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.