges should be collected from water users in line with the user pays principle. A poor water pricing structure often ends up subsidising the rich and punishing the poor.

- **Balancing commercial and developmental needs:** There is concern about the fairness of the charges that ZINWA levies farmers. There is a need to ensure that water charges do not push farmers out of business. The Department of Water Development should undertake an exercise on

rationalising water charges so as to come up with a system that balances the commercial needs of ZINWA and the general developmental needs of the nation at large.

- **Targeted subsidies:** The various water charges that apply should be rationalised and revised. For example, the insistence by some catchment councils on levying every herd of cattle violates the Water Act, which allows livestock watering as primary water use. It is, therefore, recommended that the authority that has been given to some catchment councils to levy every herd of cattle be withdrawn, as this is illegal. Such subcatchment councils should be allocated some money from the Water Fund. Water charges in the rural areas should be reduced, as provided for in the law.

4.8.5 Strengthening statutory/non-commercial aspects

The statutory or non-commercial aspect of water resource management are critical in that they ensure the sustainability of water research. Because of their long-term nature, they are not widely appreciated. It is important that these aspects, discussed below, be accorded their due importance.

- **Strengthening catchment management:** Catchment management has been compromised by lack of finance to undertake related activities and also because of being overshadowed by concerns of water supply. It is recommended that catchment management positions be created in both DWD and ZINWA. For DWD, one officer will suffice. For ZINWA, there is a need for a position in the Planning Section and also at catchment council level. There is also a need to co-ordinate with the Department of Natural Resources, which does similar work. Co-ordination would be better if the two were both under the Ministry of Environment and Tourism.

There is also a need for a forum of all catchment councils in Zimbabwe to share information as well as

to lobby on matters of common interest. The proposed Association of Catchment Councils of Zimbabwe should receive financial support from Government for its establishment. Catchment cuncils within the same river basin should form some co-ordinating body to discuss matters of common interest.

- **Water quality monitoring:** There is a need to make financial and human resources available so that the national water quality monitoring system can be completed. In the long term, it will be necessary to invest in a telemetric monitoring system.

- **Research:** There is a need for a defined budget from the Water Fund for research into various aspects of water resource management. The state funds should, however, be augmented by taking advantage of regional and international research funds. Examples include the Water Research Fund for Southern Africa (WARFSA) and the Centre for Environmental Economics and Policy in Africa (CEEPA).

4.8.6 Towards financial sustainability

Financial sustainability of water resource/irrigation projects at a project and national level is required. This should include developmental aspects. The means to achieve such sustainability are discussed below.

- **Private sector participation and other non-state actors:** Private sector participation in water resource development needs clarification in light of the new water legislation and the Fast Track. The Department of Water Development, in consultation with ZINWA, should produce a position paper in this regard. The construction of the Gwaayi Shangani Dam as part of the Zambezi Water Project under the Build, Operate and Transfer (BOT) model, involving the Matabeleland Water Trust, Bulawayo City and a private investor, should be the harbinger of similar initiatives.

- **Reconstituting the Water Fund:** The Water Fund is not explicit about its use in development-oriented projects. It is recommended that part of the Fund, say 5%, be reserved for water/irrigation projects. The money should be part of the Irrigation Fund (see below) for concessionary lending to farmers.

- **Reinvesting in water development:** As with the Water Fund, the money that is collected by ZINWA from the sale of agreement water should be used for water development. Such a move would make it possible for ZINWA to fund some dams from its own resources and not entirely from PSIP, as is the case now.

- **Targeted subsidies:** Targeted subsidies that go to the intended beneficiaries can assist in maintaining financial sustainability because of reduced wastage. DWD needs to come up with a policy position on the issue of targeted subsidies.

4.9 Irrigation development and management

Irrigation development requires that several measures be co-ordinated. This section outlines a number of them. Overarching all these issues is the legal and policy framework that enhances or compromises the various efforts to make irrigation succeed.

4.9.1 Institutional rationalisation

The recent restructuring exercise that was undertaken in the irrigation sub-sector has resulted in more fragmentation of efforts. Some rationalisation of the institutions is needed. To streamline the irrigation sub-sector, it is recommended that the irrigation functions in DDF, ARDA, Department of Agricultural Engineering, Department of Irrigation, AREX and ZINWA be brought under one department. Such a department should be able to develop small, medium and large-scale irrigation schemes. It could also plan, design and construct schemes, operate and maintain

them, and undertake consultancy services. Such a set up not only avoids duplication of administrative structures and equipment, but should also be able to exploit economies of scale. The natural home for such combined irrigation activities is the Department of Irrigation. Therefore, this Department must be expanded accordingly. The housing of the Department of Irrigation in a non-agricultural ministry is a cause for concern. Such a system reduces irrigation development to engineering exercises. The Department of Irrigation should, therefore, be transferred to the Ministry of Lands, Agriculture and Rural Resettlement.

4.9.2 Improving agriculture water productivity

It is important that water is used productively, that is, more produce should be obtained from each unit of water. Below is a description of some of the measures that can be used to realise increased agricultural water productivity.

- **Increasing water use efficiency through technology:** Efficient use of water, such as through technology that are water saving, is critical for improved agricultural productivity. For example, drip systems can result in efficiencies of 80% and above, and overhead irrigation can achieve up to 60% efficiency compared to conventional surface systems that can have efficiencies as low as 30%. The challenge is to ensure that these water saving technology are widely used. Incentives should be put in place to cause the switch. In this regard, farmers should be encouraged to make the change by offering tax breaks e.g. by reducing or scrapping sales tax or customs duty on such items.

- **Rainwater harvesting:** Improving water use efficiency should not be confined to (blue) irrigation water but should also be extended to rain-fed agriculture. To this extent, there must be concerted efforts to promote water harvesting in the form of

research/extension into appropriate field technology in relation to the hardware as well as agronomic requirements. An important component is to strive to combine both forms where possible e.g. through supplementary irrigation.

Money in the form of cheap loans should be available to farmers engaged in water harvesting, just as it was for irrigation under the Irrigation Support Fund. Rainwater harvesting can enhance crop production at a fraction of the money that would be needed for irrigation. Such measures promote food security since food crops tend to be grown under such systems.

- **Optimising irrigation water:** Supplementary and deficit irrigation, as well as precision irrigation should be encouraged.

4.9.3 Towards financial sustainability

Below is a description of measures that can be taken to achieve financial sustainability in the irrigation subsector:

- ***Audit and re-warehousing of the Irrigation Support Fund:*** The money that the Government makes available for irrigation development needs to be well managed as part of ensuring financial sustainability. In this regard, the Irrigation Support Fund that was meant for rehabilitation was a disappointment. Money was disbursed without credible operational mechanisms, for example, mechanisms relating to how the money was to be recovered. The Z$10 billion fund should be audited before the loan portfolio is transferred to the Land Bank, which, as a financial institution, has sufficient financial control mechanisms.

- ***Setting up a revolving Irrigation Fund:*** A dedicated revolving fund, along the lines of the National Irrigation Fund of the 1980s, should be put in place. The Fund should be meant for irrigation

infrastructure and not for crop inputs, which should be financed separately. Such a Fund should have very clear guidelines on the borrowing conditions.

A proportion of the Fund should be earmarked for food security projects where poor people could borrow to install low cost irrigation systems. Such an instrument, with a low capital threshold and low interest rates, could be an empowerment tool to help the disadvantaged people who normally lose out on big projects. Women could benefit from such an intervention. The Land Bank and other financial institutions should administer the Fund.

- ***Mobilising private and NGO sector finance:*** There is a need to involve other players other than the Government in financing irrigation development. Efforts must be made to look at how the private and NGO sectors could make a contribution. For example, NGOs could be persuaded to contribute to the fund meant for poor people. A policy pronouncement would need to be made, hence the importance of an irrigation policy supported by an irrigation Act. Bilateral and multilateral sources should also be sought.

- ***Funding informal and unconventional irrigation:*** Informal irrigation, estimated at 20 000 hectares, has been found to achieve higher yields and to be more financially sustainable that the formal schemes. Despite this, it has not received acknowledgement or any material support from the state. The availability of loans to finance low cost technology in such irrigated areas would go a long way to improve production in these schemes. In the same breath, low cost irrigation systems e.g. low cost drip systems and treadmill pumps, should also be promoted. This should be financed through cheap loans.

- ***Cost-benefit analysis of irrigation projects:*** Irrigation development needs to proceed on the

basis of a comprehensive cost-benefit analysis. While this has been done in the past, it was not through. A way forward is to abandon the system where repayment of loans borrowed to finance some schemes comes from the general fiscus. In this respect, the Chinese system should be adopted. Every farmer in an irrigation scheme, which was funded by a loan, makes an annual contribution until the loan is retired (Diemer, personal communication).

- ***Targeted subsidies:*** Just as for water development, there is a need for targeted subsidies . The Department of Irrigation should come up with a policy position on this.

4.9.4 Out-grower irrigation schemes

One problem has been to view out-growers as a homogenous group of farmers pursuing one common agenda. The next generation out-grower schemes should be flexible enough to allow different production systems and targets. As far as possible, irrigation designs should allow for individual irrigation.

The legal framework has been weak in many cases, for example, the rights of settlers regarding the land and the infrastructure. Government's reluctance to give title to land has resulted in a situation where non-performing farmers cannot be evicted. This has been worsened by the insistence that no renting out of plots is allowed, even though it happens in practice.

To correct the situation, there should be mechanisms where plots can change hands legally. The current system precludes renewal of the scheme through the infusion of new farmers. Out-growers should also be involved in the decision-making process around the issues that concern them.

4.9.5 Irrigation management on subdivided on-going concerns

A number of options can be pursued regarding the management of irrigation on subdivided plots, which

were on-going concerns. First, it may be necessary to reallocate the plots, taking into account the layout of the irrigation facilities. Second, the schemes may be redesigned to make the plots self contained. Third, the beneficiaries may work together to make it a success. Either option has human, material and financial costs. The question of who bears the costs needs to be answered.

In some cases, the better option is just to redesign the consolidation of plots, which can also be divided by relocating some settlers. In such a scenario, the solution is purely physical where the farmers become independent. In reality, however, a complete separation may not be possible. Therefore, there is a need to craft viable institutional arrangements.

4.9.6 Strengthening the local irrigation industry

The irrigation industry needs to be strengthened in three ways as described below.

- **Foreign currency provision:** The industry needs foreign currency for the importation of raw materials. To satisfy the growing demand for irrigation facilities, some US$10 million is required annually.

- **Favourable duty structure:** The industry requires a lowering of the duties levied on irrigation components. It is, therefore, recommended that the tariff for an imported unit should be the same or lower than the rate for the irrigation components. This will reduce the import bill for the manufacturers who, hopefully, will pass it to the consumers. Besides, local manufacture creates jobs.

- **Certification:** The Government must assist in ensuring that local manufactured goods undergo a certification process to ensure quality of production. There is a need for local certification to be gradual so as to incorporate the new entrants into the market place.

4.9.7 Prioritisation of irrigation development

Irrigation development has to somehow be phased, since not all things can be done at the same time. The current focus on irrigation should not loose sight of this important fact. Priority of irrigation development could be as follows:

1. The area needing rehabilitation, which amounts to 50 000 hectares;

2. New irrigation where an existing water source is available, which amounts to 16 000 hectares;

3. New irrigation where suitable soils and semi developed water resources are in close proximity, such as the Tokwe Mukosi project.

4. New irrigation where a cheap water source is available and can easily be developed.

5. New irrigated areas requiring substantial financial resources.

Besides these mega-projects, there is also a need to prioritise food security projects, In fact this is an exercise that also includes rain-fed farming. The assumption that all irrigation will be developed by the state is a disturbing feature. Prioritisation should also stipulate the extent to which the private sector will develop irrigation.

4.9.8 Training and Research

Training and research has several components as discussed below.

- ***Technician training:*** Consideration should be made to having in place a comprehensive irrigation-biased higher diploma, which has a series of stages that could also be used to gain entry to university if desired. In this regard, consultations between the Irrigation Institute of Zimbabwe, training institutions and public institutions in the irrigation sector are recommended. The Department of Irrigation should

conduct a training needs assessment for training irrigation personnel at the technical level.

- **Reconstituting Zimbabwe Manpower Development Fund:** ZIMDEF needs to be sensitive to industry's needs by allocating realistic amounts for on the job training.

- **On the job training for engineers:** The University of Zimbabwe is encouraged to accredit the FAO regional course on irrigation design, construction and management as soon as possible, subject to satisfaction of standing rules. This will facilitate on the job training of the junior staff that are currently the majority in the public sector. The accommodation facilities at ZITC should also be upgraded so that trainees can be housed there. This is a good investment, as trainees from outside Zimbabwe will bring in foreign currency.

- **Farmer training:** The Department of Irrigation should embark on assessment of skills and training requirements in irrigation in general. Recommendations must be made on the way forward. Training needs to be completed by research. Some of the topics that can be investigated include the role of supplementary and deficit irrigation, identification of appropriate technology for different categories of farmers such as poor, women, rich etc, and for different objectives e.g. to save water and reduce energy costs, and rainwater fed harvesting for enhanced agricultural production and food security.

4.9.9 Affordable energy for irrigation

The Department of Irrigation should commission a study on cheap energy options for irrigation, particularly for small holder irrigation schemes.

4.9.10 Need for an irrigation policy and irrigation Act

There are a number of areas where the policy and legal framework is not clear. This is hampering sound

irrigation development and management. Below is an overview of the areas of concern. In all cases, the Department of Irrigation should take the lead towards the legal and policy formulation.

- **Security of tenure:** Land tenure in the newly acquired farms is not yet clear, an issue which should be addressed as matter of urgency. This is because irrigation is both an expensive and a long term investment that requires security. To this extent, farmers should be accorded long leases of the property they are farming, with an option to buy. The current talk of farmers getting a 99 year lease with an option to buy is a step in the right direction. However, one important caveat needs to be made. A lease without the force of law to protect the conditions of the lease is invalid. This point cannot be emphasised enough.

- **Regularising use rights of state-owned infrastructure:** At the moment there is no clear policy position regarding the ownership and use status of irrigation facilities found on the resettled properties, such as dams, pumps, canals and pipes. The new settlers found these in varying states of operation and, in many cases, they used their own money or borrowed money to rehabilitate the infrastructure. Since the Government is still to compensate the previous owners it means that the new farmers repaired government property without any agreed conditions. The options available to regularise the situation are either to let the new farmers buy the infrastructure from the Government or lease it (the legality of this when in many cases the Government itself has not acquired the assets legally is a contentious point). In either case, the details will need to be worked out. The Department of Irrigation, together with ZINWA, should be mandated to begin the process by carrying out an inventory of such facilities. The improvements that have been made by the new farmers should also be noted and the price of the leasing fee adjusted accordingly. The state may also contract the private

sector to do the exercise. The same exercise could be used to determine the amount of compensation that will be paid to the previous owner.

There is a similar legal vacuum in relation to irrigation infrastructure in the communal and old resettlement areas. The same recommendations can be made for this situation. The above clarifications will not amount to much if there are no steps made to protect life and property on the farms.

- **The role of farmers:** It has been proven world-wide that farmer control of farming activities in irrigation schemes is a basis for better agricultural performances. Small holder irrigation in Zimbabwe has suffered from lack of farmer control. The newly resettled areas seem to suffer from the same problem.

In order to promote agricultural water productivity, farmers should be given, as far as possible, full operation and maintenance responsibilities for the schemes where they are farming and should pay the related costs of running the scheme. If any subsidies are to be made available, these should be well targeted. The best approach would be to subsidise the cost of water, as this would have a direct impact of the intended beneficiaries. Farmers should be active members of management committees of the irrigation schemes. In this regard, Irrigation management Committees should be given semi-legal status. Farmers can be organised as a Trust. They should also be part of catchment and subcatchment councils, so as to protect their interests, and should assume defined user rights to state infrastructure.

4.10 ANNEXES

Annex 4.1: Status of water resource development in Zimbabwe

CATCHMENT	M.A.R. Million ML	STORAGE RIGHTS Million ML	FLOW RIGHTS Million ML	TOTAL COMMITTED Million ML	% COMMITTED
Gwaai	1.33	0.17	0.07	0.24	18.3
Manyame	2.85	2.57	0.17	2.74	96.3
Mzingwane	1.16	1.15	0.07	1.21	104.7
Mazowe	4.44	1.19	0.26	1.46	32.9
Runde	2.40	4.50	0.28	4.78	106.0
Sanyati	3.22	2.12	1.06	3.18	98.6
Save	4.52	1.49	0.72	2.11	46.7
TOTAL	19.92	13.19	2.63	15.72	503.5
Average	2.84	1.89	0.37	2.25	71.9

Source: Department of Water Development (personal communication, July 2003)

Annex 4.2: List of state dams with unutilised water

PROVINCE	DISTRICT	SCHEME	AREA ha	COST ESTIMATE (Z$ Million)
Mashonaland Central	Bindura	Mufurudzi	35	95
Mashonaland Central	Shamva	Banana	50	129
Mashonaland East	Goromonzi	Dzvete	30	101
Mashonaland East	Marondera	Evergreen	30	103
Mashonaland East	Uzumba	Mutawatawa	20	51
Mashonaland West	Chegutu	Seke Sanyati	100	234
Mashonaland West	Kadoma	Makwavarara	300	600
Mashonaland West	Kariba	Negande	16	47
Matabeleland South	Gwanda	Mtshabezi	300	950
Matabeleland South	Matobo	Maribeha	234	933
Masvingo	Bikita	State conservancy	10 000	20 000
Masvingo	Chiredzi	Ngwane ranch	200	250
Masvingo	Chivi	Mbindangombe	150	442
Masvingo	Chivi	Nyahombe	178	665
Masvingo	Gutu	Matezwa	60	260
Masvingo	Mwenezi	Manyuchi	228	300
Masvingo	Zaka	Machena	100	440
Masvingo	Zaka	Mushaya-Bangala	54	240
Midlands	Mberengwa	Muchembere	22	65
Manicaland	Mutare	Osborne	2 000	4 000
Manicaland	Mutare	Marange 11	500	1 000
Manicaland	Mutare	Mukwada	100	2 000
TOTAL			15 607	32 905

Source: Department of Irrigation (2003)

Annex 4.3: Major water projects under development

PROVINCE	DISTRICT	SCHEME	AREA (HA)	COST ESTIMATES (Z$ MILLION)		
				Irrigation Develop-ment	Dam Construction top up	Total
Mashonaland East	Goromonzi	Kunzvi	1 000	2 000		2 000
Matabeleland North	Lupane	Gwayi/ Shangani	6 000	12 000	1 500	13 500
Masvingo	Mwenezi	Tokwe Mukosi	22 000	44 000	1 560	45 560
Midlands	Gokwe	Mutange	105	240	650	890
Manicaland	Buhera	Marovanyati	1 250	2 500	705	3 205
TOTALS			30 355	60 740	4 415	65 155

Annex 4.4: Distribution of irrigated area in the pre and post Fast Track era

Category	SIZE OF IRRIGATED AREA			
	BEFORE FAST TRACK		AFTER FAST TRACK	
	Area	% total area	Area (ha)	% total area
A1	-	-	7 620	6.3
A2	-	-	12 450	10.3
Communal and resettlement	10 000	6	11 860	9.8
Indigenous large scale commercial	-	-	9 250	7.7
Traditional large scale commercial	139 500	73	8 140	6.8
ARDA	13 500	8	7 620	6.3
Settler	3 600	2	3 600	-
Others	-	-	63 470	52.7
Informal	20 000	11	20 000	Na
Total	186 600	100	120 410	100

Source: IFAD (1997), DAE (2002, personal communication) and own computation

Annex 4.5: Distribution of formal irrigated area (ha) after Fast Track

PROVINCE	A1	A2	COMMUNAL & RESETTLED	INDIGENOUS LSCF	ORIGINAL LSCF	ARDA	OTHER	TOTAL
Mashonaland East	650	1 790	1 000	590	500	580	10	5 120
Midlands	540	640	1 040	110	640	400	510	3 880
Manicaland	2 980	3 950	4 180	890	1 920	4 090	**25 890	43 900
Mashonaland Central	2 000	2 450	760	6 220	3 050	100	320	14 900
Matabeleland South	70	1 200	1 400	-	100	940	-	3 710
Matabeleland North	340	70	200	170	270	400	-	1 450
Mashonaland West	500	1 830	1 400	1 070	1 320	1 110	3 160	10 390
Masvingo	540	520	1 880	200	340	-	33 580	37 060
TOTAL	7 620	12 450	11 860	9 250	8 140	*7 620	63 470	120 410
% of total irrigated area	6.3	10.3	9.8	7.7	6.8	6.3	2.7	100

Source: Department of Agricultural Engineering (2002, personal communication)
*This figure is way below the commonly cited figure of 13 500 ha
**The basis of this figure is not known

Annex 4.6: Irrigated area under perennial crops

CROP	AREA (ha)
Sugarcane	33 700
Coffee	5 200
Tea	3 500
Fruits	5 400
Nut trees	800
Fodder	2 300
Sown pasture	4 500
Flowers	800
Total	56 200

Source: Department of Agriculture Engineering (2002)

5. INPUTS PRODUCTION AND DELIVERY SYSTEMS*

5.1 Introduction

This study provides a synthesis on agricultural inputs and machinery, through an examination of the effectiveness of their material and service delivery. After land, the provision of farm inputs – seeds, machinery and equipment, fertiliser and agro-chemicals – is probably the most important factor in the productivity of farms. Highly productive farmers require the right inputs, in the correct quantities, at the right time and at affordable prices. The effectiveness of input supplying industries in satisfying these requirements is largely influenced by the structure, conduct, and regulatory environment facing them.

This chapter assesses the demand, availability and accessibility of agricultural inputs and the constraints currently being experienced. It then offers strategies and policy options to improve supply and accessibility of inputs and services to all classes of farmers.

5.2 Background

A number of factors have combined to significantly affect the agricultural input supply and demand situation in the past three years. These factors include the Fast Track (FTLRP), severe drought that has affected the country in two consecutive years and the economic recession that has beset the country in recent times.

The land reform programme has led to radical changes in the size, composition and number of participants in agricultural production. It is to be expected that such changes will affect the size and composition of demand for farm inputs. Increase in the number of new farmers is bound to shift production patterns towards crops that are 'easy' to produce like maize, soya beans and cotton, and away from knowledge and technology intense enterprises, such as tobacco, wheat, paprika, barley, dairy and specialised horticultural crops. Such production pattern changes will be reflected in seed, agro-[1]

[1] *Original research and draft for this Chapter by Dr E. Mano, Dr C Sukume and Dr L. Rugube

chemical and fertiliser demand patterns. Changes in farm size composition due to land redistribution means some farm operation routines and technology become obsolete, leading to changes in the farm machinery and equipment demand. Whereas farmers who used to farm the now resettled land had acquired most of the requisite equipment, the new farms lack capital and have had to rely on renting and leasing equipment services. For inputs such as seeds, the land reform programme directly affected supply through the acquisition of seed producing farms but the new farmers who took over some of these operations currently lack the expertise and resources to bridge the gap left by departing farmers.

The above changes have occurred in an environment complicated by severe drought that has affected the country over the past two seasons. Draught has affected both the supply and the demand for inputs. On the supply side, seed production has suffered poor yields due to low rainfall. For home grown seed for crops such as groundnuts and small grains, poor rains have decimated stocks, leading to higher demand for commercially produced seed in subsequent seasons. On the demand side, a mixture of effects can be attributed to the drought conditions. Poor rains have meant that some farmers had to plant more than once, leading to an unproductive increase in demand for seed and basal fertilisers. However, poor rains in the middle to late season means low demand for chemicals and top-dressing fertilisers. Further complications were brought about by drought recovery operations. Input handout drought recovery programmes have artificially inflated demand for inputs, causing draining of stocks and severely disrupting open market sources of inputs, especially for fertilisers and seeds.

It is against this background that this chapter assesses the status of input availability and delivery to the newly resettled farmers.

5.3 The Agricultural Machinery and Equipment Sub-Sector

5.3.1 Availability of farm equipment and machinery

The market supply of agricultural equipment and farm machinery has been severely affected by the current shortage of foreign currency and general economic

downturn at a time when potential demand for farm equipment among resettled new farmers is at its peak. In addition, a number of the usable stock of farm machinery from the displaced previous owners is still lying idle at auction floors and in storage yards, resulting in further shortages on the farms.

The agricultural equipment and farm machinery industry is characterised by a limited number of suppliers of each brand of machinery. Given the nature of the products and the size of the domestic market, the number of firms is probably sufficient , despite the limited scope for price and non-price competition. Indeed, most of the companies supplying agricultural machinery and farm equipment handle a limited number of franchises from the international parent companies which still control patents on manufacturing and distribution of their products. It is the nature of franchised product supply that only a few companies are allowed by the parent company to carry the franchise, limiting the scope for competition.

Most of the suppliers are registered private companies owned by Zimbabweans, with only a few being branches of regional and international conglomerates. The limited presence of indigenous companies who supply agricultural equipment is a cause for concern. However, for indigenisation of this sector to be socially beneficial, such new indigenous business entrants should be capable of diversifying the range of products and services specially designed to cater for the new farmers, most of whom are currently sidelined. In fact, the indigenous business community has so far shown very limited interest in entering this industry, perhaps primarily because of the huge investment required and because of the lack of new franchises being offered to the country.

There is also scope for interested indigenous business to start new ventures offering farm equipment and tractor services for hire to newly resettled farmers.

The farm equipment hire market has waned considerably with the collapse of white commercial agriculture and the freehold system of tenure. The remaining few private firms are using high deposit and high rental fees to offset the perceived high risk associated with service provision to the new farmer under the present unsettled environment. Any indigenous person who might have different perceptions about the risk could potentially offer a more competitive rental service to the new farmers, many of whom cannot afford to own machinery at present.

With a perfectly functional equipment rental market, there would be limited incentive to own some of the farm equipment. Indeed, it is questionable whether the culture of the white commercial farmer of being self sufficient in all farm machinery and equipment, rather than hiring some of the more expensive equipment which if often under-utilised on a single farm – bulldozers, heavy-duty tractors, combine-harvesters, large scale commercial sized feed mixing equipment, central pivot irrigation rigs – is economically justified. Their circumstances might have allowed over-capitalisation as a rational investment choice, probably because of reduced tax on investment and the availability of state sponsored subsidies on farms development. It could also have been a reflection of excessive equity holding born of their cumulative successes in agriculture and their limited interest in diversifying their investments beyond their own family farms.

5.3.2 Current trends in the farm machinery and equipment market

Most suppliers of farm machinery have reported a precipitous decline in the sale of agricultural machinery, especially tractors, over the past seven years after experiencing a huge and steady boom from 1991 to 1996. The decline has been deepest in

the past three years due, in part, to the land reform programme which removed from the land some of the white commercial farmers who were the most regular customers. The general economic decline and devaluation of the Zimbabwe Dollar over the same period is also to blame as it rendered imported machinery unaffordable to most farmers. In no sector was the decline more dramatic than in the sale of new tractors over this period. In 2001/02, only 47 new tractors were sold in the country, down from a peak of 1 900 new tractors in 1996.

The structure of demand for tractors has also been shifting away form small tractors, under 50 horsepower, as commercial farmers went for more powerful machines with 50 to 119 horsepower engines. There appears to have been very limited net acquisitions of tractors in the agricultural sector over the past two years. The structure of demand for tractors has changed somewhat from small to medium sized tractors with fairly limited demand for large tractors. Commercial farmers continue to rely on the hire market for large tractors, earth moving equipment and combine-harvesters. Over 98% of the nation's tractors are in the commercial farming areas.

Peasant farmers in communal areas and A1 resettlement areas continue to rely on cattle draught power for agriculture. But ownership of adequate cattle for draught power is limited, with about 40% of the peasant farmer population owning no cattle. There is evidence that the majority of the rural population prefers tractor tillage services to cattle tillage for its superior quality of ploughing. Supply of tractor tillage services from the District Development Fund (DDF) continues to address this constraint.

5.3.3 Public provision of farm machinery and equipment service

The DDF is the major tillage service provider in Zimbabwe, with a fleet of 768 tractors, of which only

45% are normally in working condition. The available fleet is grossly insufficient to meet the expressed demand for DDF tillage national demand for tillage of 2 million hectares from communal farming areas, plus the 3 million hectares possessed by the newly resettled farmers under the Fast Track Land Resettlement scheme. DDF projects that the nation needs a new fleet of almost 40 000 tractors to provide a timely traction service.

DDF has 750 tractors and 466 tractor drivers. With each of the tractors providing tillage services at a rate of 2 hectares per day, DDF has the capacity at present to plough only 23 000 hectares per month or under 70 000 hectares over the months of October, November and December -the summer ploughing season.

The tillage rate is insufficient to meet the effective demand during the ploughing season. The DDF can potentially improve its effective tillage rate from 2 hectares to 5 hectares per day by improving productivity and field supervision of tillage services. At present DDF tractors are spending more time per day on travelling unnecessarily too and from farm depots than on tilling the land.

5.3.4 Alternative strategies for improving farmer access to farm machinery and equipment services

Newly resettled farmers have expressed a strong desire to acquire a complete set of farm machinery and equipment, especially if these acquisitions are funded partially of wholly under the government support scheme. Eager to normalise the production environment on the newly acquired farms and remove farm equipment constraints on production, the Government has already committed budget resources and credit guarantees for financing re-capitalisation of the new farms.

For A1 farms, the Government has not attempted to service the new farmer with credit guarantee schemes

to acquire farm machinery and equipment lending credence to the assumption that Government wants DDF to remain a key provider of tillage and farm equipment services. But, judging from the poor track record of DDF and its failure to meet expressed demand for servicing the smaller acreages of smallholder peasant farmers in communal areas, DDF might not have the capacity to take up the challenge of offering tillage and machine services to the new farmer. At the same time, the much smaller farm size and poor income and wealth status of the farmers render Government support for self financed acquisition not feasible.

5.3.4.1 The free market option for the delivery of farm machinery and equipment hiring services

There is greater scope for government to effectively address the current farm machinery shortage on newly resettled farms through facilitative development of free market cadres providing agricultural machinery and equipment services for hire. For example, the total number of tractors bought this year under government supported schemes, primarily targeted to A2 farmers, would undoubtedly have gone a long way and been used more productively if they had been given to the free market equipment hiring and tillage service providers, strategically and equitable distributed by district. The process of developing a rental market for the new farmer would have to start by training and capacitating a critical mass of aspiring free market providers of tractor tillage and equipment services. The advantage of this option is that the tractors and machinery they possess would be accessible to a number of competing farmers. The disadvantage is that the initial cost to government would be considerably higher than buying tractors for farmers.

5.3.4.2 The DDF-managed local area network of providers of machinery hire service in a district

Instead of relying on a DDF monopoly for the provision of equipment hire services, the government could authorise DDF to manage a local network of service providers who would be assisted to acquire tractors either from the DDF fleet or new. The local farm machinery service providers operating in a given area or A1 scheme would undertake the service provision while DDF managed the development of the scheme. DDF may scale down its operations but continue to offer a supplementary service, perhaps to the vulnerable population who might not be able to afford the competitive free market rates. This approach is suited to both A1 and A2 farmers but especially the former.

5.4 The Seeds Sub-Sector

5.4.1 Seed availability

Historically, Government of Zimbabwe (GoZ) seed breeding programmes were legally required to release breeder's seed, under the Tripartite and Bipartite Agreements, only to the Seed Co. for further multiplication to foundation and certified seed. The Seed Co. produced foundation and certified seed by contract with about 150 large scale commercial farmers (LSCFs) who were members of the Zimbabwe Seed Maize Association, and the Zimbabwe Crop Seeds Association.

GoZ partially liberalised seed certification in the 1980s. Pannar, Pioneer, and Cargill companies started seed certification along side Seed Co. before 1991. The new entrants were required to register their varieties for certification and to become designated as seed certification agencies in order to produce seed. The state had a strong seed control system as in 1994, Seed Services removed the provision of standard seed and introduced compulsory certification

for 11 Commercially important crops – maize, sorghum, pearl millet, finger millet, wheat, barley, soya beans, groundnuts, sunflowers, tobacco and potatoes. In 1998, the Seed Services amended seed regulations and reintroduced the provision for production and multiplication of standard grade seed for groundnuts, sorghum, pearl millet, finger millet, and sunflowers, which meant that seed certification was only mandatory for barley, wheat , maize, soya beans, tobacco, and potatoes.

Open-pollinated maize varieties were introduced into the certification scheme by Seed Services in 1985. Some emerging seed companies that were focusing on producing and distributing seed of the open pollinated Kalahari Early Pearl maize variety were banned from doing so, as it was deemed a threat to the seed industry. Seed Co., National Tested Seeds (NTS), Agri Seeds and Pannar produce open-pollinated maize variety seeds mainly for exports to regional markets, mostly Mozambique and Angola. But large scale commercial seed growers prefer not to grow open-pollinated varieties of seed because these have lower yields and prices compared to hybrid maize seed. Seed companies have been trying to grow open-pollinated varieties with small holder farmers in marginal areas but there have been problems in isolating these varieties because virtually all small scale farmers grow maize. Also, the supply is unreliable as small holders lack access to irrigation facilities.

Several NGOs are engaged in developing varieties on a small scale at the village level with small farmers, focusing on improved sorghum, groundnut and pearl millet varieties. Seed Services transferred much of the responsibility for seed certification in the industry to 34 private see inspectors in the 1990s. Although seed companies employ private inspectors, they report to Seed Services, which retains the overall policing and monitoring functions. The four leading seed companies have seed laboratories, although only Seed Co.'s laboratory is licensed to conduct official seed testing.

The FTRP period has seen a significant drop in seed production in the face of increasing demand. The increase in sales has been due to high demand for the government beneficiary grants and drought recovery programmes, as well as demand by A2 farmers. The 2002/03 season witnessed sales of over 45 000 tonnes of maize seed. Reduction production of seed due to acquisition of seed producing farms meant most of this demand had to be satisfied by export bans and seed stocks such that carryover stocks into the 2003/04 period will only be around 1 000 tonnes. Without a significant carryover stock, the supply situation in the 2003/04 season is bound to be tight. Production of the 2002/03 summer maize seed crop is expected to yield 22 000 tonnes (Seed Co, - 15 000mt, Pioneer – 1 500mt, Pannar – 3 000mt, Monsanto – 1 500mt and NTS – 1 000mt) of clean seed, while the winter seed crop is expected to yield 5 000 tonnes. This is far short of the over 50 000 tonnes soon to be required.

The drop in seed production represents an estimated reduction in acreage of close to 4 000 hectares due to farm acquisition. In addition, some companies are considering stopping production due to loss of their production base. National Tested Seeds, which had based its seed production on its three farms, has lost two of them an is fighting in the courts to maintain the third on which it has its seed factory and does most of its scientific research activities. Exacerbating the production situation are on-farm production constraints, including poor fertiliser availability, and erratic supplies of diesel and electricity due to load shedding (especially for the winter seed crops). In addition to supply problems, farmers' access has also been affected by the ineffective Grain marketing Board (GMB) input distributions highlighted under the fertiliser section.

5.4.2 Demand for Seed

Annual commercial sales of hybrid maize seed fluctuate between 28 000 and 32 000 tonnes, enough

to plant close to 98 percent of the total maize area. Historically, annual commercial sales of sorghum seed have varied from 60 tonnes, if there is no government relief (free) seed distribution schemes, to 400 tonnes if there is a drought relief programme. Using a seeding rate of 12 kg per hectare, this plants between 5 000 and 33 000 hectares. National sorghum plantings in the past have fluctuated between 140 100 and 194 350 hectares. Therefore, only about 3 percent of the national sorghum area is generally planted with annually purchased seed, although this rises to more than 20 percent with drought relief.

For groundnuts, annual commercial seed sales have averaged about 350 tonnes for long-season varieties such as Flamingo, produced almost exclusively by large scale commercial farmers, and about 400 tonnes for short-season varieties such as Falcon and Natal Common, grown mostly by small holders. Assuming a seed rate of 100 kg per hectare for long-season varieties and 50 kg per hectare for short-season varieties, this seed plants about 3 500 hectares of long-season groundnuts and 8 000 hectares of short season varieties. Annual plantings for long-season groundnuts vary from 4 150 to 5 100 hectares while those for short-season groundnuts vary from 135 000 to 190 200 hectares. Clearly, as much as 68 to 84% of the area planted in long-season varieties is grown with annually purchased commercial seed, while only about 5% of the area planted in short-season varieties is grown with annually purchased seed.

5.4.3 Seed accessibility

The performance of the GMB distribution scheme over the past two seasons had made seed inaccessible in the right amount and type, and at the right time for many intended beneficiaries. Our field observations, supported by the recent WFP/FAO assessment mission (2003) discovered that logistical problems caused delays in distribution, with the result that seed was often not available when it was needed.

5.5.0 The Market for Fertilisers

5.5.1 Fertiliser availability

Zimbabwe has a well developed fertiliser industry whose ownership is shared but dominated by four concerns, including Government, private firms, and former large scale commercial farmers. The crucial raw materials for fertiliser production are nitrogen, phosphates and potassium. Sable Chemicals manufactures ammonium nitrate and ZimPhos produces phosphates, which are exclusively used to produce straight and blended fertilisers distributed by ZFC Ltd and Windmill (Pvt) Ltd. The latter two import potash and other raw materials and, together with products from Sable and ZimPhos, manufacture compound fertilisers. All these companies together supply about 90% of Zimbabwe's fertiliser requirements and sometimes export small amounts to neighbouring countries. There are a few other companies (e.g. Omnia, a subsidiary of Omnia South Africa) with smaller market shares that are involved in importing, blending, and distributing fertilisers.

The fertiliser industry has the capacity to manufacture around half a million tonnes of fertiliser per annum. Sable has the capacity to produce around 22 000 tonnes of ammonium nitrate per month. About two thirds of its output is produced by an electrolysis process, with the remainder being manufactured using anhydrous ammonia imported from South Africa. Extra demand has been filled by imports by ZFC, Omnia and Windmill, in the form of urea because ammonium nitrate is banned in South Africa and cannot pass overland in that country for export. Ammonia sulphate and sodium nitrate are imported because of lack of capacity for local manufacture. These are used by tea estates and tobacco growers at a rate of 3 000 tonnes per annum. Norsk Hydro has been retailing imported calcium nitrate for the horticultural industry.

ZimPhos manufactures single super phosphate by reacting phosphate rock concentrate from Dorowa Minerals mining operations with sulphuric acid and triple super phosphate by reacting phosphoric acid with rock phosphate. ZimPhos has an annual production capacity of 200 000 single super phosphate and 60 000 tonnes triple super phosphate, which is just sufficient to meet the country's total phosphate requirement. Therefore, if there is a significant increase in fertiliser consumption, phosphate demand will exceed local supply capacity, necessitating imports.

The third most important raw material is potassium which, due to non-availability locally, has to be imported by ZFC and Windmill. The bulk of potash used in Zimbabwe is imported from Israel, Jordan and Canada. Micronutrients, such as zinc are imported from South Africa and boron from Turkey. The super phosphates and ammonium nitrate are supplied to ZFC and Windmill for granulation into compound fertilisers and distribution to farmers. ZFC and Windmill produce 13 compound fertilisers approved by the Fertiliser Advisory Committee. The total annual production capacity of granulation plants is 300 000 tonnes. ZFC and Windmill have installed bulk blenders with a capacity of 100 000 tonnes and 50 000 tonnes respectively. Omnia imports all its fertilisers from its parent company in South Africa. Recently, an input dealing company, Farmers World, has been importing small amounts of fertiliser and selling blends.

However, since 2001 the fertiliser industry has been faced with a number of constraints, severely affecting its response to the new agrarian challenges. These are:

- The lack of foreign currency to import sufficient quantities of potash and other imported ingredients like sulphur.

- Poor supplies of ammonium nitrate from Sable Chemicals to the two main compound fertiliser manufacturing and distributing companies.

Yet another factor limiting availability is the pricing structures for fertilisers and raw materials. Zimbabwe had the lowest fertiliser prices in the region, at US$3 to US$ 6 per 50 kg bag in 2002 when regional prices are more that US$20 per bag.

5.5.2 Demand for fertilisers

Historically, the structure of demand differed between large scale and small holder farmers because of different land sizes, soil and rainfall conditions, availability of fertilisers and credit , farm gate fertiliser prices, access to product markets and farm gate prices for farm products, and access to technical services. While, in the past, demand by small holders was low because most small scale farmers were located in low rainfall areas and fertiliser use was risky, the situation has changed with the resettlement of small holders in better performing rainfall areas.

Between 70 000 and 120 000 tonnes per annum of both compound and nitrogenous fertilisers have historically been used by the small holder farming sector. Prior to Fast Track, when the total area under crops in the commercial sector was approximately 530 000 hectares, demand for compound fertilisers amounted to 253 000 tonnes and nitrogenous fertilisers around 152 000 tonnes. At May 2003 prices, the total cost of this quantity of fertiliser would be about Z$84.7 billion. The transitional period, when new farmers were assuming allocated plots, saw a drastic reduction in total area under crops, to the extent that in the 2002-03 season the total area under commercial cropping was down to 220 000 hectares requiring only 117 000 tonnes of compounds and 65 500 tonnes of ammonium nitrates, all costing Z$39.4 billion.

5.5.3 Fertiliser accessibility

The fertiliser availability problems have been compounded by accessibility constraints facing the industry. A key problem is that the GMB and related public and private sector input distribution schemes huge demand has diverted inputs from established agro-dealers, leading to shortages. Late ordering and logistical problems within the GMB system have led to late deliveries to farmers. Limitations on the quantities one can acquire as well as non-discrimination in terms of capability of farmer, including whether or not one really is a farmer, has meant farmers with the resources and skill to plant larger areas could not get adequate inputs. The ability to acquire fertiliser by non-farmers at low, government controlled prices also led to the development of a thriving black market, where prices are as high as twice the official price, further reducing access to inputs.

5.6.0 The Agro-Chemicals Market

5.6.1 Availability of agro-chemicals

Currently, the pesticide industry is organised into agents and distributors. There are 13 companies that trade as agents and local representatives of multinational chemical companies and compete directly in the marketplace. These include Windmill, ZFC, Agricura, Cyanamid, Technical Services, Sprayquip, Graniteside Chemicals, Agrevo, Milborrow, Tenefatt, Bunting, and Copperts. In addition, there are five subsidiaries of multinationals that do not directly compete in the marketplace but supply other companies with products – Ciba-Geigy, Hoeschst, Bayer, BASF, and Rhone-Poulenc.

ZFC currently leads the pesticide industry with a market share of 30% , followed by Agricura with 24%, Cyanamid (Shell) with 19%, Windmill with 15% and Sprayquip with 12%. Since the liberalisation of pesticide marketing in the early 1990s, the increase in competition has expanded the availability and range

of pesticide products, thereby increasing farmers' choice of these products. Packaging also improved in the same period with significant savings in losses and spillage.

No agro-chemicals are manufactured locally and the industry is totally dependent on imports. Because of this, crop chemical prices are very vulnerable to changes in foreign exchange rates as most foreign currency is sourced on the parallel market. Difficulties in obtaining foreign currency have been, and are still being, experienced. Supplies of chemicals, however, have been reasonably good since the start of the Fast Track. Due to the severe drop in area planted in the commercial sector, demand for crop chemicals has been low, making it easy for suppliers to meet demand, even in the pace of foreign currency shortages. The ability to meet demand for tobacco chemicals has been enhanced by foreign currency being made available from the Tobacco Growers Trust.

5.6.2 Accessibility and demand for agro chemicals

Due to the variety of chemicals and the various forms they come in, it is difficult to quantify the demand. Total cost of chemicals for the past seasons' 220 415 hectare commercial crop was Z$43.7 billion. Boosting commercial cropped area to 735 000 hectares at current (May 2003) prices would increase the total cost to about Z$100 billion. However, the continued slide in the value of the Zimbabwe Dollar on the parallel foreign exchange market is likely to increase prices very steeply, leading to curtailed application rates.

5.7.0 Stock-Feeds

5.7.1 Availability of stock-feeds

Stock-feeds are a major input to livestock production and usually constitutes more than half the production costs. The stock-feeds industry consists of two main manufacturers – National Foods and Agrifoods - and

a few minor ones. Prior to Fast Track Resettlement, the total quantity of stock-feeds produced amounted to around half a million tonnes, enough to satisfy local needs with some exports of feed concentrates to feedlots in Botswana and Namibia.

The stock-feed industry has, in the past, relied heavily on the local market for whole grains, by-products of maize and wheat milling, oilseed by-products (from cotton and soya beans) to use in stock-feeds. Current shortages of maize and wheat, due to drought and the reorganisation in agriculture, have meant that most of these products have to be imported. This is on top of the inputs, such as vitamin packs and amino acids, that the industry traditionally had to import. Shortage of foreign currency and high cost of currency sourced on the parallel market have meant high costs of products. Financing has now become a problem due to the large sums involved, the need to store raw materials for periods of up to six months, and rising interest rates. Transport problems (mainly due to NRZ limitations) are being experienced in procuring raw materials and moving products. Stock-feed products have now become very expensive for farmers and production viability in the face of controlled producer prices in all livestock sectors has been severely affected.

5.7.2 Demand and accessibility of stock-feed products

Before the Fast Track, peak industry demand was about 500 000 tonnes, distributed among livestock classes in the following manner:

- Dairy – 207 000 tonnes;
- Poultry – 168 000 tonnes;
- Beef cattle – 90 000 tonnes;
- Pigs – 22 500 tonnes; and
- Other livestock – 15 000 tonnes.

At current prices, the value of this output would total Z$183 billion. Most of these feeds (90%) were absorbed by the commercial sector, with the rest going

to the small holder sector. Any change in this sectoral distribution once the reconstituted commercial sector (A2 and remaining LSCF) gets into full production is not foreseen.

Demand is likely to be depressed for some time because it takes time to rebuild the commercial beef and dairy herd, the heaviest users of stock-feeds. Experts estimate a minimum of four years before the country can get back to the levels of production of the pre-FTLRP-era. Though small stock can quickly recover high stock-feed prices, the lack of capital suffered by most new farmers, as well as price restrictions, will inhibit project start ups. Thus existing capacity is expected to be able to sustain demand for at least the next five to six years.

5.8 Fuel and Lubricants

Due to the high use of mechanised traction, the commercial production sector (A2 and remaining LSCF) uses a significant amount of diesel fuel and lubricants. Fuel is needed for transport, crop and livestock operations, water supply, and farm maintenance (roads, contours, and dams). The commercial farm sector, based on pre-reform rates, requires about 75.4 million litres of fuel, costing Z$53 billion. Under scaled down commercial operations as new farmers make the transition into full production, demand has fallen to less than half these levels. Estimated current needs amount to 33.6 million litres of diesel, costing about Z$23.6 billion. However, supplies have been erratic, severely affecting operations. These problems have also affected DDF tillage programmes, leading to limited supply of services to the communal and A1 clients in the past year.

5.9 Policy Strategies for the Agricultural Input Market

The overall outlook in the domestic agricultural input market situation is very gloomy, especially in the short run. However, implementation of urgent policy measures and forward looking institutional innovations would ensure that agricultural recovery and growth during the post-land reform era is not scuppered by persistent input shortages. In general,

availability and accessibility of essential agricultural inputs are currently constrained directly by the following five factors:

1. Limited domestic supply of key inputs in the face of growing potential demand among newly resettled farmers;

2. Persistent shortage of foreign currency rendering it impossible for firms to import key intermediate inputs and for the nation to stabilise supply of essential fuels, such as diesel, to the agro-chemical industry;

3. Price controls and price monitoring policies which threaten the viability of the once vibrant domestic agricultural input sectors, such as the seed and fertiliser industries; and

4. The inefficient and unreliable delivery of railway transport by NRZ, which has limited scheduled deliveries of raw materials from within and outside our borders.

5.9.1 Policy Recommendations for the Fertiliser Industry

Policies should be aimed at the following:

- Prioritisation of allocation of subsidised foreign currency by the Reserve Bank of Zimbabwe to the fertiliser and agro-input manufacturing and importing sector. The fertiliser industry should be accorded the same level of priority as the National Oil Company of Zimbabwe (NOCZIM) and ZESA in foreign currency allocation.

- Allowing fertiliser companies to export up to 20 000 tonnes of their fertiliser produce and retain the foreign currency realisation to self-finance their imports of essential raw materials.

- Establishing competitive wholesale and retail domestic prices for fertiliser products, based on timely negotiated and purposive price reviews, in line with inflation and cost of imports. Domestic prices need to be above the export parity price and below the import parity domestic price of comparable products from the region. The prices

recommended by the companies are roughly 40% of the import parity price using realistic exchange rates.

- Rationalisation of the government sponsored fertiliser input credit scheme, with better targeting of beneficiaries and more emphasis on agronomic training, soil testing and application of appropriate combinations of liming and/or NPK materials, with the goal of increasing productivity on the farms rather than increasing fertiliser use *per se.*

- Medium to long term policies should seek to ensure vitality, growth and stability in the domestic fertiliser market.

5.9.2 Policy recommendations concerning seed inputs

It is recommended that in the short term:

- A review be conducted of the current land designation programme to spare all seed companies their farms where seed factories are located and parent seed is grown and, in the case of established commercial seed producers, spare from designation the one farm where seed production is underway, subject to government policy of maximum farm size;

- As needs may dictate there be prompt issuance of adequate import permits and prioritised access to foreign currency from the Reserve Bank to allow private companies to undertake timely imports of maize, soya beans, sugar beans and seed potatoes from the regional market to offset pending domestic supply bottlenecks and stabilise domestic market prices;

- A better and more efficient targeting mechanism be developed for awarding subsidised access to seed only to the socially vulnerable and poor farmers in the communal and A1 farming areas;

- The presence of an enabling domestic macro environment and competitive regional seed marketing and pricing system, free of state controls except those means to offset market failures;

- State support in training and capacity building of targeted new A2 farmers into commercial seed producers, especially for maize, possibly using outreach extension and mentoring services by the displaced experienced seed producers who are still present in the country;

- Allocation of land to seed houses to engage directly in seed production and facilitation of out-grower seed production and research programmes;

- Removal of barriers to entry to encourage various types of individual farmers and companies to engage in direct seed multiplication and packaging, and strengthen farmer collaboration with established seed companies, thus facilitating contract seed multiplication to improve farmer income levels and increase adoption rates for new crop varieties; and

- An impact assessment of genetically modified organism (GMO) use in the development of seed varieties in the future and a policy decision to intensify technology development.

5.9.3 Policy Recommendations for Agro-Chemicals

It is recommended as follows:

- Careful targeting of subsidies on agro-chemicals to ensure efficient utilisation of expensive drugs by beneficiaries;

- Prioritised foreign exchange allocation to the agro-chemical industry;

- Creation of an enabling domestic macro environment that permits new franchised production and distributorships of a wider range of drugs and agro-chemicals; and

- Promotion of research and development to produce cheaper import substitutes at home.

5.9.4 Policy Recommendations for Stockfeeds

It is recommended as follows:

- Prioritisation of subsidised delivery of stock feeds to breeding programmes in the livestock sector.

5.9.5 Policy Recommendations for Agricultural Machinery and Tillage Services

It is recommended as follows:

- Better utilisation of existing capacity at DDF by undertaking speedy repairs to the 45% of the fleet or 300 plus tractors currently appearing in their books as out of operations, and doubling the productivity of DDF tractors and tractor drivers by establishing an efficient tractor gang management system and multiple criteria style of accounting for time and consumables, as well as a performance related bonus system. These initiatives would require provision of an adequate operations budget for timely repairs and acquisition of spare parts, and fuel to keep the fleet running efficiently during the agricultural season. DDF tillage operations should be restricted to A1 and communal farming areas as the bulk of A2 farmers already possess their own tractors and have better access to market based tillage and equipment services. The DDF ploughing season should begin early, before the onset of rains, to avoid a bottleneck in November.

- Government adoption of a policy of sub-contracting subsidised tillage services to private tractor owners and tillage service providers in all provinces to alleviate pressure on DDF.

- Immediate compulsory state acquisition/leasing of all tractors and essential farm equipment that were left idle in storage or at auction floors by departing white commercial farmers for distribution among targeted A1 and A2 farmers.

- Stabilisation of the domestic macro environment to improve domestic availability of an appropriate range of tractors and farm equipment to meet the needs of diverse groups of farmers with different means and access to credit.

- Promotion of the emergence and growth of a vibrant rental market for tractors and farm equipment services by building the capacity of a critical mass of indigenous businesses to offer such services in every district.

- Reforming the operations of DDF's agricultural equipment and tillage service delivery system from its presently centralised, monopolistic provision of tillage services nation-wide to a national authority responsible for the co-ordinated development of competitive, private, market based delivery of tillage and agricultural equipment services.

- Establishment of an enabling regulatory framework to promote fair competitive pricing of tillage services and rental rates for agricultural equipment.

6. AGRICULTURAL COMMODITY MARKETING CHALLENGES AND PRICING POLICY STRATEGIES*

6.1 Introduction

An efficient domestic agricultural commodity marketing system is key to stimulating and sustaining growth and development in the food and agriculture sector. In Zimbabwe, the prospects for economic recovery rest with the successful transformational development of the domestic commodity marketing system to provide greater market incentives for the newly resettled indigenous farmers to participate effectively and consistently in the domestic food and agriculture markets as commercially oriented and profit driven producers. Following the Land Reform Programme, and in the face of a crippling drought and worsening food insecurity, Government has been preoccupied with the immediate policy challenges of capacitating the newly resettled farmers to start agricultural production activities on their new farms, while cushioning consumers from price risk.

Some of the short-term policy innovations and market interventions, such as the reintroduction of price controls and state monopolies in the marketing of food crops, have adversely affected the domestic agricultural and food marketing system. Market uncertainty has also affected agro-business assessment of future prospects for sustained profitability and the competitive advantage of alternative commodities and production systems.

6.2 Key general issues in agricultural commodity marketing

The vision of the Land Reform Programme is an empowered indigenous farming community spearheading the sustainable development of a competitive and commercially oriented domestic agriculture and food sector to ensure food security and national economic growth. Realisation of this vision is presently constrained by the following realities:

- Absence of a competitive domestic food and agricultural commodity marketing system;

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[1] * Original research and draft for this Chapter by Dr R. Mano

- Well intentioned but impracticable state interventions in domestic marketing and pricing systems, motivated by short term food security and budget considerations at the expense of long term issues of efficiency and growth.

6.3 Recommendations

6.3.1 General policy recommendations

Now that the FTLRP is completed, it is necessary to look ahead and envision how Zimbabwe's agriculture sector will look in the future. Government must follow up land reform by remaining in a proactive mode and designing medium to long-term strategies aimed at the success of the Land Reform Programme and the growing independence and economic viability of the new farmers. Taking cognisance of global trends towards the rapid liberalisation of markets but also aware of the need to retain national autonomy and food security through at least minimal regulatory measures, the following general recommendations can be made:

- The GoZ should restore a competitive, pluralistic domestic agricultural marketing and pricing system for all food and agricultural commodities. The competitive marketing system has operated with a reasonable degree of success and efficiency in the domestic markets for almost all major cash crops – cotton, tobacco, soya beans and, horticultural products. It also accounts for incentives that are luring new farmers to express commercial interest in growing these cash crops at the expense of food crops. The Government must fully embrace the principle of competitive pricing of agricultural, and especially food, commodities to ensure that the newly resettled farmers can play a vital role in food security without sacrificing their own wealth creation possibilities.

- The GoZ should progressively remove all forms of controls and policy measures that are presently implicitly taxing indigenous farmers by inhibiting the

efficient opportunity cost pricing of a competitive agricultural commodity marketing and pricing system, such as restrictions in the number of private players allowed to procure and market some specific commodities.

- The GoZ should adopt targeted non-market social welfare policy mechanisms for providing safety nets to protect the vulnerable population against food insecurity and poverty.

- The GoZ should establish a regulatory policy framework to safeguard competition by promoting entry of new traders and outlawing private monopolies and collusive behaviour in the free market pricing and procurement of commodities. The key private sector agents involved in marketing and contract farming (e.g. Cottco, FSI, Delta and others) should develop guidelines for the provision of high standard services and ethical practices vis-à-vis small farmer development support and fairness in their returns to product sales. Such self-regulation should be supported by the GoZ.

6.3.2 Commodity Specific Recommendations

6.3.2.1 Maize and food grains

The GoZ's approach to market facilitation should be phased out and aimed overall at ensuring adequate production in this vital sector as a guarantee of food security. The regulatory and marketing role of the GMB should shift throughout this exercise towards a straightforward concentration on ensuring sufficient stocks of grain for the country.

In the short term, policy should be focused on providing production inputs, chiefly high yielding seed varieties (particularly for maize) and subsidised input credit to targeted groups of producers. Supplies of seed and fertiliser should be imported where necessary and this must be done well ahead of the summer/wet-planting season. These measures

should be supplemented by price incentives, namely early (before the planting season) announcement of a competitive guaranteed producer price and opening up of a competitive market through the removal of the GMB's monopoly.

Strategies to build farmer skills are recommended in the medium term. This would be aimed at further increasing, stabilising and improving the standard of production. This period should see a phasing out of government designed special support programmes and their replacement with market/commercially based schemes within the context of a liberalised and competitive domestic market. While general support measures are removed, specific vulnerable groups will need to be identified and supported according to a social welfare approach. The role of the GMB should be further streamlined towards the core business of stabilisation of domestic grain markets through management of the national strategic grain reserves and a buffer stock for sustaining domestic food prices within a specified and flexible price band.

The long-term focus should be on the further improvement of the volume and quality of the grain crop through the introduction of, and skills building around, new technology. There should be complementary provisions using targeted safety nets to ensure food security among the vulnerable groups. The GMB may be required to intervene in the market through a programme of domestic price stabilisation and food security assurance. This will involve using its buffer stock, on behalf of consumers, to release onto the market when local prices escalated beyond a reasonable 'ceiling price', and buying excess grain, in support of producers, when prices fall below a guaranteed 'floor price'. This programme should receive both adequate funding and a level of capacity building within the GMB. Marketing mechanisms should be decentralised, supported by improvements in transport and communications infrastructure. At the same time, market based instruments, such as spot and forward contracts, ought to be brought into greater use.

6.3.2.2 Oilseed crops

The oilseed crop plays an important role in boosting the nutritional status of the population and is also a provider of stock feeds. Although oilseeds, such as soya beans, groundnuts and sunflower, are potentially very profitable and play a role in the leguminous phase of crop rotation cycles, their production was dropping before the FTLRP and has continued to decline since, partly due to the cost and non-availability of inputs – seeds and agro-chemicals. The recommended strategies, therefore, are aimed at restoring production to a level at which it would at least meet domestic demand in terms of volume and quality.

In short term, it is recommended that production incentives be provided in the form of guaranteed producer prices in line with regional import and export parity prices, thus inevitably pushing the consumer price of oilseed products (chiefly cooking oil) to more realistic levels. This should be backed by extension work among the new farmers around oilseed growing techniques, including proper crop rotation.

With an eye to the medium and long term, the supply of quality seed needs to be improved through a combination of seed imports and the promotion of production of seed by new farmers in Zimbabwe. Medium term strategies should be aimed at stabilising the sector and providing market predictability.

The long term strategy should be based on opening up markets through competition while, at the same time, regulating the industry through laws on the management of agricultural land, and the establishment of a regulatory framework for co-ordination, co-operation and collaboration in addressing public issues of research and promotion of quality output through a common grading system.

6.3.2.3 Cotton

The GoZ should develop an appropriate regulatory system to address price collusion and unfair trade practices affecting cotton. The cotton sector is no longer controlled by a state marketing body as it was in the past. Instead, several private companies are the major buyers of the cotton crop and there is evidence to suggest that these two collude in setting the producer price of cotton. Nevertheless, they do also provide valuable support to the industry through input credit schemes to farmers offered in exchange for the contractual obligation to deliver their cotton output to the firms. The recent entry of new players on the market offering 'predatory' higher prices for the crop (without making a commitment to providing inputs) has tended to entice farmers to break the terms of their contracts with the established companies and sell to the new players at better prices. If they are to continue to offer an inputs service to the industry, the two established companies need some protection from this predatory competition.

In the short term, this protection of buyers which, at a secondary level, also protects the producers, should be complemented by government input support to lessen the dependence of growers on the established cotton buyers in the medium to long term. In addition, regulations for quality assurance should be established by setting minimum standards in cotton ginning technology.

In the medium term, and as more players enter the industry at all levels, regulation should be increased through the establishment of a 'Cotton Council" with a legal mandate to make and enforce regulations to improve co-ordination of firms towards financing such common goods as research and promotion of production, and to ensure fair competition among the multiplicity of players within the industry. In addition, public funding needs to be provided for training and capacity building among new farmers to enable them to produce cotton efficiently on a large scale.

Long term strategies would seek to open up the market for cotton within the context of a more liberalised macro-economy in which foreign currency prices were set at opportunity cost levels, and a more sophisticated cotton industry in which tax incentives are offered for greater value addition to cotton products towards the export of cloth and finished clothing. Legislation will be necessary on two levels:

1. It must promote fair competition by inhibiting the collusion of large firms in the pricing and procurement of cotton; and

2. It should provide guidelines on input credit for output delivery contracts to protect the interests of all players, including the right of farmers to obtain the most competitive price for their produce.

6.3.2.4 Tobacco

Although it has traditionally been Zimbabwe's leading foreign currency earner, tobacco is a vulnerable crop on at least two levels:

1. Zimbabwe, as a producer country, has no control over what happens in tobacco production in other parts of the world where a larger and cheaper or better quality crop might be grown in any given year or from which major buyer countries might choose to buy their tobacco for reasons of price, quality, taste or politics in a particular season; and

2. The industry worldwide is under threat from the anti-smoking lobby, particularly since the lobby recently gained official backing from the WHO.

The first of these areas of vulnerability has been exacerbated by the lack of stability and a drop in production in the tobacco industry that has been an inevitable short term spin-off of the Land Reform Programme. The latter suggests the need in the longer term to look for viable alternatives to tobacco as a cash crop and foreign exchange earner.

Short-term strategies should be aimed at the recovery of the industry's supply capacity through:

- Subsidised training of new tobacco farmers in planting, husbandry, harvesting and handling, grading , and curing techniques;

- A transitional policy of state management of tobacco curing facilities which have tended to end up under the control of the farmer resettled on the particular piece of land on which they were already sited; and

- Mobilisation of an industry supported investment fund to issue soft loans for the financing and capitalisation of tobacco farms.

There should be a periodic review of the foreign exchange rate to eliminate implicit taxation of tobacco farmers.

Recommendations for the medium term centre on the stabilisation of the tobacco sector within the context of a stabililsed domestic macroeconomic and institutional environment. Production should be strengthened through provision of non-monetary incentives to the commercial banking sector to offer capital development loans, resolution of outstanding ownership and tenure issues and state supported vocational training. Marketing interventions should be directed globally to restore market interest in the Western countries and expand the number of buyers from non-traditional markets such as Asia.

Long term strategies must respond to the threat of the loss of the market for tobacco posed by the anti-smoking lobby and proposed ban on trade in tobacco. Responses on 3 levels are suggested:

1. Refraining from ratification of the protocol banning trade in tobacco;

2. Demanding compensation based on an economic impact assessment of the impact of the ban on Zimbabwe's development prospects and the cost of adjustment; and

3. Adjusting to the new situation by moving into alternative commodities.

6.3.2.5 Livestock

The current private, competitive livestock marketing system was, in the past, driven by its utilisation by producers in the LSCF. However, both the marketing and the processing systems in place are being seriously under-utilised in the first phase of the land reform era because of major declines in livestock production. In order to boost production to supply the domestic market and to make optimal use of the facilities that exist, Government should put greater emphasis on creating an enabling economic and policy environment for the commercial banking sector and the cattle industry to provide innovative financing products to the new farmers.

In the short term, the market needs to be co-ordinated in such a manner as to ensure its own supply. This should encompass the restoration of the industry by re-establishing the national herd through establishment of livestock breeding programmes at government research stations, state funded soft loans for livestock production, import of breeding stock and a state ban on the slaughter of breeding stock. Price incentives need to be put in place for herd building and breeding activities. These should comprise removal of price controls on beef livestock products in favour of competitive, free market pricing, and tax breaks on all commercial sales of breeding stock to A1 and A2 farmers.

Medium term strategies need to focus on sustained investment in and efficient marketing of livestock for sustainable development of the industry. Specific policy recommendations are:

- Fair competition laws to deepen competition in all livestock markets;

- A shift in emphasis from the highly regulated and no longer assured EU market for Zimbabwe's beef products to more accessible regional markets, supported by removal of some of the regional prohibitions to the movement of livestock and livestock products; and

- Privatisation of the CSC in a manner that avoids one or a few companies being awarded all the facilities and thus being enabled to form a monopoly.

The long-term strategies should seek to create an autonomous livestock sector, regulated by a new state authority representing all stakeholders and working to promote new partnerships among producers, the private sector, and the GoZ. This agency should be a self-financing institution, which also disseminates information on livestock markets and trade. The conditions for such developments would be a stable macroeconomic environment in which major, long term investment where possible and relaxation of the original restrictions on farm sizes under the FTLRP to promote economic rationalisation of livestock production.

7. AN ASSESSMENT OF THE CHALLENGES FACING AGRICULTURAL FINANCE DELIVERY SYSTEMS AND PROSPECTS FOR IMPROVEMENT*

7.1 Introduction

This chapter assesses the challenges facing agricultural finance delivery in the aftermath of the Fast Track and the prospects for improving the situation. The chapter critiques the various finance schemes by both the public and private sectors, meant to assist new farmers in the acquisition of crop inputs (seeds, fertilisers and chemicals), livestock purchases and provision of irrigation infrastructure. The effectiveness of the schemes is assessed by examining the type of finance and the sustainability of the schemes i.e. the continued availability of the money for lending to other interested parties. The sustainability issue can be split into two parts: First, the 'right' cost of borrowing, which is a balance between what farmers can afford and the regeneration of the finances. It should also be a reflection of balanced commercial and development objectives. Second, the institutional capacity for the administration of the disbursement and collection of money is crucial. Ideally these issues should be captured in appropriate policies as well as rules and regulations.

Agricultural finance usually falls into time-related categories of short, medium and long term finance. Short-term finance is meant for working capital and ensures that the business maintains some level of liquidity. It is usually repayable in a year, at the end of the production season. It can be provided as cash where the farmer will make his/her own purchases, or in the form of inputs as was the case with government schemes reported here. Contract farming is a special form of short-term finance. It is a commercial arrangement between agro-processors/marketers and farmers. The agro-processor/marketer firstly establishes the required quantity and quality of produce for the economic utilisation of its plant, equipment and personnel. They then specify the level of support they will give to farmers, the catchment area where this will be done, and the conditions under which the exercise will operate.

[1]

Intimate knowledge of the potential of production areas and the calibre of farmers helps in processing loan applications, monitoring production and co-ordinating transport of produce. The advantages with agro-processors is that they can obtain inputs at a discount and achieve economies of scale during distribution. Commercial banks can partner agro-processors in financing farmers. Such an arrangement is perceived to be of low risk to the parties involved. This concept of finance delivery has tremendous scope for farmers without their own financial resources.

A sustainability issue of various loan facilities is , to a large extent, determined by the interest charged by any financial institution on borrowed funds. Ideally the repayments should reflect the loss of revenue accruing to it adequately to cover the opportunity cost of capital (i.e. the base rate), administration costs (higher for smaller loans), loss due to default (add a risk premium) and inflation.

The sustainability of agricultural finance delivery cannot be achieved without viable institutions. Institutions play a critical role as the intermediaries for the disbursement of the funds as well as collection of repayments. An institution providing financial intermediation services should:

- Develop its staff and operation systems for disbursement and repayment of loans;
- Ensure that loans are processed speedily and timeously, and preferably through decentralised structures;
- Put in place monitoring systems regarding utilisation of borrowed funds;
- Ensure collection of the borrowed money and, in extreme cases, resort to legal action; and
- Put in place client educational services, noting that reliance on fore-closure does not indicate a progressive lending policy.

The other aspect in which institutions are important relates to the setting up of the necessary policies, rules and regulations.

[1] * Original research and draft for this Chapter by Mr L. Mukwereza and Dr E. Manzungu

This is predominantly a public sector responsibility. For example, the state can promote policies that allow complementarities between the private and public sectors in providing finance. However, even private implementing institutions should have their own internal mechanisms. This is one area that will be shown to be lacking in government loan schemes.

7.2 Sources of Agricultural Finance

This section discusses support offered to the agriculture industry by Government through its various agencies such as the Reserve Bank of Zimbabwe (RBZ), Grain Marketing Board (GMB) and Agricultural and Rural Development Authority (ARDA), as well as by the private sector.

7.2.1 Government contribution

Government financial support the agriculture industry has been in the form of direct budgetary allocations to the relevant ministries and departments, and support to input and capital assistance schemes.

With regard to the budgetary allocation, there has been significant restructuring in the Ministry of Lands, Agriculture and Rural Resettlement (MoLARR). Since the Fast Track programme, the existing departments have been reconstituted. A number of new departments were created, such as Lands, Resettlement and Technical Services, Agricultural Research and Extension Services (AREX), Agricultural Engineering (AE), and Livestock Production and Development (LPD). With 19 Directors, the Ministry has become top heavy. There is, however , no evidence that the larger number of personnel is translating into an efficiently-run ministry. In fact, in some cases, there is an argument for streamlining operations.

Allocations to Departments were increased by 101.78% between 2001 and 2002 and by 117.44% between 2002 and 2003. However, the rates of

increase were lower than the rates of inflation, which were 112.1% for 2001 and 198.9% in 2002.

A number of schemes covering financing of wheat, tobacco, livestock and irrigation were set up by the government to provide inputs and finance for newly resettled farmers (see Annex 1). The effectiveness of these is discussed in the next section.

7.2.2 Private Sector Finance

The private sector has developed new finance assistance schemes. The sector has also participated in various ways, including as investors in raising funds for Agro-bills, disbursing funds directly to farmers using existing arrangements and/or through Agrobills, as well as indirectly through agro-processors.

7.2.2.1 Agro-bills

Seventeen commercial banks participated in the meetings where agro-bills were conceptualised. A major proportion of funds for Agro-bills raised in November 2002 was by commercial banks. For example, Standard Chartered and Barclays Banks between them raised Z$5 billion (of the total Z$7.2 billion).

Syfrets Corporate and Merchant Bank (Sybank) was appointed as the lead issuing authority for Agro-bills and Agri-bonds. The target set for Agro-bills/Agri-bonds was Z$60 billion, but just over Z$7.2 billion was raised when the first offer closed. The sum raised was inadequate to meet farmers' requirements and the strategy adopted was to mobilise more resources through further issues. Later on, they proved popular because of a 75% return on investment. Consequently, a recent floatation of Agro-bills was oversubscribed, raising Z$5 billion when the target was Z$2 billion. The interest rate on the current bills is 75%, a rate considered rather punitive for farming, hence the low uptake. Only one financial institution has requested some funds from the current issue.

To fulfil its supervisory role, Syfrets got returns from participating institutions on a monthly basis detailing how much was disbursed and repaid, as well as the names of beneficiaries. The bills were intended for working capital purposes and were to be repaid in 270 days. Interest on Agro-bills is 30-43%.

A major criticism of the programme is that it was launched late-well into the season. Also, there were a number of policy gaps. For example, although they carried government gaurantee, one government owned bank required applicants to provide additional surety to get a commitment amongst borrowers to repay. This was claimed to result in higher repayment rates. The other problem was that one company got 4 out of the 7 billion that was on offer because of lack of water- tight regulations to guide the disbursement process.

Across all sectors, 32 375 farmers were reported to have benefited from Agro-bills through banks and agro-processors. Most beneficiaries were from Manicaland and the three Mashonaland Provinces. It is hardly surprising that a few farmers from the Midlands and even less from Masvingo and Matabeleland benefited. By their design, Agro-bills were not appropriate for the farming systems of low rainfall areas (ranching) as they are repayable in nine months.

7.2.2.2 Overdraft facilities

Existing financial arrangements maintained by commercial banks include overdraft facilities and lease finance. Overdrafts were priced at commercial rates. Another requirement was security, insisted upon in order to provide a fallback as well as to meet the Reserve Bank provisioning requirement. Commercial banks disbursed varied amounts through this facility. This contributed up to 20% to total disbursements to the agricultural sector. The scheme has not been widely popular due to high interest rates. Minimum lending rates (MLR's) were recently revised upwards by all commercial banks to no less than 70% per annum.

Clients exceeding agreed overdraft limits have their interest rates revised upwards to as much as 102% . Banking industry executives are of the view that the upper interest rate threshold for farming loans should be 50%. Agribank is of the view that money sought from the money market should be complemented with disbursements from the government to come up with an acceptable blend cost (interest rate).

7.2.2.3 Lease finance

Four institutions are offering lease facilities to farmers or equipment. The facilities are, again not very popular because of the high interest rates (over 100%) and the high value of assets (the latter is continuously being revised upwards due to inflation). Moreover, farmers are required to put deposits of varying proportions to the value of the leased asset. A major financial institution offering the facility requires leasees to raise 30% of the total value of the asset as a deposit. The leasee is given an option to buy the asset in 3 to 5 years with ownership of the asset transferred when full payment is made.

7.2.2.4 Agro-processors

Most funding earmarked for agro-processors was from Agro-bills, notwithstanding the fact that Agro-bills were intended to augment planned financing arrangements. Amongst agro-processors that assisted new farmers were FSI Agricom, Cottco, DZL, ARDA, Irvine's, Seedco, Ingwebu Breweries and Delta Corporation (Chibuku Breweries). Each agro-processor drew up a contract between itself and its farmers. The contracts differ with a number of them quoting different producer prices of maize, a controlled commodity.

A total of Z$11 billion was provided by commercial banks to agro-processors. Disbursement of money through agro-processors was considered to be a prudent risk management strategy in addition to reducing transaction costs. Agro-processors have a

strong presence on the ground and are informed of the potential for different enterprises in various parts of the country. Agro-processing companies provide extension services, monitor farmers and assist with produce marketing. Such strategies can result in higher repayment rates.

Commercial banks are of the view that channelling assistance through agro-processors is as an interim measure. They envisage successful farmers being weaned over time to be able to access finance directly.

7.2.2.5 Special Commercial Bank Schemes

The schemes range from those supporting specific strategic enterprises in given geographical areas to those targeting high investment/high turnover farming ventures.

7.2.3 Factors affecting finance delivery

There are a number of factors, relating to the FTLRP and the environment in which it has taken place that affect the delivery of finance. These are discussed below:

- **Institutional linkages:** By and large the various financial assistance schemes outlined above are not centrally co-ordinated. Liaison between institutions is not compulsory even amongst government input schemes.

The position of ARDA as both a beneficiary and administrator of government assistance schemes requires close scrutiny. As at June 2002, ARDA had been 'allocated' 15.58% of the Irrigation Support Fund. This was the third highest allocation, with six provinces getting less than 10% each and one province receiving nothing at all. A preferable arrangement would have been a non-interested party assessing the applications and administering the Fund.

There has also been inequity of distribution across geographical areas. For example, agro-processors funded specific commodities and confined their activities to specific, high-potential geographical areas (Manicaland and Mashonaland Provinces). Farmers settled in primarily ranching areas had little financial support. Almost all finance was for seasonal requirements.

- **Competence of farmers:** Most applicants for financial assistance (project proposals, gross margin budgets, cash flow projections) made by newly resettled farmers have not been satisfactorily prepared. Up to 20% of former large scale commercial farmers needed assistance in preparing proposals for funding and commercial banks are of the view that as many as 80% of applications by new farmers are falling short of acceptable standards.

7.3 Assessment of government schemes

7.3.1 Recommendations

The specific recommendations that are discussed below hinge on macroeconomic stabilisation, especially interest rates and inflation.

7.3.2 Need for co-ordination

The Central Bank, and the Ministries of Finance and Agriculture should formulate comprehensive strategies on agricultural finance.

7.3.3 Institutions

7.3.3.1 The Land Bank

Critical to the success of the land reform programme is the expeditious establishment of a Land Bank, as well as adequately capitalising it to meet short, medium and long term finance needs for all major enterprises and across all agro-ecological regions.

Once the Land Bank is established, 3 things should happen. The RBZ should redirect some of the finance it has been providing through commercial banks to the Land Bank, loan portfolios of government schemes should be transferred to the Land Bank, and the repayments from different farmer assistance schemes will form the seed capital for the Land Bank.

7.3.3.2 Public-private sector partnership

In view of the high demand for finance, public-private sector partnerships need to be promoted. For example, commercial banks and agro-processors could finance farmers under commercial arrangements with funds made available on the basis of competency and yield prospects. Commercial banks have confirmed that they can provide funding to new farmers with no title deeds provided the projects are viable, the farmers agree to market produce through agreed channels and there is some measure of security.

7.3.4 Financial gearing

There is a need for financial gearing in the agriculture sector. The following are some of the options that exist for funding agriculture:

- All existing government credit schemes could be collapsed into the Land Bank. The GoZ has to institute an audit (technical and financial) for each fund before hand-over to the Land Bank and all funds disbursed have to be accounted for.

- Government could make inputs available to A1 farmers through agro-processors and vouchers redeemable through approved agro-dealers. A2 farmers not yet established are better financed through the proposed Land Bank with payments made direct to providers of goods and services. The number of seasons for which new farmers are allowed to access low interest finance from the Land Bank needs to be specified,

- Relative contributions by the public and private sector could be varied by enterprise. With food crops (cereals, beef, dairy), the government could have provided 50% of the required finance. For A1 farmers, disbursement could have been best handled as vouchers redeemable through agro-dealers. 70 to 100% of the costs of financing industrial and export crops could be provided by the private sector. Discussions between the government and the private sector on sharing financing for various enterprises should be preceded by a review of some policies (e.g. pricing of outputs and processed goods, marketing arrangements – especially the role of GMB, scope of private sector to export agricultural products, the exchange rate, etc).

- Money could be obtained from the market and blended with very low or no interest to money provided by the GoZ through the RBZ.

- Low interest finance could be availed to farmers in formative years, particularly for infrastructure developments. As balance sheets strengthen through farmers redeeming their loans, they should be weaned off to access finance from commercial banks. In discussions with bankers, it was established that new farmers could sustain interest rates of up to 50% for seasonal requirements and no more than 20% for capital investments, including ranching.

- Distinct commercial and development divisions should be set up in the proposed Land Bank. Farmers could borrow from the development unit at concessionary interest rates in earlier years, after which they would be directed to the commercial division where borrowing will be on the strength of balance sheets under market interest rates. The profit margins from the commercial unit could be used to partly subsidise the development division. Lending to small agriculture units is however done at little or no profit.

- Extensive livestock production areas deserve special consideration. Consolidation of farms may be necessary, as viable breeding herds cannot be supported on current average farm sizes (see Technical Paper No. 1). Significant investment in fencing, stock watering, dipping facilities and purchase of breeding stock is required. Special finance schemes should be made available.

8. THE IMPACT OF THE FAST TRACK ON FORMER FARM WORKERS*

8.1 Introduction, Methodology and Background

This chapter examines the impacts of the Fast Track (FTLRP) on former farm workers in terms of their re-employment, access to severance packages, access to resettlement land, their repatriation, their social welfare and citizenship status. Thus, the situation of former farm workers is assessed from empirical and secondary evidence in relation to current Government of Zimbabwe (GoZ) policy and programmes, including the efficacy of their implementation. The role of non-governmental organisations' (NGOs) support programmes for former farm workers since the FTLRP is also examined. The chapter then draws specific conclusions and recommendations to address the identified issues.

Farm labour was concentrated in the Mashonaland Provinces with about 65% of the total farm labour force, followed by Manicaland (16%), Masvingo (10%), and Matabeleland North and South and Midlands (6%). Structural changes in farm labour have tended to be more pronounced in the Mashonaland Provinces and in Manicaland, due to the phenomenal growth of horitcultural production. Thus permanent farm labour in Mashonaland declined from 73% in 1983 to 54% in 2002, while in Manicaland the casual labour force grew from 26% to 59%.

8.2 GoZ Policy on Former Farm Workers

GoZ policy on former farm workers in relation to land reform is covered by four measures: the obligation of LSCF to pay severance packages to the disengaged workers; GoZ assistance in the repatriation of those who wish to be repatriated; provision of resettlement land to those who needed it and re-employment by the new farmers.

In addition, the general policy perspective of GoZ officials on former farm workers who lose their jobs as a result of

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[1] * Original research and draft for this chapter by Mr W Chambati and Prof S. Moyo

compulsory farm acquisition appears to be that those who remain in the country and do not gain access to new farm work or to land will , like other unemployed people, have to be re-absorbed into the wider economy, including in communal areas. Furthermore, GoZ policy entails the provision of a variety of social and administrative services to farm workers as a particular social group, within its general social welfare and social services policies and programmes. These policies are elaborated next.

8.2.1 Social services policy

GoZ social welfare and services programmes include farm workers. The MPSL & SW runs various intervention programmes for vulnerable groups (which include former farm workers' households, although they are not specifically targeted) throughout the country. These include the Basic Education Assistance Module (BEAM), which pays school fees for vulnerable children, supplementary feeding schemes and Children in Difficult Circumstances. Community based selection committees, which also include registered NGOs, determine the beneficiaries. In addition, the GoZ in partnership with other donors, NGOs and LSCFs, is also involved in the provision of social services to farm workers, most notably in recent years in the distribution of food supplies and HIV/AIDS support as part of the wider social relief effort. Former farm workers however, seem to be relatively less well catered for in these than their counterparts.

The extent to which each of these GoZ policies and measures have in practice mitigated the impact of the FTLRP on former farm workers in general is discussed next, along five axis, namely their re-employment, severance benefits, access to land and residency, repatriation and citizenship, and social services support.

8.3 Existing Situation: Impact of FTLRP on Former Farm Workers

8.3.1 Overview pattern of FTLRP impact

The pattern of FTLRP impact on former farm workers is diverse and complex. It varies widely among districts, depending on the nature of their agricultural activities, the scale of farms, their vicinity to the communal areas and other local economic and social dynamics. There have been both positive and negative effects of the FTLRP on farm workers in the former LSCF sector.

The employment status of former farm workers is critical to assessing the impact of FTLRP since it defines the scope of their new livelihoods. Losses in farm worker employment, as well as job retention in the remaining LSCFs , were encountered in the agrarian sector. Moreover, it appears that such former farm worker job losses could change after this transitional period when uptake of land and establishment of production become normalised.

It is estimated that over 85 000 fulltime farm workers are still in employment (CFU, 2003). This is because large agro-industrial estates (sugar, coffee, tea and forest plantations) were not affected by the land acquisition programme (Moyo, 2003). The majority of former farm workers who lost their jobs worked on farms with relatively lower levels of permanent farm labourers (maize, beef, tobacco and wheat farms) compared to plantation estates located mostly in the Eastern Highlands (Manicaland Province) and the Lowveld (Masvingo Province) (Moyo, 2003). We estimate that about 50 000 casual and part-time workers could have retained their jobs in these regions and on the remaining LSCFs. This pattern suggests that more women would have been the losers since they dominated the part-time labour force.

In Zvishavane District for instance, all farm workers remained with their employers after the compulsory

acquisition of LSCFs for redistribution, except for two workers who opted to be resettled under the FTLRP. Some studies cite a 50% job loss of former farm workers, but ignore new forms of re-employment such as piecework or *maricho.* In Midlands Province, farm worker job losses were minimal (Provincial Land Committee, 2003) since former employers retained most of their farm workers.

Thus some of the former farm workers have been re-employed by new farmers and state farms. Others have relocated to their communal areas, some stayed on the farms they worked on and some moved to informal settlements which have emerged since the FTLRP. Very few have been reported returning to their foreign homes of descent in neighbouring countries.

Table 8.1: Overall Status of Former Farm Workers in Chikomba District (2003)

Status	Number	Percentage (%)
Allocated Land	**123**	**20**
State Farm	**100**	**17**
New Farms (model A1 and A2	**None**	**None**
Relocated to other LSCF	**60**	**10**
Relocated to Communal Area	**302**	**50**
Squatting	**18`**	**3**
Total	**604**	**100**

Source: Field Evidence

But the situation varies among districts. In the Chikomba case, we found a broadly based distribution of former farm worker destination (Table 9.1). Findings were that 47% of the former farm workers had been visibly accommodated in the new agrarian set up, as follows; allocated land (20%), re-employed (27%) and another 3% estimated to be squatting in the Charter Estate and in peri-urban Chivhu. But in districts such as Chiredzi and in the Eastern Highlands, more farm workers remained employed. These patterns of impacts of the FTLRP on the former farm workers are discussed further below.

8.3.2 Re-employment of displaced former farm workers

Some of the full and part-time workers who lost their jobs have been re-engaged in various LSCF sub-sectors, such as state farms, A2 farms, indigenous commercial farms and in remaining white LSCFs, but mostly on a part-time basis. For instance, before the FTLRP there were 465 permanent (73%) and 168 (27%) casual farm workers in Chikomba District (FCTZ, 2002). As a result of the FTLRP, only 160 former fulltime farm workers retained jobs in Chikomba and most of them were now casuals, having lost their job security and employment benefits. The government-run Charter Estates absorbed most of the re-engaged former farm workers in Chikomba, and close to 40% of its labour force were from former white owned LSCFs. These were now re-employed mainly as casuals. But in other districts, such as Norton, former farm workers re-employed by new A2 farmers at Maine Farm have kept their job positions and status of employment.

Thus, a new agricultural employment structure has emerged with the changed agrarian structure, in which more new potential employers, including A2 farmers, ARDA, remaining large scale commercial and indigenous farmers, are now re-engaging former farm workers on a limited basis. Some new farmers brought their own labour, ('new farm workers'), instead of hiring

existing labour of former farm workers form compulsorily acquired farms. The new farm workers are usually distant relatives of the farm owner from the extended family.

The situation was different in other districts, such as Chegutu, Kadoma and Kwekwe, where an estimated 50% of former farm workers are still employed and, of these, 40% are employed by new A2 farmers (ZCDT, 2003)

There are various reasons given for the non-engagement of former farm workers by the new farmers. Former farm workers were largely viewed as opponents of the FTLRP, who opposed the farm occupations through which the majority of the model A1 beneficiaries gained land before they were then officially resettled through the District Councils. Farm workers tended to protect the employers' property, hence the existing animosity between them and the new A1 farmers. On A2 farms, there has been general mistrust of former farm workers and the new farmers have employed people they know. Also, the fact that former farm workers have been in employment means that they are relatively aware of the labour laws and the conditions (wages and benefits) under which they are supposed to work, a fact which has made them less attractive to new farmers. But in some districts, some former LSCF farm workers are refusing to work for new farmers and some are now involved in alternative income earning activities, such as gold panning (see Box 8.1), resulting in labour shortages in some districts.

Box 8.1: Farm Labour Shortage and Gold Panning (A2 farmer, Goromonzi District)
Former farm workers involved in gold panning refused to harvest maize at a daily rate of Z$1 500 for a model A2 farmer. But the former farm workers instead agreed to be paid one kg of sugar per day, which they resold on the parallel market at inflated prices in gold panning communities.

8.3.3 Severance packages for former farm workers

The magnitude and scale of severance payments made to former farm workers varies widely among the districts. Sachikonye (2003) estimated that only 23% of the former farm workers had received their

severance packages countrywide. Other evidence (ZCDT, 2003) in Kadoma, Chegutu and Kwekwe districts also found only 21% had received their packages from former employers.

Former farm worker unions have been promoting the payment of such packages. In Marondera for example, more farm workers were paid their terminal benefits with the assistance of Zimbabwe Federation of Trade Unions (ZFTU), which in turn deducted between 25% and 35% of the severance package for their services (AIAS Field Surveys; Magaramombe, 2003).

The delay in the payment of severance packages can be partly attributed to the fact that most former LSCF farmers have not received their compensation for land improvements, given that GoZ policy allows for staggered payments in relation to the eventual payment of GoZ compensation. But a number of the LSCF farmers have part paid former farm workers from other resources.

Some of those former farm workers who had received their terminal benefits (for example in Kadoma, Chegutu and Kwekwe) used the bulk of the money of meet their food requirements, whilst others used it for various purposes including school feed, labola, asset accumulation, etc. (ZCDT, 2003). Huge sums from the retrenchment packages are also reported to have been spent on drinking in various districts. The retrenchment packages of former farm workers did not stretch far enough to secure future livelihoods. Some former farm workers are reported to be living in desperate conditions and have resorted to alternative legal and/or illegal income earning activities. The situation is even more critical for part-time workers who were not eligible for terminal employment benefits.

Although, severance pay was meant for farm workers on compulsorily acquired farms, some workers on

operational LSCFs in Mazowe also demanded terminal benefits from their employers. These, in some cases, were paid and the workers lost their jobs or job security in the process.

8.3.4 Repatriation and citizenship of former farm workers

The preference survey by MPSL&SW before the FTLRP in 2001 showed that less than 3% of the migrant former farm workers wanted to return to their countries of origin, since most of them have lived and worked in Zimbabwe for the greater part of their lives, and some are second or third generation 'citizens'. The Repatriation Unit in the MPSL&SW has not handled any requests from former farm workers who wished to return to their motherland since the beginning of the FTLRP. This can be attributed to the fact that those former farm workers who wished to be repatriated are not aware of the availability of such facilities from the GoZ. However, it is possible that some migrant former farm workers might have returned on their own to their countries of origin without seeking assistance from the MPSL & SW.

8.3.5 Land allocation to former farm workers

There is a national perception that very few former farm workers benefited from the FTLRP as new landowners. Official GoZ statistics show that, by mid-2002, only 2% of the total beneficiaries of the model A1 (2 087 out of 110 885 beneficiaries) were former farm workers. These GoZ figures suggest that only 0.6% of all the former farm workers before the FTLRP, gained resettlement land. However, the rate of land allocation to former farm workers varies in different parts of the country.

In Goromonzi, official records show that 1.5% (26 out of 1 719 beneficiaries of model A1) of the beneficiaries of the land resettlement programme were former farm workers (AIAS Field Surveys; Marongwe, 2003). This

gives an average of 2.8 former farm workers per farm on the 47 farms compulsorily acquired for redistribution. The rate of land allocation to former farm workers in the Midlands Province was very low, due to greater retention of farm workers on remaining LSCFs. Based on four districts, the average rate of land allocation to former farm workers was 0.46 per farm, Gweru (0.5), Kwekwe (0.19), Mberengwa (1.2) and Zvishavane (0.11). Field evidence from Kwekwe and Gweru showed that only one out of 150 beneficiaries was a former farm worker (AIAS Field Surveys).

While, official records from the Chikomba District Council, for instance, show that only 12 former farm workers (0.36% of the beneficiaries) out of 3 292 new farmers in model A1 were beneficiaries of the programme, field evidence shows otherwise (Table 8-2). More that 5% of the beneficiaries of A1 farms were former farm workers. Chikomba had, on average, 3.3 farm workers per farm, while official data suggests only 0.32 per farm. This disparity between official records from the District Council and our field findings, where 12 former farm workers are said to have benefited on 37 farms, compares poorly with 20 benefiting on only six farms. This suggested that a number of former farm workers benefited from the FTLRP through their communal areas, by presenting themselves as peasant farmers.

Projecting our field findings of a land allocation rate of 3.3 former farm workers per farm on 37 compulsorily acquired farms shows that potentially an estimated 123 former farm workers could have benefited from the FTLRP in Chikomba District. This implies that potentially about 20% of the former farm workers on compulsorily acquired farms were allocated land. This figure could actually be higher if farm workers on farms not compulsorily acquired for resettlement are considered since some also got land. This confirms statements from the Chikomba District Council that many former farm workers who had nowhere to go after compulsory farm acquisitions were allocated land.

In Mazowe District an estimated rate of 8.1 former farm workers allocated per farm was found (AIAS Field Surveys; Magaramombe, 2003). Here they constituted 16% of the total beneficiaries of the FTLRP. But within their group they only amounted to 2.3% of all former farm workers on compulsorily acquired farms.

Table 8.2: Farm Worker Resettlement in model A1 in Chikomba District

Name of Farm	Total No. of Plot Holders	No of Farm Workers Resettled	% of Farm Workers Resettled	Average Plot Size (Ha)
Ingulubi	145	8	5.5	30
Uitky	21	2	9.5	15
Bathest	46	6	13	30
Nyatsitsi	62	4	6	4.25
Total	274	20	8.5	

Source: Field Surveys

This, out of all the beneficiaries of the model A1 resettlement, field evidence suggests an estimated 8.5% were former farm workers, compared to official figures of 2%. Taking this and other data into account, we estimate that at least 5% of the beneficiaries of the model A1 resettlement could be former farm workers.

It is also important to note that, in some districts, farms were specifically allocated to former farm worker resettlement. In Mazowe, two farms (Dawye and Masasa) were set aside for the benefit of 350 farm workers, while some farm workers acquired land under a similar initiative in Zvimba North. This setting aside of land for farm worker resettlement is

commendable because former farm workers deserved such preference and require at least land for residential plots since they still seek jobs. Former farm workers have lived on private land with no agricultural or residential 'tenure rights' and the situation is worse for migrant workers who have no access to land elsewhere since they do not have ties to the communal areas and had no other home except the farm compound.

Although some former farm workers who benefited from the land reform programme practice farming in their own right, field findings show an emerging pattern of maintaining employment contacts as a strategy to cushion themselves from poverty. The fact that their specialist skills are mostly in areas not dominant in new resettlement schemes, which are mostly maize focused, can be a limiting factor in this. This leads them to contract out on short assignments whenever they are needed since there is a mismatch of skills deployment. A case in point is the government-run Charter Estate, where close to 60 workers have plot holdings acquired during the FTLRP within and outside the district.

This dual 'belonging' is not new to farm workers, as their spouses maintain their plots during their absence. Thus, during the rain season there is a critical shortage of labour in general as farm workers engage in own agricultural production. In some areas however, they have abandoned their new landholdings for the higher rewards offered by gold panning. In Zvimba North for instance, some 300 former farm workers abandoned their plot allocations to venture into the lucrative gold panning, shifting valuable skills and experience out of agricultural production.

8.3.6 Residential status of former farm workers

The FTLRP has had numerous effects on the residential status of former farm workers, who had resided on their employer's property for the greater part of their employment life. Some former farm workers

have been forced to move off the farms to make way for new settlers, under either the A1 or A2 models, while some are still resident on farms acquired under FTLRP, either as squatters or in agreement with the new owners. Those displaced in this manner are often stranded on the outskirts of the farms or they trek to the fast growing 'informal settlements' where social conditions are desperate. Others with ties in the communal areas have relocated there.

Former farm workers in other districts, such as Seke, Hwedza, Esigodine and Marondera mainly remained in the former large scale commercial farming area compounds and migrate temporarily within these confines to informal settlements to seek work on new farms and remaining large scale commercial farms. Some simply stayed put on the farms they used to work on with various arrangements in existence with the new farmers.[1] In Mazowe District only 3% of the former farm workers were reported to have relocated to their communal home. Most of those former farm workers who did not access land under the FTLRP and remained in the former large scale commercial farming areas are migrant workers with no links to the communal areas.

There were claims by Rural District Council (RDC) officials in Mberengwa District, for example, that no former farm worker has been left homeless or destitute as a result of land redistribution programme. The Chikomba Rural District Council also made this claim. There were no informal settlements in Chikomba. However these have sprouted since the onset of the FTLRP in other districts, such as in Chihwiti and Gambuli informal settlements in Chinhoyi, where an estimated 51% of the households were former farm workers in the district (Save the Children Fund and FCTZ, 2002).

Evidence form Chikomba District shows that 50% of the former farm workers (mostly originally from communal areas and surrounding districts, Chihota,

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[1] [1] .FCTZ, 2002; Magaramombe, 2003; Sachikonye, 2003; Save the Children Fund and FCTZ,2002.

[2]USAID, 1998; Moyo et. Al., 2000; AIAS and KWA, 2002.

Buhera, Gutu, Mwenezi and Masvingo) from compulsory acquired farms went to the communal areas (Table 8.1). This supports arguments of the 'peasantariat' nature of former farm workers, given their ties with the communal areas.[2] They belonged to two communities,, the LSCF and the communal area, mainly because close to 50% of the former farms workers were employed on a part-time basis and practiced their own agricultural production in their communal areas. This is not inconsistent with our earlier argument that at least 50% of the former farm workers were part-time workers with links to the communal area especially in a district like Chikomba.

Such former farm workers thus already had access to land before the FTLRP, although questions might be asked about the size and quality of their landholdings in the communal areas, and whether these provide a sustainable livelihood. In some Mashonaland districts, former farm workers, mostly with no previous ties to the communal areas have bought residential and/or agricultural plots from headmen. This further increased congestion in the communal areas possibly reversing the decongestion gains of the FTLRP. Some of the former farm workers have resurfaced in the new resettlement areas as they got land as peasants through 'their' chiefs in the communal areas.

8.3.7 Social impact of FTLRP on former farm workers

Access to social services among the former farm workers has further deteriorated as a result of the FTLRP, especially among those who have been displaced. A gap has been created since the resource endowed former white farmers contributed substantially to the provision of social services for their workers, and the RDCs have been incapacitated by the absence of taxes from the LSCF sector, since new farmers are not yet paying these taxes.

Schooling rates have always been lowest in the farm worker community, even before the FTLRP. For

example in 1997, only 59% of the children of farm workers attended primary school compared to 79% and 89% in the communal and urban areas respectively (Sachikonye and Zishiri, 1999). Schooling rates have worsened since the FTLRP as there is an estimated primary school dropout rate ranging from 15% to 55% in Manicaland (Sachikonye, 2003). The major reason for dropping out of school is the inability to pay school fees after the breadwinners lost their jobs. Furthermore, schools are sometimes located very far away from their new residential places.

But in some cases, there has been minimal disruption of social services. For example, former farm workers in Marondera district, especially in Model A1 schemes, have been allowed to continue residing in the farm compound and facilities such as water and sanitation are being shared by former farm workers and new settlers. Problems in access occur more in Model A2 schemes, where access to social services is sometimes limited to those on that particular plot. It is notable, therefore, that facilities such as schools and clinics are being shared in some resettlement areas (see Box 8.2)

Box 8.2: Access to Schooling Facilities at Maine Farm, Model A2 (in Norton)
At Maine Farm, which has seven subdivisions, the primary school and compound are located on one plot. All farm workers in all plots share the compound and their children continue attending school on that plot. One farm health worker, who is paid by one of the farmers who employs the bulk of the farm workers, services the farm.

Health centres have always been limited and located far away in the LSCF areas. Farm worker households were usually served by mobile clinics, which visited on a monthly basis. In addition, most farms employed a farm health worker. However, only about 60% of the former farm workers had access to a health worker before the FTLRP, compared to higher access rates in the communal areas. The health services and other community support systems that former employers provided have tended to be disrupted by the FTLRP. In 2002 the level of basic primary health care had decreased among farm worker households. Only 42% of the mothers knew how to prepare sugar and salt solution used to treat diarrhoea, a decline from rates of above 60% in the late 1980s (FTCZ, 2002).

The problem of farm worker marginalisation in social service provision is also partly a reflection of their social exclusion because of public perceptions that they are foreign citizens. For those former farm workers that have been resettled and/or re-engaged by the new farmers, their level of integration in these new societies has been very low. On one hand, this is due to the hostility against farm workers by new settlers. But, on the other hand, this has been attributed to the lack of a 'strong moral order' among former farm workers who tend to be stereotyped as having unstable 'marriage' practices, usually tied to the matrilineal institutions of their original culture.

Some former farm workers appear to be still tied to their motherlanld, whence they hope to return, and are thus reluctant to fully integrate into Zimbabwean society. This is at times referred to as a 'migrant mindset'. In the absence of an effective local government administrative system in the former LSCF areas (e.g. chiefs, headmen and village heads), farm workers were used to the paternalistic governance relations between them and the white farmers. The governance system of communal areas that has been extended to new resettlement areas (model A1) seems unsuitable for former farm workers. Hence the tendency for them to be accused of being undisciplined, disobedient and refusing to be governed.

Former farm workers are also alleged to be involved disproportionately in antisocial activities in resettlement areas, such as theft and prostitution (see AIAS Field Survey; Magaramombe, 2003; Midlands Provincial Land Committee, 2003; see Box 8.3). Some are reported to be engaged in illegal gold panning, which exacerbates environmental degradation. In Kadoma district for instance, gold panning is the major source of income for 46% of the former farm worker households (ZCDT, 2003)

Box 8.3: Former Farm Workers and New Settlers Relations
At one farm in Goromonzi, former farm workers residing in the farm compound refused to work for new farmers and are accused of stealing agricultural produce and using water paid by new farmers. In Mazowe, some farm workers have to work for new farmers for low wages as part of their conditions for continued residency in farm compounds. In other areas former farm workers and new settlers are co-existing harmoniously, for example in Chikomba former farm workers provides consultancy labour services to new farmers in cattle disease, diagnosis and treatment.

Thus, farm workers also tend to be largely excluded from the new settler associations and have no influence in developmental activities in their areas. Also, RDCs have not been able to reach out to them in the new resettlement areas. Where they have been re-employed, the landlord-labour tenant relationship that existed in the former LSCF under what was termed 'domestic government' (Rutherford, 2000 in Moyo, 2003) has largely been replaced by new social patronage systems which are also low paying and less job secure, especially in model A1 schemes.

8.4 Recommendations

8.4.1 policy framework for former farm worker support

The Goz should refine its policy measures in support of former, retained and new farm workers. It should produce a coherent and integrated policy statement in consultation with relevant stakeholders and ensure that it is widely disseminated in relevant government ministries, throughout RDCs and local government offices, among farm workers and their organisations, to new farmers and to NGOs.

The policy should clearly articulate the fact that farm workers are Zimbabweans and specify the special measures and procedures to be followed to speedily procure their citizenship, identification and travel documents. The strategy adopted should be based upon integrating farm workers into a service provision programme involving other rural groups, such as new settlers and non-farm rural communities, in resettlement areas and elsewhere. Other elements of this policy are examined below

8.4.2 Rural service and residential centres

The policy should focus on creating viable rural communities through the creation of rural service centres and hamlets for provision of services to farm workers and new settlers in A1 areas and for non-

farm entrepreneurs and workers within resettlement areas. Such centres should be built around some of the centrally located existing farm compounds. These should be augmented in area and excised from A1 and A2 land subdivisions. These centres should be turned into state properties governed by local authorities in collaboration with farm workers, settlers and relevant government agencies, within the existing hierarchy of settlements and administrative structures. This rural service centre programme could be initiated on a pilot basis in every district and expanded to all resettlement and remaining LSCF areas over the following five years. Government, the various stakeholders and humanitarian support service agencies should contribute adequate resources to this project, through which satellite social services can be provided.

8.4.3 Gender dimensions of former farm worker support

The GoZ and NGO partners should incorporate a clear-cut, gender based component into the proposed refinement of policy on farm workers and particularly with regard to support for former farm workers. The aim should be to both enhance the rights of women farm workers with respect to access to land in their own right, the security of their land tenure on their own and jointly held land, greater protection of their labour rights, including their appropriate grading, remuneration and contractual arrangements, and to ensure that they also gain adequate retrenchment benefits. In addition to this, their social vulnerability should be relieved by ensuring that they gain adequate access to identity and citizenship documentation as part of a programme of providing comprehensive social support (schooling and health), food and nutritional assistance, HIV/AIDS effects support, and economic rights (land tenure, skills and extension training, farming and housing subsidies etc) for vulnerable women and children. Adequate budgets, personnel and innovative gender balanced

intervention strategies should be designed by specialists in this and incorporated into GoZ policy and programmes. This effort should ensure that gender proficient agencies, professionals, women's representative organisations and women farm workers are adequately involved in policy design and programme implementation.

8.4.4 Social and ancillary services provision

The GoZ, NGOs and relevant stakeholders should undertake a detailed survey to document and plan for the long term and large scale provision of social and related services to farm workers and new settlers, especially those in A1 areas. These should include health, HIV/AIDS, nutrition and food support, education and literacy, skills development and beneficiation, small enterprise management and labour relations management activities. Such a plan should form the basis of coordinated social service provision based on adequate resource mobilisation by all the stakeholders and the GoZ. The target should be to raise per capita provision of social services to at least the levels obtaining in other service centres. These services should be backed by tax incentives and subsidies for employers and farm workers to contribute to the development of various social services.

8.4.5 Farm worker identity and citizenship documentation

The GoZ should re-launch its mobile services for the provision of Ids and passports to farm workers through the Home Affairs and Immigration departments, in collaboration with farm worker's organisations, farmers and NGOs. The target should be to complete this documentation process within five years. The pending amendments to the Citizenship Act should be speedily concluded to facilitate this activity. Furthermore, all stakeholders should increase their allocation of resources to this process.

8.4.6 Farm worker access to resettlement and residential land

The GoZ policy should aim to provide all farm workers, particularly former farm workers, with access to adequate land either for farming (of the A1 type) or for residential purposes (including room for food and nutritional gardens). Such access should be backed by secure title to the land in the form of long term inheritable leases. Policy incentives (tax breaks) should be provided to employers to support the building of suitable housing for farm workers. Programmes to assist farm workers who could build their own houses should also be designed. This means that the GoZ should speedily move to allocate more of the currently unallocated land to former farm workers so that they attain a level of 15% of the land redistribution beneficiaries, either as new farmland owners or as residential landowners.

8.4.7 Protection of re-engaged former and new farm workers

The GoZ should mount a special programme to enforce its existing laws on farm workers' working conditions (wage rates, benefits, leave, severance payments etc.) and to improve awareness of farm workers' rights and employers' obligations. Such a programme should be accompanied by activities to retrain former farm workers, upgrade their existing skills, and ensure formal recognition of their skills and appropriate grading of farm workers according to their skill. The GoZ should encourage and regulate the evolution of farm labour recruitment agencies through appropriate incentives and support their work by ensuring that adequate information on the workers' skills and availability is widely disseminated throughout the country among new farmers. The purpose should be to ensure maximum and protected utilisation of former farm worker skills by new farmers, and to encourage mutual social and economic coexistence and cooperation between farm workers and new farmers.

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