THE DEVELOPMENT OF ZIMBABWE'S AGRICULTURE

1890 - 1990

BY

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INTRODUCTION

On the 18th of April 1980, Zimbabwe ended 90 years of British colonial rule of the then Southern Rhodesia. During its first decade of independence, Zimbabwe has been widely praised for pursuing a sound agricultural policy that has wider implications for other African countries including Namibia and post-apartheid South Africa. Though major problems remain, Zimbabwe’s dynamic agriculture since independence has buried a long-standing myth that peasants cannot become a driving force in national development. This paper spans 100 years of dramatic change in Zimbabwe's agriculture, economy and politics from 1890 to 1990. The focus is on politics and the economics of agricultural development, since agricultural policy is intimately linked with and shaped by the political process. Various strategies were pursued by successive governments in the process of transforming and developing Zimbabwean agriculture.

Colonial agricultural policy was largely directed at settling white, large-scale farms, and developing a system of laws and controls to ensure that the whites maintained a monopoly of economic and political power. Since blacks did not have a vote, it was relatively easy for the government to enforce such a discriminatory policy. From 1900 to 1980, specific policies and strategies were pursued to upgrade large scale agriculture, including agricultural research, prices, markets, institutions and conservation. At independence, Communal (black smallholder) farmers joined the production revolution with significant increases in production and marketing of maize and cotton.

The author will attempt to give a historical account of the development of agriculture during the entire colonial period (1890-1980). During this period, we will analyze some of the major policy initiatives and try to understand the forces that led to successes and failures. Zimbabwe’s agricultural policy today is heavily influenced by its past. An historical analysis will show why some policies have been in existence for so long, and why little structural change has occurred after independence.

A major objective of the paper is to explain how the production revolution occurred on large farms starting in the early 1950s. The elements of this production revolution will be discussed, particularly in relation to the major policies pursued in technology institutions and land policy. This analysis will be carried into the independence period so as to determine the forces that led to the Communal farmers joining the production revolution.

For each of these periods, the paper highlights major developments in land tenure, technology generation and institutional development. Because of the persistent dual structure of agriculture, this analysis will focus separately on large and small farmers.

TRADITIONAL AGRICULTURE IN THE NINETEENTH CENTURY

The people of Zimbabwe have been agriculturalists for more than 2000 years. The Early Iron Age ancestors of the Shona people completed the transition from hunting and gathering to agriculture between 2000 B.C. and A.D. 1 (Beach, 1977). Livestock was a major activity by A.D. 1000 and the cattle population was estimated at 500,000 at the time that the colonial settlers arrived in 1890.

Before the white settlers arrived 1890, the traditional economy had developed beyond agriculture. This process was most intense in the 13th to 14th centuries when the Later Stone Age Zimbabweans refined the art of reef mining for gold (Beach, 1977). These boom years established trade with India, with gold and ivory exchanged for cloth, beads, ceramics and so on. The Zimbabweans, however, specialized in gold mining while some operated trade routes to the east coast, where Muslim African traders, who also came inland, bought merchandise from the Zimbabwean traders and shipped it to India. This rise of the Shona state, headquartered at Dzimbabwe (now Great Zimbabwe Ruins) lasted until the 1500 century before a depression set in. Nonetheless, the Shona state had undergone major political and social development which shaped its history up until the white settlers. The trade economy, encompassing the whole of central and southern Africa, had also led to the rise of Muslim coastal cities, later to be succeeded by the Portuguese. Early 19th Century travellers gave accounts of the general agricultural prosperity of this part of the world (Palmer 1977b). A wide variety of products were farmed and there was a large volume of local and long distance trade in weapons, pottery, wood carvings, baskets, mats and nets (Palmer, 1977). Gold was still being mined and traded extensively with the East Coast. The availability of firearms also increased the volume of ivory trade as it became easier to kill elephants. Vibrant Zimbabwe trade relations with the Portuguese existed with routes going north-east through the Tete province of Mozambique.

Local trade also existed within the traditional economy. Since drought has been a permanent feature of Zimbabwean agriculture, local trade has always played a key role in coping with food deficits. Historically, such trade has been more vibrant in drought years. Grain was exchanged for salt, dried fish, mats, baskets, cloth, tobacco and so on. Iron tools and pots were bartered throughout the county. So, early white travellers, and later...
on the white settlers, were besieged by people offering them a wide range of goods— "a scene quite reminiscent of modern day tourism" (Phimister, 1974). Products on offer included non-agricultural items such as weapons, pottery, wood carvings, baskets, mats, nets, and so on.

The arrival of the Ndebele from the south in the early 19th Century was the last important socio-political development before the arrival of white settlers. The Ndebele succeeded in setting up a rival state in the western part of Zimbabwe. By 1873, however, the Ndebele power was on the wane and the Ndebele state had more or less stabilized in the west, with the Shona state blanketing the rest of the country. The greater availability of guns had also provided a military balance. When the white settlers arrived in 1890, the Shona and Ndebele states coexisted and more-or-less accepted each other. The Shona and Ndebele economies were very similar, and the Ndebele developed trade relations with some Shona groups.

We now have an overview of the agricultural economy in the late 19th Century, just prior to arrival of the white settlers in 1890. The Shona farmers grew a wide range of crops: finger-millet, bulrush-millet, sorghum, maize, groundnuts, potatoes, rice, sweet potatoes, cowpeas, pumpkins, squash, cucumbers, tomatoes, marrows, melons, yams, cassava, cane, pineapples, lemons, paw-paws and so on (Palmer 1977b). Finger-millet and bulrush-millet were the staple grains. Although maize had been grown since the 18th century it did not become a staple until the 20th century. In some areas tobacco and cotton were important crops.

The Shona kept a wide variety of livestock: cattle, sheep, goats, chickens and kept dogs for game hunting. Livestock were an important insurance against food deficits (Shangwa), that usually follow a drought. The Shona and Ndebele owned about 500,000 cattle before the arrival of white settlers. Cattle played a more important role in Ndebele agriculture. Nevertheless, the significance of cattle in Ndebele society has probably been exaggerated, since the Ndebele, like the Shona, were agriculturalists and not pastoralists (Palmer, 1977b). They grew Indian corn as their staple food and other small grains, cotton and tobacco. For practical purposes, the Ndebele and Shona agricultural systems were the same. The Ndebele area was more drought prone and so they also participated in local trade. They also provided the main market for the tobacco industry of the Shona Shangwe people of Inyoka, near Gokwe.

The established system of land use could be classified as land-rotation but is generally referred to as "shifting cultivation" in the literature (Palmer, 1977b). Although the system varied from place to place, the key feature was the cultivation of a piece of land for three to four years and then allow it to lie fallow for up to 15 years. Then the whole village moved, say after 6-8 years, usually to a new site within the immediate vicinity. The hand-hoe, *badza*, was the mainstay of Zimbabwean agriculture and hoes were manufactured in various parts of the
country. Noted, however, was the Wedza iron industry, which developed the reputation of manufacturing quality hoes in the 19th century. These hoes were prized items in internal trade.

In conclusion, Zimbabwean agriculture in the 19th Century was the centerpiece of a vibrant traditional economy. The range of crops grown by peasants was wider than today and virtually all the major crops grown today were already locally adapted before the white settlers arrived. Local and long-distance trade had developed in agricultural and non-agricultural goods. Although gold trade was long-standing, later on ivory, tobacco, salt and hoes became important trade items. Migrant labour was in use before the white settlers arrived. When the settlers arrived, they found the Zimbabweans to be established farmers and traders, and the Shona were using gold coins from South Africa and Portuguese coins in some of their transactions. All this made it initially difficult for the white settlers to attract the local labor into labor intensive mining, and later in agriculture.

AGRICULTURE UNDER COLONIAL COMPANY RULE: 1890-1923

When the British flag was raised over what later became the city of Salisbury in 1890, the British South Africa Company (BSACo) established rule by virtue of a British Royal Charter issued on 29th October 1889. The BSACo rule (also referred to as Company Rule) heralded the first direct government intervention into Zimbabwean agriculture and it lasted for 25 years until 1923. During this period, Zimbabwe's traditional agriculture experienced radical and traumatic change.

The white Afrikaaners' discovery of the Witwatersrand (Rand) gold deposits in South Africa in 1886 sparked a new turn of events in the long-standing rivalry between the Afrikaaners and English-speaking South Africans led by Cecil John Rhodes. The gold deposits in the Rand placed economic power into the hands of the Afrikaaner and challenged the British supremacy in South Africa. Rhodes organized a band of settlers, the Pioneer Column to trek up north in search of a "Second Rand" which would restore British supremacy. The British South Africa Company (BSACo) was formed by Rhodes and incorporated in London, and listed as a public company on the London Stock Exchange. In 1888, the British government issued a Royal Charter to the company, giving it authority to colonize present day Zimbabwe.

In 1888, the British South Africa Company acquired mineral rights in what is now known as Zimbabwe through the Rudd Concession. This concession, however, did not provide enough basis for the possession of land from the native people. Meanwhile, unknown to the Company, another fortune hunter had persuaded Lobengula, King

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2Robin Palmer's book, Land and Racial Domination in Rhodesia, gives the most comprehensive analysis of agriculture and the land policy during this period.
of the Ndebeles, to sign a land concession, hence the Lippert Concession of 22 April 1891. This period was one of fortune hunting and was filled with intrigue and underhanded methods. Rhodes pressured Lippert into selling the concession to him and this was ratified by Lobengula on 17 November 1891. Although the British government later discredited the concession, it was adequate for the immediate purposes of the Company in resuming powers over the land. The Company, however, believed that the Concession gave it power over all lands, and also assumed, to its convenience, of course, that the Concession covered the Shona state as well.

Cecil Rhodes' Pioneer Column trekked from South Africa to Zimbabwe and on 12 September 1890, the Column raised the British flag over Harare. The Column was basically in search of gold. As payment, each pioneer was promised 100 gold claims and 1300 ha (3200 acres) of land. The column was dissolved in 1890 and the big search for gold started. By February 1891, a period of five months after the column arrived, 7000 gold claims had been marked off. The Column was composed of gold seekers and not farmers. Some of the pioneers had already bargained off their promised land before landing in Zimbabwe. The period up to about 1908 witnessed little interest in agriculture on the part of the white settlers. Nevertheless as the prospects for gold diminished, it became more important to hold land for speculative purposes.

After two years of intense prospecting a Second Rand was not discovered and as a result, the BSACo shares fell significantly on the London Stock Exchange. Some white settlers sold their land and returned to South Africa. Meanwhile, the Company decided to invade the Ndebele state in a final search for the Second Rand, and hoped to boost the Company's shares. By the 14th of November 1892, Matabeleland was occupied, Lobengula killed and the Ndebele state was eliminated. After this raid, the Company asserted itself over the land, and set up a Loot Committee to distribute cattle and other wealth of the Ndebele amongst the white settlers. The cattle became foundation stock for these earlier ranches.

The Dominance of Land Issues

Within 2 years of the raid on Matabeleland, the white settlers had acquired so much land that the British government feared that the Ndebele would shortly be dispossessed of all land. Through a Matabeleland Order in Council of 18 July 1894, the Company was instructed to assign land to the Ndebele. A Land Commission was
set up on 10th September 1894, and by the end of October the same year, had assigned the first 2 Native Reserves of Gwani and Shangani, estimated at 3 000 sq miles and 3 500 sq miles, respectively.

Meanwhile, the scramble for land had also stepped up in Mashonaland as the search for the Second Rand continued to be abandoned. By this time, white settlers were confronting the Company to give them the right to peg out farms. The settlers were granted their right, except for the area identified as the Gold Belt, which, until 1903, was completely earmarked for miners.

The settlers also demanded the rights over land without occupying it, so that they could hold it for speculative purposes, whilst they continued in pursuit of gold claims. This started a tradition of absentee landlordism, which lasted until the 1940s and became a controversial policy issue for earlier governments. Since most black peasants continued to occupy their traditional homes after land had been appropriated, absentee landlords made good profit by charging these tenants a rent. So, by 1895, the Ndebele continued to cultivate their traditional land as tenants, and this practice was known as "Kaffir Farming." During this period, white landlords made a living from the rents, and were transport riders, storekeepers, and generally traded with products produced by the black farmers.

The Chimurenga War, 1896-1897

By 1895, it was clear that the Second Rand was unlikely to be discovered in Matabeleland. This led to a precipitous move, by which Jameson, then the colony's administrator, put together an army, turned back to South Africa and attempted a coup d'état over the Kruger government so as to restore British supremacy. The Jameson Raid, which took place towards the end of 1895, was a failure and a political embarrassment to Cecil Rhodes and the British. During the same time, back in Zimbabwe, the Shona and Ndebele took the opportunity to put up a widespread war of resistance against the remaining settlers.

Lost land and the escalating harassment for forced labor, rents and taxes were the major grievances which precipitated the Chimurenga. The Company had started collecting a Hut Tax in March 1894. This was followed by a series of other taxes that included a head tax, dog tax and so on. Hence the first Chimurenga starting in March 1896. The second Chimurenga was the liberation war of 1972-1980, leading to independence.
put up a violent resistance to the new colonial rule. The Chimurenga was ruthlessly squashed by the settlers and about 10% of the white population were killed in this war.®

The Chimurenga confirmed to the British that, in spite of assurances by the white settlers, the native people were being rapidly dispossessed of their land and livelihood. The 1898 Order in Council required that the Company assign, with immediate effect, and from time to time land to the native blacks that would suffice for their agricultural and pastoral needs. This Order applied to the whole country, superseding the 1894 Order for Matabeleland. The job of creating Native Reserves was assigned to Native Commissioners. Native Reserves were established in those areas which were felt unsuited for white settlement. And since most of the higher rainfall central plateau areas had already been appropriated by then, some of the Native Reserves were established in remote uninhabited parts of the country like Darwin, Mutoko, Gwanda, Sebungwe, Wange and so on. These areas were difficult to settle because of lack of water and in some cases the tsetse-fly posed a health risk. By 1913, 104 Native Reserves, varying in size from 2,024 ha (5,000 acres) to 607,287 ha (1.5 million acres) had been established (Nelson, 1975). These areas are basically the Communal Areas today.

Agricultural Land Policy 1906 to 1923

In 1907, a party of BSACo directors visited the colony, toured the country and, by the end of their visit, put an end of the myth of the Second Rand. The Company directors launched the "white agricultural policy." The Company decided to diversify the economy, encourage whites into agriculture, create an export-oriented agriculture, and thereby raise the value of land and the railway as it handled more traffic. To launch this agricultural policy, the Company set up a new Estates Department and the Department of Agriculture was completely reorganized.

By adopting an aggressive white settlement policy, the demand for land by the Estates Department increased. Added to the desire to settle whites in the better agricultural areas, the Company saw the possibilities for further appropriations existing in the Native Reserves, as well as land owned by absentee landlords. In 1908, the Surveyor General completed a list of those Native Reserves where land could be taken. Approval was given in 1910 to trim down these Native Reserves. The Estates Department acquired 200,000 ha (0.5 million acres) this

®For a decade after the war, white settlers maintained the attitude that the blacks were conquered people, and justified a lot of subsequent land appropriations and discriminatory legislation on this.

®See Palmer's Land and Racial Domination in Rhodesia.
way. At the same time, it managed to reassign better parts of some Native Reserves for white settlement. The attack on the absentee landlords was generally unsuccessful. We shall discuss in the next section how the settlers’ political power vis-a-vis the Company was growing during this period.

A definite land policy had now emerged. The policy was to appropriate as much of the better agricultural land as possible, and occupy it as much as possible with white settlers. The Company refused to sell land to the blacks, although the law up until 1930 provided for land to be sold to anyone.\textsuperscript{10} The first recorded application for land by a non-white was from a William Lincoln, a black American. His application was turned down. From then on, all applications for land by non-whites were refused.

Land was allocated to white settlers under a Permit of Occupation. This allowed use of the farm for 5 years "in a bona fide and beneficial manner," after which the settler had an option to purchase the land at a nominal fee.

A major political development in 1896 was the arrival of Grey and Milton as new administrators to replace Jameson. An Order in Council of 1898 set up a Legislative Council, and the council was the origins of a whites-only elected government. The white settlers’ political power, vis-a-vis the Company’s, grew steadily thereafter. Milton was displeased with the way land had been indiscriminately given away during the Jameson era. Milton’s administration was the first to attack the practice of absentee landlordism. This started with a Government Notice (No 164 of 7 September 1897) requiring that all land be occupied within a year by 1 September 1898. The white settlers disliked this and appealed directly to Rhodes, who upheld their appeal. A similar fate befell subsequent orders aimed at eliminating absentee landlordism.\textsuperscript{11}

In a compromise move of 1903 (Government Notice No 274) landlords were offered a free occupation of the remainder of their land upon surrendering half of their land. And by 1914, 390,000 ha (954,000 acres) were surrendered this way. This in itself did not stop absentee landlordism, but provided a political solution and more land for new settlers.

After the 1898 Order to create Native Reserves, pressure on the peasants to leave the occupied areas increased, and the evacuations towards Native Reserves resumed. For instance, between 1903 and 1913, the proportion of peasants that moved into Native Reserves in the then most populous province of Masvingo rose from 10 to 40% (Arrighi, 1970).

\textsuperscript{10} The Southern Rhodesia Order in Council of 1898 proclaimed, as had the 1864 Order, that native blacks had the right to "acquire, hold” encumber, and dispose of land on the same conditions as a person who is not a native.

\textsuperscript{11} These included the Land Ordinance of 1899, the Land Occupation Conditions Ordinance of 1900 and private Locations Ordinance of 1908.
We discussed earlier how, between 1908 and 1914, the Company was trimming Natives to allocate more land for white settlers. The Native Department of the Company had taken a protective stance for the Native Reserves. This antagonized the Estates Department which viewed this a hindrance towards its white settlement policy. In an attempt to resolve this dispute, and at the insistence of the Estates Department, a Native Reserves Commission was set up in 1914. The Commission effected a net reduction of Native Reserves by about 434,000 ha (1.06 million acres) of land, which was allocated for white settlement. This transfer was made law under an Order in Council of November 1920. This new law was a result of concerted efforts by the white settlers and Estates Department to ensure that the British Government would not pressure them into allocating more land for native blacks. The new law revoked Article 81 of the 1898 Order that required periodic review of the land requirements of native blacks. This also laid the groundwork for a subsequent law segregating land by race—the Land Apportionment Act of 1930. The evolution of the land policy during this period was based on the South African model. South Africa had promulgated its racial land law in 1913.

The Emergence of a Settler Agricultural Policy.

The Jameson Raid and Chimurenga heralded the end of Rand seeking. At the same time, the British government assumed a stiffer role of policing the Company. The Company was set to change its policy towards agriculture. For some time peasant agriculture continued to flourish as before because peasants were the main suppliers of food to the white settlers and mining communities (Phimister, 1974), but the Company had no policy on agriculture. For at least a decade, whites were dependent on this peasant produce throughout the whole country. Beer was also sold in large quantities, especially to mining communities, until it was outlawed in 1912 by a Kaffir Beer Ordinance. About the same time, the traditional gold trade with the Portuguese was outlawed.

The new Company policy on agriculture, starting about 1908, set in motion various policies and ordinances to squeeze peasant farmers. In addition, with the establishment of the railway line, the white settlers and other companies were able to import food from South Africa and to move food from surplus to deficit areas in Zimbabwe.12

The Department of Agriculture was established in 1897 as a sub-department of the Land Department. The department had no real policy then and had not won the confidence of the settlers. In 1908, the Department

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12In 1897, the railway connection with South Africa was completed. In 1902, the Gweru-Harare line was opened and this collapsed the Midland and Masvingo peasant farmers' grain market. Phimister also points out that the peasant boom was able to continue to about 1914 because the railway link with South Africa was cut during the Boer War of 1899-1902. A lot of the white settlers were also involved in this Boer War and peasants continued to be the main suppliers of food.
was completely reorganized and Dr. E.A. Nobbs was appointed the first director. The new department included a botanist, an entomologist, a chemist, an agriculturalist, an irrigation engineer and a tobacco specialist.

Set up to promote white settlement in the colony, the Estates Department was the new authority to deal with applications from whites for land. In order to attract more white settlers, information offices were set up in London, Glasgow and South Africa. This department pursued the settlement policy aggressively and succeeded in getting whites into the colony. Within 7 years, 1908 to 1914, 2.2 million ha (5.5 million acres) of land were sold to new settlers. The number of white farmers increased from 545 in 1904 to 1324 in 1911; the number of occupied farmers rose from 301 in 1904 to 2042 in 1914 (Palmer, 1977b). The Estates Department provided training to new settlers before they went out farming. For this purpose, they set up training farms in Bulawayo, Gweru, Marondera, Chinhoyi and Mutare. Palmer also notes that by 1912, white agriculture was sufficiently commercialized and profitable to draw capital from mining.

**The Beginning of Agricultural Research, 1903-1923**

*Crops Research*

Between 1890 and 1900, little had happened in terms of organized agricultural research and extension. Although the Company established its first experimental station "The Nursery" on 10 August 1893, this was a false start and the station was closed down in 1909. On August 1, 1903, the first issue of the Zimbabwe Agricultural Journal when published. The Journal became the most influential means of communicating between researchers and farmers. Experimental research, in earnest, started after the 1908 reorganization, when in 1909 2 research stations were established. First was the Harare Research Station, which later on became the center for one of the finest maize breeding programmes in the world. Today the station houses the head office of the Department of Research and Specialist Services (DRSS), the national agricultural research agency. During the earlier years, the station concentrated on varietal and species testing. Later on, the station carried out important rotation and breeding trials. Second was the Gwebi Experimental Station which operated as an outstation for the Harare Station, testing different crops and varieties under field conditions. It supplied maize seed to farmers and produced purebred seed of "Salisbury White" maize variety. The station also carried out trials on fertilizers, cultural practices, and crop rotations.

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13. This section is an interpretation of Weimann's (1972) work. His paper is the most detailed analysis of agricultural research during this period.


15. Originally known as the Botanical Experiment Station, the Salisbury Experimental Station.
In 1912, a Sandveld Experimental Station was established at Longila in Matabeleland after demands by farmers for technologies suited for sandy soils. The station was a failure and was closed 3 years later. In 1917, following the death of C. J. Rhodes, his estates—Rhodes Nyanga in the eastern highlands and Matopos in the southwest near Bulawayo, were transferred to the government. Rhodes Nyanga estate was growing and testing out deciduous fruit and forest trees. In 1918, the Department started organized fruit experiments at Nyanga and grass experiments at Matopos.

Later, in 1921, the Department entered into an agreement with the City of Bulawayo to create a Municipal Experimental Station. A similar agreement was finalized with Gweru Municipality in 1923. Maize was the first major crop for white settler farmers. Between 1900 and 1905, the Department of Agriculture imported a number of maize varieties, mainly from the United States.17 Up until this period they grew local varieties and acquired seed from the peasants. Settlers also used the local traditional methods of cultivation. Since maize promised to be the first profitable crop for settlers, the Department put maize research at the top of its research agenda. Yields increased over the years and by 1921/23 were estimated at an average of 1.5 tons/ha on white farms. By the 1920s, two varieties—Salisbury White and Hickory King—became widespread. The main advantages of these dent varieties included resistance to maize blight, uniformity of grain, and yield.

Maize had been exported for the first time in 1909, when about 900 tonnes were exported. Because it was the only real cash crop, settlers tended to grow it continuously. By 1911, the Department of Agriculture had started noticing the detrimental effects of continuous cropping on maize yields. There were no technologies available then to maintain soil fertility under continuous cropping. This problem persisted until 1950 when nitrogenous fertilizers became more widely available and affordable. So, during the period under review, the research agenda became preoccupied with rotation and green-manure experiments. In 1913/14, Series A of the rotation experiments was started at Harare Research Station. Series B started in 1919/20 to 1926. It was concluded that crop rotation alone could not maintain soil fertility (Weinmann, 1975).

By the end of this period under review, tobacco, wheat, sorghum, groundnuts, cotton and sunflower were all of some economic importance to white farmers. No meaningful research, however, was carried out on these crops. In general, the Department of Agriculture provided assistance to farmers in their attempts to grow these crops. Tobacco, introduced into the country by the Portuguese and/or Arabs, was an established peasant crop. The Company started investing in this crop in 1903 when a tobacco specialist was appointed. The specialist completed

16 Then known as Gwelo.

17 Some of the varieties included Gold Mine, Silver Mine (Silver King), Golden Eagle, Boon County, Horsetooth, and Hickory King.
a tour of the United States and in 1913 he published a Tobacco Handbook, which was used as an extension aid. Thirty-two varieties of tobacco existed in 1903 but the number was reduced to eight by 1906. Organized research on tobacco was started in 1924.

Wheat was grown both in summer and winter on wetlands and under irrigation but rust was a major deterrent to summer cropping. Earlier experiments focussed on finding rust resistant varieties. But as early as 1905, the scientists were pessimistic about the prospects of importing rust-resistant varieties and encouraged the breeding of such varieties locally. Between 1910 and 1916, experiments were carried out at the Harare Research Station. Wheat was a politically important crop, and in 1917 the government urged farmers to grow more of it as the supply from South Africa was decreasing and prices rising. The government subsidized these efforts by financing machinery and reducing railway rates. By 1919/20, wheat ranked third behind maize and tobacco.

Cotton proved to be a major disappointment during the period of Company Rule. Although cotton had been domesticated in some localities of the country before the white settlers, little was known about the growing requirements of the crop. In 1903, a small trial was carried out at Borrowdale and another at Gwebi using seed from Egypt, Brazil and the USA. A private company, the Rhodesia Cotton Syndicate, concluded its own experiments at Chegutu between 1910 and 1913. All these efforts failed. In 1919, a Tobacco and Cotton Specialist resumed cotton trials. Over 400 ha of trials were carried out on 91 farms in 12 districts. Results showed that cotton was likely to succeed at lower altitudes, not exceeding 1100 meters (3,800 feet), which limited its potential to the more remote parts of the country where whites had not generally settled. In 1919, and in an attempt to encourage white farmers, the British Cotton Growers Association offered two ginning machines and a cotton press which were erected by the Farmers Co-op Society. Interest, however, was only significantly revived in 1923 when another British company, the Empire Cotton Growing Corporation, started promoting the crop. White farmers also started demanding more research on the crop. In that year, 55 tonnes of seed were imported and distributed, some to peasants through the Department of Native Affairs.

In 1904, elementary studies into the local pests and diseases started. In that year, an Importation of Plants Regulation Ordinance was promulgated, prohibiting the importation of plants, cuttings, roots, tubers, bulbs, seeds

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18 Chegutu was then known as Hartley.


and so on if they were deemed to have harmful diseases and pests. Locusts and tsetse-fly were the two most formidable insect problems of the time.

Although chemistry services started modestly in 1903, this developed into important work on soils, fertilizers, manures and lime. However, during the period under review, fertilizers were very costly and a little was applied on high value crops like tobacco and potatoes.

**Livestock research and development up to 1923**

Between 1890 and 1900, white settlers had accumulated a stock of native cattle, some through capture and some through taxation. In 1901, African (East) Coast Fever killed 19,000 cattle on white farms. In 1904, an Animal Diseases Consolidation Ordinance was promulgated to control the movement of cattle. In 1896, the fatal Rinderpest disease swept through the country and over 500,000 cattle died, representing 95% of the national herd, and reducing it to a mere 25,000. The Company launched an inoculation program, and imported more cattle from South Africa, Botswana and Zambia and distributed these amongst white farmers at subsidized prices. Another 11,500 cattle were captured from Zambian natives and sold to white farmers on a two year installment plan at £7 (pounds) a head (Lee, undated).

A major expansion of cattle development took place after 1910. In 1912, an Animals Industry Branch was established under the Department of Agriculture. By 1913, the national herd had rebuilt to about 464,000 cattle, of which about 300,000 belonged to peasants. From 1911 onwards, the Department of Agriculture encouraged the importation and use of European breeds to try and improve the local stock.

Dairy farming slowly emerged around the developing towns and in 1912/13, the Company erected the first creamery at Gweru. A dairy expert was appointed in 1918. A milk recording scheme was launched in 1921. By 1923, an additional creamery was erected at Harare and two in Bulawayo.

A striking feature of the agricultural history of Zimbabwe is that, even for white agriculture, no formalized education or extension was established for decades. The *Agricultural Journal* was the most visible education tool

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21. This Ordinance was followed by a Nurseries Ordinance in 1909 and the Orchards Inspection Ordinance of 1914.

22. In 1906/7, a large swarm of locusts attacked the country. The country entered into an Inter-Colonial Locust Bureau with South Africa. The period 1910-1922 became locust free, with the Locust Destruction Ordinance passed in 1918.

23. The tsetse-fly was a more serious problem and Weinmann (1972) gives a detailed account of the fight with the pest during this period.

24. In 1903, E.R. Sawyer started analyzing tobacco samples from farmers.
during this period. In 1909, the Congress of the Agricultural Union raised the question of an agricultural college or school. In 1913, the Department of Agriculture approved a plan to create Gwebi College for whites. The college, however, was not built until 1950.

In 1912, the Rhodesia Land Bank Ltd. was launched as the first land bank in the country. This bank, and its successor organisations played a major role in providing loans to white settlers.

The Demise of Company Rule in 1923

In 1906, farmers started a political movement which basically demanded political reforms so as to remove the protection which had been guaranteed to mining interests since the Pioneer Column. This political movement was also growing more and more dissatisfied with Company Rule. A major bone of contention was the Mines and Minerals Ordinance No 1 of 1895. This law gave the right to miners to prospect and search for minerals on all land. If a mine was established on a farm, the miner had the right to free grazing for draught animals, free access to timber for domestic and mining purposes, as well as free water for domestic and mining purposes. Through the 1890s, it was generally believed that mining and agriculture could not survive side by side, hence the initial prohibition of settlement on the Gold Belt. Most of this land was, however, of good farming quality and as the pressure for land settlement increased, the Company and the mining community were pressured to release this land. The settlers felt strongly enough about this issue to approach the British government. At the same time they demanded that the native blacks be moved north of the Zambezi River into Zambia, and leave Zimbabwe entirely free for white settlement. The issues of mining rights and racial segregation of land became increasingly important items on the white farmers' political agenda. When the directors of the Company visited the country in 1907, one of the most significant results was an increase in the number of elected members of the Legislative Assembly giving these a majority, and thereby increasing the opportunity for farmers to dominate the legislature. With the launching of the "white agricultural policy," the director slashed the price of land to about one and a half shillings per hectare, and gave other rebates. This made the Estates Department quite popular with the white farmers.

The Charter gave the Company the authority to rule for 25 years to 1914. By the turn of the century, the white community generally assumed that the country would join South Africa in 1914, as its fifth province. The Afrikaaners in South Africa, however, were gaining political power over time and by 1914 the white community

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25 The main source for this section was M.E. Lee (undated). The dissertation gives a detailed account of how white farmers grew steadily in political power during this period. Another valuable source is Robin Palmer (1977a).

26 See Lee (undated), p. 88.
in Zimbabwe became more skeptical about joining South Africa. The white settlers started discussing the possibility of a self-rulled colony (Responsible Government). Since this idea was still premature in 1914, Company Rule was renewed for another 10 years.

The White Farmers’ Union

After its formation, the Rhodesia Agricultural Union’s (RAU) initial years were preoccupied with political debates. At its congress in 1912, it called for a new constitution for the country. This led to the Rhodesia Political Association later that year. This organization, later renamed the Rhodesian League, championed the cause for Responsible Government. Later, in 1917, the Responsible Government Association was launched. The next political victory for the farmers was in 1918, when the British government’s Privy Council resolved that the Company had no legal claim to land in the colony, and that all land not already sold to white settlers or allocated to Native Reserves belonged to the British Crown (Crown Land). Up until that time, the Company felt that it owned the land on the basis of the 1891 Lippert Concession and the Ndebele conquest of 1893. This development became a major disincentive for the Company to continue administering the country.

Another political triumph for the white farmers was the successful demand for an enquiry into Native Reserves and this led to the trimming of Native Reserves and reallocation of better land, and land near the railways, for white settlers. In 1920, a new law relieved the whites of any obligation to allocate land to native blacks.

By 1918, the RAU had 46 affiliated associations country-wide, and had a membership of 1200. Its congresses were well attended by government ministers and their resolutions generally carried political weight. This union, later became the Rhodesia National Farmers Union, and today, the Commercial Farmers’ Union, retained considerable political power over the years and greatly influenced land, research, price and marketing policies. In 1941, the government promulgated the Farmers’ Licensing Act, establishing the Rhodesia National Farmers’ Union, with all white farmers becoming members by law.

COLONIAL SELF-GOVERNMENT, 1924-1953.

In 1922, the white population rejected, by referendum, the notion of the country becoming the fifth province of South Africa. On October 1, 1923, the country became a self-governing colony of Southern Rhodesia (Responsible Government). By this time, the population of whites had grown to about 35,900 and the black population was estimated at 890,000. The whites, generally following the political trends in South Africa, had
strengthened their belief in separate development of races or apartheid in Afrikaans. This desire for racial segregation was generally spearheaded by white farmers. Settler farmers faced the most direct competition from black peasants—for land and for markets. Since large scale agriculture was still of low productivity, the white farmers needed strong guarantees from both the British and their government that the emerging land ownership patterns would be permanent. This political anxiety on the part of white farmers, remained fierce until at least the early 1950s, when large scale agriculture became viable. From 1890 to 1950, a period of 60 years, both white and black farmers used similar technology and production systems. In the 1940s, white farmers, however, started to increase the area under cultivation significantly more than black peasants.

It was also during this period that blacks began to show signs of modern type of political thought, organization and action. The Registered Native Voters\footnote{Later, a Rhodesia Bantu Voters Association was formed.} group met at Gweru in 1923, and this is regarded as the first modern type political meeting by blacks. Such political developments were initially restricted to urban areas. The movement, however, still had land as the major political issue. This could be explained by the fact that virtually all urban employed blacks had strong ties with the land, and the subsequent nationalist movements which fought for independence still had land as the major political issue.

The economy, 1924-1953

The period under Colonial Self-Government was characterized by unprecedented investment in physical and social infrastructure, especially for the white areas (UNCTAD/UNDP, 1980). In the 1930s and 1940s, government policy broadened towards the industrialization of the country. A number of state enterprises emerged during this period. Some notable ones include the state electrical power company, iron and steel foundries and mills, a cotton industries board, a sugar industries board, and number of agricultural marketing boards (Arrighi, 1967; UNCTAD/UNDP, 1980).

After World War II, the government intensified its investment into roads, electricity, water, schools and hospitals, and the black areas started to get more attention in the 1950s.

The period 1930 to 1945 was traumatic for white settler agriculture. The world depression of the 1930s affected white farmers seriously and literally destroyed the export market. The government started direct intervention into agricultural pricing, marketing and trade, and the interventions became so entrenched that there are more-or-less intact today. Since all white farmers were practically bankrupt, the government channeled assistance to white farmers. Government implemented subsidy programmes for white farmers. At the same time, government
penalized peasant agriculture. During this period, white farmers became generally opposed to any form of assistance to peasant agriculture.

After World War II, the economy was poised for a period of unprecedented growth, which lasted until 1973. The country had undergone considerable industrialization by then. This economic growth brought more wage jobs for blacks and this initially strengthened the government’s belief that the racial land policy would eventually succeed because as blacks moved into wage employment, the land pressures would be reduced in Native Reserves. The industrialization of the economy was strengthened by the agricultural production revolution starting in the 1950s as white farmers started making significant changes in technology such as mechanized power, nitrogenous fertilizers and hybrid maize seed. These inputs reinforced by favourable agricultural prices and infrastructure provided the synergism that propelled the agricultural production revolution of large farms.

The economic woes of Europe after World War II turned out to be a blessing to the Zimbabwean economy. The post-war shortage of U.S. dollars ("dollar shortage") on the world market was, arguably, the single most important economic advantage for the country. The dollar shortage meant that the UK could not rely on its traditional U.S. tobacco market, and the U.K. turned to Zimbabwe, which quickly became the major supplier to the U.K. Since the late 1940s, tobacco had been Zimbabwe’s single most important foreign exchange earner. The manufacturing sector also started a period of rapid growth. Goods that were previously imported were manufactured locally and regional markets were developed. Manufacturing became a dominant force in the economy and its contribution to national income rose from 9% in the 1930s to 15% in the 1950s and averaged 18% in the 1960s (Arrighi, 1967). At the same time, the contribution of mining declined from over 25% in 1938 to 10% in the early 1950s and 5% in the early 1960s.28

The Land Apportionment Act (1930)

White settlers had failed in their earlier attempts to introduce the racial segregation of land by law.29 The new Responsible Government was able to introduce this question and appointed, under its own authority, a Land Commission to deal with the racial segregation of land as the central issue. The Morris Carter Land Commission became, arguably, the most infamous Commission for many decades to come, when, towards the end of 1925, they recommended that land should be racially segregated by law. Blacks would be barred from buying land in white areas, and as a quid-pro-quo, the Commission recommended the creation of a new category

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28 Muir (1984) also reports that in 1925, white agriculture accounted for 15% of GDP and mining 28%. By 1940, these figures were 25% and 15%, respectively, showing the relative growth of agriculture. In 1923-32, crops accounted for 25% of all exports.

29 In 1913, the British Colonial Office rejected a proposal to include the question of racial segregation of land in the terms of reference for the Native Reserves Commission of 1914.
of land, Native Areas, where blacks would be allowed to purchase land for private ownership. At the same time, the Commission recommended more land for white settlement. The Commission recommended the following final categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>White land</td>
<td>19.7 million ha (48.6 million acres)</td>
<td></td>
</tr>
<tr>
<td>Black land</td>
<td>11.7 million ha (28.9 million acres)</td>
<td></td>
</tr>
<tr>
<td>Native Areas</td>
<td>2.8 million ha (6.9 million acres)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34.2 million ha (84.4 million acres)</strong></td>
<td></td>
</tr>
</tbody>
</table>

These recommendations were accepted by government and the bill was duly passed on 12 May 1930, and endorsed by the British government through an Order in Council of 28th July the same year, and thereby approving the Land Apportionment Act (LAA) No. 30 of 1930. The Act was promulgated on April 1, 1931. The LAA remained in force until 1969, when it was replaced by the Land Tenure Act.

The government hoped that the Native Areas (NPA), would provide a political solution to the challenge that was coming from the emerging black elite. The government had hoped to use the LAA to apply pressure on blacks to move out of white farms into Native Reserves. The LAA stipulated a date in 1937, after which all rental agreements with blacks would be illegal and all blacks required to move out of the white area. But the numbers of people who were affected was so large, and the pressure in Native Reserves was already quite high, that it was physically impossible to effect mass evacuation and complete them by 1937. The LAA was therefore amended periodically to inactivate the clause requiring the completion of evacuations by a certain date.

Even by the late 1940s, the land situation was still desperate in the Native Reserves and in 1948, the government appointed the Danziger Committee to look into the issue. The committee recommended that additional land be allocated to blacks. The additional land termed Special Native Acres and were not protected by the constitution as belonging to blacks. Meanwhile, the NPA policy was a general failure. More than 50% of the areas allocated was uninhabitable—the balance was also in remote parts of the country, dry, and also generally unattractive for agricultural purposes. Some areas were infested with the tsetse-fly: Darwin, Chimanimani, Bulisi, Bulahima, Mongwe, and Gwanda. Most of the NPA were in low-lying areas along the borders of the country. In 1943, the government agreed that about 1.9 million ha (4.7 million acres) were completely unsuitable for human settlement. The government, thinking in much the same way as the earlier settlers, also considered evacuating "advanced" blacks to Zambia.

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30 There were renamed over time: Native Purchase Areas, then African Purchase Areas and after independence—Small-scale Commercial Areas.
Between 1931 and 1936, only 548 blacks had bought a total of 76,000 ha (10,000 acres) of NPA. The conditions of sale were also stiffer than for white farmers. Prospective farmers had to pay a higher deposit and amortize over a shorter period. The Land Bank, also practicing a racial policy, did not offer financial assistance to blacks. White farmers bought land under Land Grant D/I terms after the system of Permit of Occupation was discontinued in 1923. This change was on the white farmers' request to make purchase easier. Under the new terms, only 5% deposit was required to occupy land, with the balance payable over 20 installments at 7% interest. In the 1930s, the Land Grant D/I system was replaced by an Agreement of Purchase system. During this period, government ordered a drop in the price of land for whites and set a nominal price of about one shilling per ha.

Settling land with white immigrants continued to be a major policy objective of government. When World War II broke out, the British Dominion Office\(^3\) canceled the assisted migration scheme. The S. Rhodesian government, ipso facto, suspended the settlement program. In 1944, a Land Settlement Act was passed and this established the Land Settlement Board (LSB). The LSB functioned to advise the Ministry of Agriculture with regards to allocation of Crown Land and white land. In 1941, the LAA was promulgated and the drive to move blacks off white farms and designated white areas was resumed. After the war, until 1947, the LSB reserved all land for settling returning white ex-servicemen.

In 1948 there was still an estimated 300,000 blacks living in white areas—hence the Danziger Committee. After the allocation of additional Special Native Areas, the government stepped up the pace of evicting blacks in 1950. In the first few years of this renewed effort, about 85,00 black families were moved rapidly with consequent losses of their cattle and other possessions (Nelson, 1975).

By 1951, land that was attractive for white settlement was in short supply and the settlement program was suspended. The number of white farmers had increased from 3,699 in 1945 to 6,255 in 1955. The number of large-scale white farmers remained at about this figure, with minor fluctuations until 1980 (Muir, 1984). The post-war white settlement policy had succeeded and this was aided by the fact that European immigrants were also escaping the ruined post-war Europe. Relations between Great Britain and its colony were also at an all time best. For instance, during the war, Zimbabwe gave 650 tons of food aid to Great Britain.\(^3\) The total number of whites in the country rose from 80,500 in 1945 to 219,000 in 1960.

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\(^3\) After the country became a self-governing colony, the British Dominion Office took over the responsibility for the colony from the Colonial Office.

\(^3\) Government of Southern Rhodesia Yearbook, 1950, Chapter 14, p. 424.
Government Support to White Agriculture

The depression of the 1930s crushed the prices on the world markets. The price of beef had fallen since World War I, and the price of maize was at an all-time low. Tobacco was in one of its cyclical slumps. Practically all the white farmers were bankrupt. In 1933, the Danziger Commission into the Economic Position of the Agricultural Industry was appointed. The Commission recommended that the government subsidize and support white agriculture as a matter of survival of the white community. In 1933, the government abolished interest charges on the purchase of farms and replaced it with a 10% administrative charge on the original purchase price. The loan repayment was deferred for 3 years. In 1935, the Farmers' Debt Adjustment Act was passed and the following year, the 10% administrative charge was dropped altogether.

Maize was still the most important crop for the white farmers and the government promulgated the Maize Control Act (MC) of 1931. Under this act, the government extended price support to white farmers, whilst taxing the black peasants. The act is discussed in more detail in a subsequent section.

In 1935, a subsidy program was launched to allow white farmers to build soil and water conservation works. The subsidy program was in effect until 1956. This program is also discussed in greater detail in a subsequent section. From 1939 to 1944, agriculture was declared a "controlled" industry and the government exercised a greater degree of price control, gave producer subsidies to white farmers, controlled international trade and the area under tobacco and the sale of tobacco. In 1943, a Maize Bonus Scheme was introduced for white farmers and a price equalization scheme was launched for the dairy industry to encourage winter production of milk. In 1944, the bonus scheme was extended to wheat followed by a Milk Subsidy Scheme in 1948.

Agricultural Research, 1923-1953.

In 1923, the Department of Agriculture and the Department of Survey were placed under a new Ministry of Agriculture. The new ministry stepped up research efforts and since nitrogenous fertilizers were unknown, experiments focussed on manuring techniques and soil fertility. At the same time, the maize researchers decided that imported varieties would not produce sufficient increases in yields under local conditions—and they decided to launch a long-term effort in breeding to develop local hybrids. By 1950, local hybrids were released to farmers, nitrogenous fertilizers became more abundant and economical, tractors and machines replaced draught animals. The result was a green revolution on white farms. In retrospect, the government laid the foundation for an efficient National Research System and engaged a competent cadre of scientists. The Department

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33 H. Weinmann, (1975) gives the most detailed account of agricultural research in this period.
concentrated on developing the scientific and institutional capacity to do path-breaking original research—as with the maize research—and selective borrowing—as with the tobacco research.

During this period, a number of research stations were established and this galvanized the research system for decades in the future. The research infrastructure was, in fact, developed to a level that basically remains today. The first tobacco research station was established in 1924 at Hillside, Harare and in 1934/35 it was transferred from Hillside to Trelawney. In 1935, a Tobacco Research Act was passed and this made provision for a Tobacco Research Board (TRB) to provide research policy direction. Today the Board includes representation from tobacco farmers, buyers, and government. For cotton research, a Cotton Breeding Station was established in 1925 at Kadoma. Grasslands Research Station had its initial start at Marondera in 1930. Farmers generally welcomed this sandveld station. In the 1940s, the station became more established, with some leading research in pastures. In 1948, the Henderson Research Station was established 30 km from Harare and it originally concentrated on pastures and fisheries research. The station subsequently housed some internationally reputed research in animal nutrition, which remains its main strength today. The Department maintained all the stations established before 1923: Harare, Gwebi, Matopos and Rhodes Nyanga.

The First Generation of Maize Hybrids

In his well-researched account, Weinmann (1975) traced the breeding work that was carried out at Harare Research Station. The breeding of local hybrids started in 1933 with the production of 44 inbred lines. Crossing started in 1940, when more than 300 inbred lines had been developed through a sustained effort of multiplication and selection. Hybrids were produced in three different forms: single hybrids, involving two inbreds; double hybrids, involving four inbreds; and top-crosses, involving an open-pollinated female and an inbred male. Yield trials indicated the general superiority of hybrids over open pollinated varieties.

In 1948, the mass production of hybrid seed was started at Gwebi and Henderson Stations. In 1949, 16 years after the breeding programs started, Zimbabwe became the second country after the USA to commercially market certified hybrid maize seed to its farmers. In that year, a total of 774 bags of seed were produced from 143 ha (353 acres). Demand exceeded supply and in the following season, 1949/50, 1,000 ha (2,500 acres) were

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34 Then Kadoma was known as Gatooma.

35 Grasslands Research Station was named as such in 1948; prior to that it had maintained the name of Lendy Estate.

36 Results of the various experiments over the whole period are in Annual Reports by H. C. Arnold. The reports cover the period 1925/6 to 1946/47. H. C. Arnold and A. G. H. Rattray were responsible for this work. Their trials were replicated throughout the country, including some research centers outside the country. Zambian hybrids are found in many forms in South Africa, Zambia, Malawi, Tanzania and other countries.
planted to hybrid seed, sufficient to produce enough seed to plant half of all the maize area on white farms. The first lot of seed had been planted to about 22% of the local maize area in that year, producing about 33% of the total yield on white farms.

Crops Research, 1924-1950

The first tobacco research station was established in 1924, and work started at Hillside on rotations, green manuring, fertilizer use, methods of planting and variety trials. The research covered all the main types of tobacco grown locally: flue-cured, fire-cured, Turkish and cigar. Flue-cured tobacco was becoming the dominant type and there was a search for more suitable varieties. For a long time to come, varieties from the USA continued to do better than locally developed ones. Since soil fertility has important effects on both yield and quality of tobacco, research also focused on this area and recommendations were regularly updated for growers. Other work was in the areas of rotations, pests and diseases, especially the root-knot nematode, weeds, as well as engineering aspects of tobacco curing. From 1935 onwards, the Tobacco Research Board provided policy direction for tobacco research.

In 1936, the Cotton Research and Industry Board took over the Cotton Breeding Station, which had been established in 1925 at Kadoma. Research initially focused on selection and breeding of varieties suited to Zimbabwean conditions, cotton pests, especially jassids (*Empoasca spp*) were the biggest problem in growing cotton. Breeding therefore concentrated on pest resistance. Other pests included cotton stainer (*Dysdercus spp*), the American Bollworm (*Heliothis armigera*) and the spiny bollworm (*Earias spp*). In 1937, a Cotton Prevention Act prohibited the growing of ratooned cotton and fixed an annual date by which all cotton plants were to be uprooted and destroyed.

The other crops which received research attention during this period were wheat and soybeans. The continued search for summer wheat varieties was abandoned after restarting in 1928. Early trials of soybeans were also unsuccessful.

Organized livestock research gained visibility in 1931 when a large cattle and feeding experiment was launched at the Matopos Research Station. Although it had encouraged the use of exotic cattle breeds just before the 1920s, the Department of Agriculture reversed this policy in 1933. Livestock breeders pointed out that no imported breeds had adapted to local ranch conditions and that more extensive use of such exotic breeds could
weaken the national herd. The department advocated more widespread use of indigenous pure-breeds. In 1938, cattle breeding experiments were started at Matopos and these were expanded after World War II and continued into the 1950s.

In 1937, a Pig Industry Act was passed and this established the Pig Industries Board (PIB). The PIB had since carried out almost all the research on pigs in Zimbabwe.


Between 1890 and 1926, policy and/or government support for peasant agriculture was conspicuously absent. During this period, the policy of white land settlement and support was so dominant that any support for the black peasants would have been perceived by white settlers as negating the support to them. Government had no confidence in the black peasants and preferred to develop trade markets and ignore local markets. Since the export-led growth only took off in the early 1950s, the interim period was of bitter rivalry between black and white agriculture. By the mid-1920s, population pressures in the Native Reserves were already high. At the same time, an educated black elite was emerging and beginning to pose, albeit minimal, political challenge. If the Native Reserves continued to deteriorate and remain undeveloped, the government felt that this would resume pressure for them to allocate more land for blacks.

A policy to support peasant agriculture was started in 1926, when Mr. E. D. Alvord, an American missionary, was appointed as Agriculturist for the Instruction of Natives in the Department of Agriculture. Consistent with the prevailing spirit of separate racial development however, Alvord was moved 6 months later to the Department of Native Affairs. From then on until independence, white agriculture and black agriculture were housed under separate ministries. The Ministry of Agriculture was responsible for white agriculture, while black agriculture was initially under the Native Affairs department and later it became the responsibility of the Ministry of Internal Affairs.

Alvord was the first government extension agent for peasants. Christian missionaries, such as Alvord, were probably the first extension agents. Alvord made an important contribution to peasant agriculture policy from 1926 until his retirement in 1950, and his policies continued after his retirement. The policies enunciated by Alvord were limited in scope and almost entirely based on the notion of 'extension by persuasion,' concentrating on a small percentage of cooperators who were trained to become Master Farmers. Since Master Farmers

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17 This recommendation was by the Chief Animal Husbandry Officer in his annual report of 1933, also published in the Rhodesia Agricultural Journal, p.31; pp. 302-309, 1934.
tended to be the wealthier, more educated and innovative of the peasant population, many recommendations and practices were not diffused beyond this group.

At the beginning, in 1927, Alvord trained 11 black demonstrators at Domboshawa and Tjolyo, and these became the first village level extension agents. By 1935, their number had risen to 64, including 4 supervisors (Weinmann, 1975). Alvord tried a development approach to agricultural extension. He introduced a system of village centralization, with planned residential, arable and grazing areas. Water was a limiting constraint on the centralization process and pressure on grazing areas was building up. The search for underground water was critical to the success of this programme, but limited funding was offered by government.

The entire system of traditional farming, which had evolved over a period of more than two thousand years, was undergoing a fundamental radical change. The most difficult transition was the pressure to crop land continuously without resting it. The problem of declining soil fertility affected Native Reserves more acutely than the white farms. There were no available technologies to address this problem, and Alvord’s extension program was initially preoccupied with this issue. Alvord’s main message was that crop rotation would replace the need for land rotation. We discussed earlier, however, how experimental results showed that crop rotation alone could not sustain soil fertility. White farmers were also highly critical of Alvord’s work which they viewed as a threat to white agriculture if peasant production was to increase. Opposition to his training program grew and in 1934 he had to slow down the training of black demonstrators. Since Native Commissioners had autocratic control over Native Reserves, some were able to frustrate Alvord’s efforts.

Alvord clearly had an odious task. The peasants did not generally trust his work because they suspected that their success would provide a basis for further land takeover by the government. For instance, an attempt to introduce Grade Bulls in Masvingo failed partly because the people feared that the government would claim the progeny. The entire extension programme was caught between two ends of a political problem. Progressively, the extension programme developed carrot-and-stick techniques, culminating in the Native Land Husbandry Act of 1951. In the early 1940s, Alvord attempted a voluntary cattle destocking programme and there was a hostile reaction by peasants. A few years later, in 1943, compulsory destocking was enforced. In 1944, a Department of Native Agriculture was set up and Alvord became its first director.

During the period 1936-1946, attempts were made to establish experimental research in Native Purchase Areas (NPA), which would serve the NPAs and Native Reserves. A number of experimental stations were established for this purpose. In 1935, Marirangwe Experimental Farm, near Harare, was established, and in 1936, Samerani near Bulawayo was established followed by one at Makoholi in 1942 near Masvingo. Initially, these served as seed improvement and distribution centers, much like the role Gwebi had played for white farmers earlier on.
Samerani had a mandate for breeding drought resistant crops. Musengezi, which was established in 1939 near Chegutu, had a mandate for pasture improvement and breeding of indigenous cattle. Makoholi carried out crop rotation trials, variety trials for rice, sorghum and cowpeas, cattle breeding and poultry rearing.

Samerani and Marirangwe Stations were closed in 1943 and 1946, respectively, and their equipment transferred to Tjoloyo in Gwaai Native Reserve and Nyanyadzi in the Save Valley respectively. In 1945, Musengezi, Makoholi, Tjoloyo and Nyanyadzi became training centers for demonstrators. Makoholi survived as an experimental research station and later joined the other mainstream stations serving white agriculture.

The breeding of indigenous cattle started in 1942 at Musengezi and Makoholi. By 1950, eight such "sanga" cattle breeding stations were established: Makoholi, Musengezi, Mangwende, Ndanga, Buhera, Tuli, Lupane and Maranke. The breeding programme resulted in two fine indigenous purebreds—the Mashona and the Nkoncé. The Mashona, an all black breed, was developed at Makoholi. The Nkoncé, a red and white breed, was developed at Muzingwane. Although these have become established breeds in Zimbabwe, they were almost exclusively adopted by the white large scale farmers, with no recognizable adoption amongst small farmers.

The Collapse of the Inyoka Tobacco Industry: an Example of the Neglect of Peasant Agriculture

The Shangwe people of present day Gokwe District in the western part of Zimbabwe were renowned tobacco growers in pre-colonial days. Tobacco is more drought resistant than grain crops and failed half as often as grain crops in years of drought. The Shangwe people established trade relations which allowed them to exchange tobacco for grain and other items. After colonisation, the Shangwe tobacco industry actually expanded for sometime. White traders became important middlemen, as they bought in bulk from the Shangwe and sold throughout the colony with some going for trade at the auction floors. The area under tobacco increased markedly from about 1903 onwards.

The Native Commissioner presiding over the Shangwe people started seeking ways to assist this industry. He approached the Department of Agriculture, and requested assistance to improving the technological base of the production system, improved seed and training of the farmers in improved methods of curing the tobacco but all requests were turned down.
Kosim (1977) estimates that the Inyoka tobacco industry grew until about 1921. White traders continued to be middlemen and in 1906 an Inyoka Rhodesia Tobacco Company was incorporated in London. The Company invested heavily in this tobacco industry and bought an 8,006 ha (20,000 acre) farm near the Shangwe people. The Company went insolvent after the 1914 tobacco slump. From 1922 to 1938, the industry went into decline. By the mid-1920s, prices began to decline and never picked up again. The white, and by this time, black traders reduced their volume of trade. Tobacco prices continued to be low during this period. The Inyoka Tobacco, however, continued to enjoy the local market of blacks in mines and in urban centers. By the late twenties, the Inyoka tobacco started to lose this market to the tobacco grown on white farms. During this slump years efforts were made to penetrate this market by manufacturing cigarettes. Inyoka tobacco, which was used mainly for snuff, quickly lost its markets to the new urban trend of cigarettes as well as self-rolled smoking. By 1938, Inyoka tobacco economy had virtually collapsed and its value had diminished for all time. And by 1960 all traces of the Shangwe Inyoka tobacco were gone.

**Marketing of Peasant Produce, 1924-1953**

During the period 1924 to 1953, the marketing of peasant surpluses became more difficult. Native Reserves were considerably blocked out of marketing channels. White traders became important middlemen. A typical white trader would run a vehicle store (nicknamed "Kaffir Trucks") from which they bartered salt, cloths, and so on, for grain.

From 1934 onwards, the amended Maize Control Act (MCA) severely curtailed the marketing of maize by peasants. Alvord recorded the frustrations of his limited extension efforts, given the marketing difficulties further imposed on the peasants. In 1944, a Commission on Native Production and Trade was set up. The Commission basically blamed the peasants for their predicament and recommended compulsory planned production in Native Reserves. This idea was later incorporated into the Native Land Husbandry Act of 1951. In 1947, a Native Cattle Marketing Act was passed. This was an attempt to speed up de-stocking in Native Reserves. The Cold Storage Commission (CSC) became a residual buyer at periodic local markets. Prices on this market were fixed throughout the year and did not conform to the intra-year change in supply and demand. This allowed white farmers and the CSC to buy at lower than would be market prices and re-sell at a profit.

In 1948, a Native Development Fund Act was promulgated. This established the Native Development Fund (NDF). All produce sold by peasants through formal channels were charged a compulsory levy towards the NDF. The net effect was to depress prices so much that the NDF became a major impediment to the use of formal marketing channels by peasants. This problem remained in the 1950s and 1960s. The NDF itself had
minimal re-investment into peasant agriculture. The fund was set up to enhance the philosophy of "separate development" and was used for general purposes by Native Commissioners in the Native Reserves.

**Marketing and Trade Policy for White Agriculture**

The economic depression of the 1930s left white agriculture in serious trouble. Government policy shifted from *laissez-faire* to direct intervention in local and trade markets in order to channel assistance to white farmers. In 1931, the MCA was passed and in spite of a number of amendments, it remained in effect until 1950. In 1950, the Grain Marketing Act replaced the MCA. The new Act established the Grain Marketing Board (GMB) which controls the marketing and trade of all major grains. Zimbabwe made its maiden maize export to Great Britain in 1909. Maize exports, however, remained very erratic for a long period until 1956.

When the MCA was passed in 1931, this set up the Maize Control Board (MCB). The Board assumed sole control over maize produced on white farms. White farmers were required to sell to the MCB. The MCB in turn supplied the local market at marked up controlled prices, and the surplus was exported at a loss, given the low world market prices. This increased the producer price for white farmers. Peasants did not fall under the jurisdiction of the MCB and they sold their surplus on local markets, undercutting the MCB prices. In 1934, the MCA was amended to give the MCB jurisdiction on all maize including Native Reserves. A two pool system was developed. White farmers, excluding the largest producers, received prices which were 40% higher than world market prices and black peasants (along with the largest white farmers) received the minimum prices, after the MCB covered the export losses. Maize production, however, continued to decline, and between 1945 and 1955, Zimbabwe was a net importer of maize.

Although the first tobacco trade auction was in 1910, tobacco went through cycles of boom and slump and became a stable export in the late 1940s. The first major crash was in 1913/14 when 1.4 million kg (3 million lbs.) were produced, but the auction never took place in that year. Until 1925, South Africa was the dominant market for Zimbabwean tobacco. In 1925, Zimbabwe earned a footing in the U.K. market, thanks to the efforts of the Wembly Empire Exhibition Company. When Zimbabwe joined the U.K. market, it also enjoyed a Commonwealth rebate on import duty. The number of producers rose from 189 in 1925 to 987 in 1928, and production increased from 2.3 million kg to about 11 million kg in the same period. The 1928 crop was a record and this triggered another slump. In the following season, the number of producers was 272, down from 987 in the previous season. Between 1929 and 1931, production was down to pre-1925 levels, averaging 3 million kg.

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38 The MCA was amended in 1934, 1935, 1937, and a new Act passed in 1940.
per year. In 1933, the British guaranteed duty preference for a 10 year period and this renewed interest in British buyers and production increased to 10 million kg in 1934.

Control of tobacco marketing by the government started in 1930 after South Africa imposed a quota on the duty free Zimbabwean tobacco. The government passed, later on that year, a Tobacco Sale and Export Control Act which established the Tobacco Control Board. This Board allocated quotas to the South African buyers. In 1934, a Tobacco Reserve Pool Act was also passed to address the problem of over-production that had, once again, occurred in that year. Under this Act, 20% of each grower’s crop was removed from the open market and sold privately later, and usually at much lower prices.

In 1933, the Rhodesia Tobacco Association was formed under the Tobacco Levy Act. This Act imposed a levy on all tobacco growers. A Tobacco Quota Advisory Committee also functioned for two years before passing the Tobacco Marketing Act in 1936. The Tobacco Marketing Act, and its subsequent amendments, provided a comprehensive legal framework for controlling flue-cured tobacco, and ensure its stability and growth. The Act requires that the sale of tobacco be by auction, under the auspices of the Tobacco Marketing Board which was established by the same act. The area under tobacco grew progressively. Between 1937 and 1942 the area increased from 15 000 ha (39 000 acres) to 30 400 ha (76 000 acres) and production increased from 9.5 million kg (21 million lbs) to 21.8 million kg (48 million lbs.) The number of growers rose to 798 in the same period.

The Cotton Research and Industry Act, established the Cotton Research and Industry Board in 1936. The Board had a wide range of functions from promoting cotton growing to cotton research as well as taking over the ginneries at Bindura, Chinhoyi and Kadoma. In 1942, a new Act replaced the 1936 one, and the Board’s powers were extended to establish textile and allied industries. Up until 1936, cotton was a minor export crop and after 1943, export volumes declined even further as most of the cotton was used for local manufacture. In 1943, the Board opened in Kadoma, the first cotton spinning mill in Africa south of the Equator (Weinmann, 1975). Beef exports started in 1916 when a total of 12,719 cattle were sent to South Africa. In 1917, Zimbabwe made its first export to the U.K. Exports increased to 31,487 herd in 1920. Beef had a limited local market and World War I had depressed world markets. In 1922, a Commission of Inquiry was set up and in its report of 1923, made the recommendation that foreign investment was needed to stimulate exports. Consequently, in 1925, the government entered an agreement with the Imperial Cold Storage and Supply Company of Great Britain to

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40 The Tobacco Marketing Act was amended in 1937, 1945, 1949 and 1951.

41 See the Official Yearbook of Southern Rhodesia, No 4, 1952.
construct refrigeration works capable of handling 20,000 herd per year. Exports started rising in 1925 and beef also went to Europe and South Africa. Regular exports to the U.K. started in 1933. During this period, government subsidized beef exports. In 1937, the Cold Storage Commission Act was passed and this established the Cold Storage Commission (CSC). The CSC took over all the abattoirs and chilling facilities of the Rhodesia Export and Cold Storage Company. The CSC controls internal and export markets for beef.

The Dairy Industry Act of 1931 established a Dairy Industry Control Board. In 1937, however, a more comprehensive Dairy Act was passed to supersede the 1931 Act. The new Act gave wider ranging powers to the Board. The Board had new powers to impose levies and control all internal and trade markets. The Act also had wide ranging health regulations. In 1944 the government introduced a Dairy Bonus Scheme and from 1948 onwards ran a consumer subsidy on milk.

Unsuccessful attempts to grow sugar cane started in 1924. In 1931, an enterprising farmer diverted water from the Mutirikwe River in the south-eastern lowveld of Zimbabwe, and started growing sugar cane and tropical fruit. In 1934, the Triangle Sugar Estate was formed and in 1936 the company imported a used (second-hand) sugar cane mill from South Africa. In 1937, the first lot of milled cane was delivered to the refinery in Bulawayo, thereby establishing a sugar industry. In 1944, the government passed a Sugar Industry Act, thereby nationalizing the industry and placing it under the Sugar Industry Board, another parastatal. The sugar industry, however, did not stabilize or grow for a long time to come. The period 1945 to 1950 was of permanent drought in the lowveld and the government subsidized the industry. In 1950, only 350 ha (872 acres) of cane was grown in the whole country. In 1954, the government de-nationalized the industry and sold it to a private company. In 1957, another private company, Hulett and Son, took over the industry. Growth of the industry started after Kyle Dam, near Masvingo, was completed in 1961, and Bangala Dam in 1963.

Environmental Conservation

Large scale white farmers cultivated larger areas of maize and tobacco in the 1930s and 1940s. Soil erosion was therefore a serious problem as with the Native Reserves. During the 1940s, soil and water conservation became the dominant technological policy for agriculture. The business agenda of the Rhodesia Agricultural Union was pre-occupied with this question. In 1941, the Natural Resources Act was passed, thereby creating the Natural Resources Board (NRB). The NRB has since played a central role on policy, legislation, and programmes promoting soil and water conservation. The Act provided for white farmers to proclaim an area as an Intensive Conservation Area (ICA). By such proclamation, all farmers in the ICA are compelled to follow NRB recommendations on appropriate farming methods. The ICAs, composed of about 80 to 90 farms, were administered by a local committee, with support from a government conservation officer.
The then existing government subsidy for soil and water conservation for white farmers was increased for ICAs. The increase came into effect in 1945, rising from 33.3% to 50% for those in ICAs. The 50% subsidy came along with free technical advise and free surveying and designing of dams. The ICAs became quite popular with white farmers. This programme was so popular that the Department of Agriculture became staffed largely by conservation officers this period.

By 1949/50, 5,022 dams had been constructed on white farms, providing one of the most rewarding long-term investments. The natural potential of these areas had been greatly enhanced, allowing farmers to diversify and do more irrigation, horticulture, cattle watering, water-planting (early) of tobacco and maize and so on. Conservation became so important that when the first extension department for whites was created in 1950, it was named the Department of Conservation and Extension (CONEX).

Conservation Policy in Native Reserves

The soil erosion problem was more acute in Native Reserves than in white areas. In 1943, the government passed a Notice No. 271, which required compulsory destocking in the more crowded Native Reserves. Although this measure was extremely unpopular in the Native Reserves, compulsory destocking remained in force until the early 1960s.

In 1951, the government passed the Native Land Husbandry Act (NLHA). The NLHA was a very comprehensive piece of legislation whose main objectives were: to introduce and enforce private ownership of land in Native Reserves, to enforce conservation practices and to enforce stocking and cropping systems in these areas. Even though the implementation of this Act was abandoned in the face of hostilities from black peasants, the government had fiercely tried to enforce another radical change in peasant agriculture—and this had far reaching implications for peasant agriculture. The NLHA is discussed further in a subsequent section.

The Institutional Growth of the Ministry of Agriculture, 1930 to 1950

The period 1930 to 1950 was one of phenomenal institutional growth. An almost full complement of departments and parastatal marketing boards was established in this period. In 1948, the Department of Research and Specialist Services (DRSS) was established with its first director. By this time, all the major research stations...
had been established: Harare, Henderson, Gwebi, Matopos, Rhodes Nyanga, Makoholi, and Kadoma. When DRSS was established, extension was placed in this department under an Assistant Director.

In 1950, the Ministry came of age, when in that year, the Department of Conservation and Extension was established separately. In 1947, a Branch of Agricultural Economics was established. The Department of Veterinary Services was established about the same time. The Ministry of Agriculture remained basically the same until after independence in 1980 when white and black services were merged. By 1950, the Ministry had also developed a formidable array of parastatals, which have survived till today: CSC, GMB, DMB, PIB, TRB, and TMB.

THE FEDERATION OF RHODESIA AND NYASALAND: 1953-1963

The industrial and agricultural revolution of the 1950s, and the tobacco boom, brought about a broader based development of Zimbabwe. It was also in the fifties that the country had the most moderate or liberal white government of all time. The 1950s also saw new heights of African nationalism. And since blacks still didn’t have the right to vote then, government reforms were ineffective (Arrighi, 1967). Investment into social infrastructure for blacks increased significantly during the 1950s and early 1960s. The numbers of blacks in schools increased at 10% per year between 1956 and 1959. The government built a multi-racial University in 1955. Chibero Agricultural College was built for blacks in 1961. Expenditure on black agriculture was increased remarkably during this period, from a nominal average of 2.5 million pounds sterling per year between 1941 and 1949, to 15.8 million pounds sterling between 1950 and 1958.

There is uncertainty about the motivation for establishing the Federation. A popular thesis is that the Federation was created partly to accommodate foreign investment, which increased after 1948. In 1948, the Afrikaaner nationalists in South Africa seized complete power over government. Arrighi (1967) argues that investors were scared of this development and looked towards the north as an alternative for investment. The Federation would provide a larger market and take advantage of Zimbabwe’s industrial base, Malawi’s labor reserves, and Zambia’s mineral finance. It can also be argued that whites believed that the Federation and a stronger more expanded economy would allow them to further retard the progress towards independence (UNCTAD/UNDP, 1980).

On 1 August 1953, the Federation was created under a British Order-in-Council. The federal government handled white agriculture, health, education, and so on, throughout the Federation. Black affairs were handled by territorial governments. The federal government built an impressive array of infrastructure. Lake Kariba, the largest man-made lake for a long time, was completed during this period, and produced 1430 MW of hydro-electricity. The railways were extended. The Posts and Telecommunications Corporation (PTC) was created
and so was the Central African Airways which provided air links within the Federation and beyond. In 1954, the University of Zimbabwe was created. Most of these investments seem to have benefited Zimbabwe more than Zambia and Malawi. After all, white Zimbabweans dominated the parliament and the level of industrialization of Zimbabwe worked to its economic advantage.

Manufacturing grew in economic importance and its contribution to national income rose from 9% in the 1930s to 18% in the 1960s. Arrighi (1967) believed that the emergence of a white industrial class contributed to the liberal white politics of the 1950s. This class was not in direct competition with large numbers of blacks, at least initially. If broad based economic development would increase black purchasing power, then industrialists would welcome that. The forces of African nationalism were so strong, however, that whites generally united against this force.

The federal government tried to institute a number of reforms before suffering from a white backlash in the early 1960s. The land issue was still the most important political issue and the government subsequently lost power when it attempted to reverse the racial land laws. In 1958, a Select Committee recommended the abolition of the Land Apportionment Act (LAA). At its congress in October 1962, the governing United Federal Party under Edgar Whitehead, pledged to repeal the LAA if it was elected back into power. In that year, the election which had been contested on this issue, was won by the more conservative Rhodesia Front Party, which pledged to return to the racial policies of the 1940s. This was the prelude to the Unilateral Declaration of Independence (UDI) by Ian Smith in 1965. The Federation had a little direct effect on the development of agriculture in Zimbabwe, but it was a major boost to the overall development of her economy.

Land Policy, 1953-1963

When the 1958 Select Committee recommended the abolition of the LAA, government actually started amending this Act. The important amendments were first: the increase in land for blacks by extending the Special Native Reserves, and second: a new Unreserved category of land was created. This category was open for purchase by all races. In addition, white farmers were given the option to re-classify their land into the Unreserved category. In 1961, the Native Reserves and Special Native Reserves were combined and renamed Tribal Trust Land (TTL). TTLs were vested in a Board of Trustees for the exclusive use by blacks. When the Rhodesian Front came into power, they froze the Unreserved category of land. Meanwhile, the Land Settlement Board of 194 continued to settle whites, albeit at a substantially reduced rate since the mid-1950s.

43 The University was originally known as the University of Rhodesia and Nyasaland.
The Danziger Committee of 1948 concluded that, contrary to expectations of the LAA, the blacks were still hungry for land. The environment was also deteriorating rapidly in the Native Reserves. The Native Land Husbandry Act (NLHA) was passed in 1951 in a major effort to enforce private ownership of land and regulate farming practices and stocking rates by law, through the issue of grazing permits. The philosophy of the "tragedy of the commons" was the basis for enforcing private ownership of land. It was also hoped that by enforcing certain standards of farming, this would result in higher production and incomes, thereby arresting the worsening urban drift. The design was to allocate an "economic unit" calculated at 3.2 ha (8 acres) per household in high rainfall areas, and 4.8 ha (12 acres) in low rainfall areas. Only married men were allocated land. Grazing permits were issued after calculating a carrying capacity of a Native Reserve. Households holding more than the standard number were obliged to destock. Those owning less than the standard number got a permit for existing numbers and could not increase on that number. Those not owning arable land were barred from owning grazing permits.

Conservation laws of the NLHA were harshly enforced, often resulting in fines and/or imprisonment for those failing to construct instructed conservation works. These usually involved the construction of "contour ridges" and "storm drains." These measures were met with a strong show of resistance since the Chimurenga of 1896. The concept of private ownership of land was neglected in Native Reserves. The collapse of the programme started in 1961 when the Act was amended to allocate some grazing land as arable land to the increasing number of landless households. The Act originally envisaged a total of about 200,000 holdings in the Native Reserves. With an estimated 350,000 households at that time, about 150,000 households were landless. The implementation of the Act was a monumental failure and the government abandoned the Act altogether in 1962. The implementation of the NLHA was funded by contributions from government, the Native Development Fund, and a loan from the World Bank.

Agricultural Policy

During the maize deficit period of 1945 to 1956, government policy was to achieve self-sufficiency in food, especially the maize staple. The period from 1953 to 1963 was also of the fastest growth in agricultural output. There was a five fold increase in fertilizer usage between 1950 and 1965, compared to 50% increase in area cropped during the same period and the increase in production was due to intensification as opposed to area

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44 A comprehensive analysis of the Native Husbandry Act and its effect on Native Reserves is given by Floyd (1961).
under cultivation. The government continued to give white farmers certain subsidies for land clearing, fencing, conservation works, boreholes, and so on.

The government continued to play a major role in determining prices of all major agricultural commodities. Although there was no direct intervention in tobacco prices, government continued to provide the institutional framework which allowed market forces to operate, while at the same time allowing government to intervene when a collapse was imminent.

During the food deficit period of 1945 to 1955, government maintained a protective control over the major food crops: maize, beef, and milk, as well as the millets. Between 1956 and 1965, surpluses were abound and the fiscal burden of maintaining prices was heavy. During deficit years the government generally used a policy of guaranteed minimum prices. It was also during this period that government adopted a cheap food policy. Since government maintained low selling prices in relation to producer prices, this resulted in large consumer subsidies, especially in deficit years. The financial burden of surpluses forced government to review the policy of guaranteed prices and initially limited this support to maize, beef and milk only. The government soon abandoned the principle altogether and producer prices were calculated as a blend of a local prescribed price and the lower export return. Subsidies were given on an *ad hoc* basis.

Price policy was still discriminating against black peasants. The incentives of the guaranteed prices were generally eroded by the levy and other deductions. Marketing, credit and extension services were still ineffective. The price policy on beef also discriminated against peasants. Price support was given to export beef produced on white farms at a higher cost. The export losses were covered by taxing the grassfed beef produced mainly by smallholders. This principle has largely remained so and this may have contributed to the chronic decline of the beef industry in Zimbabwe.

### The Economics of Farm Size

The 1960s witnessed a decline in the phenomenal growth which had started in the 1950s. An analysis of farm size and efficiency by Dunlop (1971) for this period showed that white farms were too large and inefficient users of available resources. While 70 years of land policy had encouraged excessively large farms, this was ultimately constraining the growth of agriculture. The average size of white farms in the higher rainfall areas was 1200 ha and average area under crops was 96 ha, or less than 1%. Beef ranches in drier parts of the country operated on the basis of low stocking rates of about 12 ha per Livestock Unit. Several ranches exceeded 8000 ha (20,000 acres) and this category accounted for 42% of total white areas.
Markets and Price Policy for Native Reserves

Until 1940, Native Reserve farmers could not sell grain for cash. Grain was bartered to local storekeepers and white traders. In 1940, the new Grain Marketing Act established Grain Control Board agents, who were obliged to pay cash for grain. The agents were supported through a no-profit-no-loss Native Price Equalization Account with the Board. In 1950, the new Act created the GMB which in turn extended its control over the other grains: groundnuts, sorghum, beans and millets. The GMB, however, de-controlled finger-millet in 1952, acting as a residual buyer only.

In 1956 an Act was passed to allow peasants to form marketing and supply co-operatives. These co-operatives initially allowed peasants to sell more through formal channels. By 1964, 110 cooperatives were in existence and this had more than doubled to 257 in 1968 (Johnson, 1964). In 1960, black smallholders were for the first time allowed to sell direct to the GMB. They could only sell, however, if they were supplying a minimum of 2.4 tons (26 bags). The NDF levy was still in effect.

In 1954, the agreement with the CSC as a residual buyer at Native Reserves cattle markets expired due to a controversy. The Turner Commission was appointed to investigate and in its report of 1956 recommended the removal of controls on Native Reserve cattle, and replace the discriminatory controlled prices with auctions. Auctions started in June 1956 and peasants received higher prices as a result. The CSC, in support of white buyers, was not in favor of this system and was therefore reluctant to act as a residual buyer at these auctions. The CSC provided this service in selected Native Reserves where it felt that livestock densities were too high. In 1959, the CSC finally agreed to act as residual buyer at all auctions.

The first formal credit for blacks was in 1958 when a revolving fund was set up from the Native Development Fund. The African Loan Fund (ALF) started with a transfer of 10 000 pounds sterling and loans were available to a very small number who were rated highly as farmers and met the requirements of the NLHA. In 1959, the ALF was supplemented by a 67 000 pounds sterling grant from the United States International Cooperation Administration.

AGRICULTURE UNDER UDI, 1965-1979

In 1962, the Rhodesian Front won the election with the pledge to restore racial laws and halt the 'wind of change' for independence. On November 11, 1965, Ian Smith, the Prime Minister, announced the Unilateral Declaration of Independence (UDI) from Great Britain. Since the UDI was illegal under British law, the U.K.
declared economic sanctions on Zimbabwe and most other countries followed suit and in consistence with the United Nations resolution.

By losing the U.K. market, tobacco was in dire straits. The whole economy was under siege and aurlacky. The government immediately started to buttress its economy, instituting a variety of instruments of economic control and institutions to facilitate based import substitutions and diversification from tobacco. The country, in general, succeeded in beating sanctions and diversifying the economy. The period 1968 to 1974 was actually of impressive economic growth. To beat sanctions, the government generally relied on the white community's traditional kith and kin ties with the U.K. and Europe, where enough support and sympathy for UDI existed in government and business circles to assist the government in beating sanctions. British, U.S., Portuguese, and other European intelligence services cooperated fully with the UDI government in the efforts to beat sanctions (Flower, 1983).

After UDI, the government strengthened its racial policies and in 1969 passed the Land Tenure Act (LTA), which was promulgated simultaneously with a new Republic Constitution. The LTA, which replaced the LAA, and new constitution, provided more comprehensive legislation to implement a policy of "separate development," similar to apartheid in South Africa. Land was re-classified to allow whites to own 50% of agricultural land, and blacks 50%, or "parity," as the RF government had demanded. All urban areas and large scale white farms continued to be in white areas and the new legislation introduced vagrancy laws making it illegal for unemployed blacks to live in white areas. *Ipso facto*, the government introduced a new development policy for TTLs, encouraging local development of "growth points," which would serve as urban centers for black areas.

In 1972, another Chimurenga (II) started in earnest and during the rest of the 1970s, a bloody war escalated, and was spearheaded by two political parties--the Zimbabwe African national Union (Patriotic Front) ZANU(PF) and the Zimbabwe African National Peoples Party (Patriotic Front) (PF)ZAPU. During this period, agriculture went into a chronic decline and so did the whole economy. In 1979/80, the Rhodesia Front handed over government to the British for a few months, following the negotiated Lancaster House Settlement. A few months later, the first democratic elections were held in Zimbabwe with at least four political parties contesting. On April 18, 1980, Zimbabwe became the youngest independent African state, under the premiership of Robert Mugabe, leader of the ZANU(PF) party.

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45 For further reading on the general political links between the UDI government and U.K., U.S. and Portugal, and collaboration of their intelligence services, read Ken Flower, 1983.
The Economy Under Trade Sanctions

Following UDI in 1965, the economy was stagnant for two years but accelerated again in 1967 and stayed buoyant until 1974. This growth was fuelled by the manufacturing sector, as local products replaced imports (Stoneman, 19...). The diversification of the economy within the manufacturing sector progressed rapidly in the first three years of UDI, when over 600 manufacturing products came on the market (UNCTAD/UNDP, 1980). Between 1965 and 1974, the GDP, in real terms, grew from Z$157.5 million to Z$223.2, an average of 3.5% per annum. By 1979, however, the GDP had declined to Z$166.5 million. The contribution of agriculture to GDP continued to decline throughout the period, from 16.9% to 12.4% in 1979. Agriculture, however, continued to be the most important foreign exchange earner, and also supplied about 40% of all materials used in manufacturing. Agriculture, as a sector, survived the UDI period largely through government support. In the 1970s, large scale agriculture became less and less profitable. For instance, only 24% of the large scale farms paid income tax in 1977 and in 1978, 40% of the large scale farms were technically insolvent.

Land Policy Under UDI

After the RF won the 1962 election, it restored the LAA and froze the category of Unreserved Land. No legislature was passed to finalize this until the 1969 Land Tenure Act (LTA). The while community had intensified its demands for new land to allow more white settlement. But land was now clearly in short supply. Whites demanded for "parity" in land allocation, arguing that, although whites were about 5% of the population, total land should be split 50:50 between blacks and whites. The LTA was passed in 1969 giving whites the "parity." The country was divided into 3 categories of land:

- African Areas (blacks) - 18 mil ha (45 million acres)
- European Areas (whites) - 18 mil ha (45 million acres)
- National Land - 2.64 mil ha (6.6 million acres)

The eviction of blacks from white areas continued under the LTA. These were temporarily suspended in 1971 during the visit by the Peace Commission from the U.K. The evictions were resumed in 1973 after negotiations with the British broke down. Eviction methods used by the government also became more indignant. For instance, violent methods were used to evict the 3,000 Tangwena people from their traditional homes, causing a widespread international condemnation.

In the late 1970s, the Chimurenga II had become widespread, and had largely been fought and had been successful because of the rural population in the TTLs. The war affected both white agriculture as well as black
agriculture, and the economy continued to shrink. In 1978, as part of a number of attempted liberal reforms, the LTA was repealed.

*The Tribal Trust Lands Act, 1965*

After the NLHA collapsed in 1962, the government did not announce a new policy until 1965. The Tribal Trust Lands (TTL) Act was passed in 1965. Under this act, traditional land tenure was re-established. The enforcement of the land tenure was, however, placed under newly established Tribal Authorities. Tribal Authorities were generally led by chiefs, whose status was then of paid civil servants.

The TTL Act was also the basic legislation through which separate development for blacks was implemented. The Act propounded a philosophy of "community development," and instituted Community Boards and local government councils. Councils were authorized to charge taxes and raise revenue, operating like a TTL legislative under the District Commissioner (DC). DCs had autocratic power over the Councils and directed all development activities within a TTL. Agriculture fell under the control of DCs and extension workers reported to the DC.

**Agricultural Support During UDI**

Until UDI, the stability of white farms was largely based on tobacco. Because tobacco was immediately affected by trade sanctions, the first two years after UDI were very difficult for farmers. In those years, the government financed the tobacco stockpile in a major effort to keep the farmers on the land. In 1966, the government set up an Agricultural Assistance Committee (initially Farmer Assistance Committee). The Committee assisted farmers in meeting all their financial obligations. The Committee had authority to give short term loans to cover costs of inputs, living expenses, hire-purchase commitments and so on. Farmers were paid a subsidy on nitrogenous fertilizer and diesel fuel.

The Agricultural Diversification Scheme was established in 1967. This scheme was directed at assisting farmers to reduce or stop growing tobacco, and move into other crops. The scheme was administered through the Rhodesia Tobacco Association and provided subsidized loans for crop diversification. Only registered tobacco growers were eligible for the loans and priority was given to those farmers who discontinued the production of tobacco. After the first season, the area under tobacco declined by 10,500 ha (26,000 acres) while the area under other crops increased by about 25,000 ha (62,000 acres). Farmers in Mashonaland were the ones most affected.

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*The main source for this section is an unpublished paper by Mackenzie on the history of white agriculture during UDI.*
and they generally diversified into maize, soybeans, wheat and beef. In warmer areas, cotton was also a profitable substitute for tobacco. Maize and cotton ultimately became the most important substitute crops. In relation to tobacco, however, all other crops were less profitable. For instance, it was estimated that to compensate for the loss of profit from one hectare of tobacco, a farmer had to grow 10 hectares of maize or seven of cotton.

In June 1966, the Farm Irrigation Fund (FIF) was launched to assist crop diversification through irrigation. The FIF provided soft loans for headworks, in-field development and irrigation equipment. Some 300 farmers utilized this facility and over 8,000 ha (20,000 acres) of additional land was brought under irrigation this way. Wheat enjoyed a price subsidy support during this period which also made it more attractive to invest in irrigation. All wheat produced in Zimbabwe is under winter irrigation.

The year 1967/8 was of severe drought. The government instituted a drought relief scheme for white farmers. This was fully financed by the government to the tune of 12.5 million pounds sterling to large scale white farms.

Institutional Development During UDI

After UDI, the government created new parastatal bodies to strengthen the farmer support service which grew after UDI. The most important of these is probably the Agricultural Marketing Authority (AMA) of 1967. The AMA became the central authority controlling and coordinating the major, parastatal marketing boards: CSC, GMB, DMB, and later in 1969, the Cotton Marketing Board (CMB). The AMA became the chief advisor to the Ministry of Agriculture on agricultural prices. The AMA Act provided for a governing board, where the Rhodesia National Farmers Union (RNFU) had 50% representation.

In 1965 (January), the Sabi-Limpopo Authority (SLA) was launched to foster irrigation development in the Sabi and Limpopo river systems. The SLA was successful in settling white farmers in the south-eastern lowveld, where they grow cotton, winter wheat and sugar cane. In July 1971, the Agricultural Development Authority (ADA) was created, largely due to pressure from the RNFU and RTA, who saw the SLA as a biased form of development. The SLA and ADA operated under the same board and in 1985 where all, together with the Tribal Trustlands Development Corporation (TILCOR), merged into the Agricultural and Rural Development Authority (ARDA).

In April 1971, the Agricultural Finance Corporation (AFC) was created to take over all the financial assistance schemes which had emerged after UDI. The AFC took over the functions of the Land Bank, the Agricultural Assistance Board, the Agricultural Diversification Scheme, and the Farm Irrigation Fund. The AFC also took
over a host of other smaller schemes: the Tenant Farming Scheme, Coffee Scheme, and the Land Owners Development Loans Scheme. The AFC became a major land bank and assumed coordinated dominance over financing of farmers, making it an important institution in the growth and diversification of the agricultural sector. In 1978, the AFC started giving credit to black farmers.

**Price Policy During UDI**

At UDI, the government initially gave tobacco the top priority for price support. Through the Tobacco Marketing Board (TMB), government guaranteed a floor price. In July 1970, guaranteed minimum prices were introduced for specified quantities of maize and cotton. This was done for three years. The balance on specified amounts was bought at a net export realization. This support was aimed at re-activating these crops, whose production had started to decline after a period of post-UDI growth.

In 1976, the government started announcing pre-planting (minimum guaranteed) prices to influence cropping patterns. In July of each year, the final prices were gazetted for the summer crops, and in October for the winter crops. Supplementary payments were then made to those selling directly to the marketing boards. Producer prices were determined through a process of negotiation between the AMA, RNFU and government. Prices were arrived at after consideration of the farmers’ costs of production, predicted local and export market realizations and estimated expenses of the marketing boards. The RNFU submitted its estimates of the costs of production which were compared to the Economics and Markets Branch’s own estimates. During the rest of the 1970s, government maintained the cheap food policy. Since 1976, the trading accounts of all the controlled food products have been running at a loss. In 1976, government announced pre-planting prices for cotton.

**The Wheat Success Story**

Prior to 1965, Zimbabwe produced about 2% of its annual wheat requirements. In 1965, the government announced a support price of Z$5/tonne above import parity. In 1967, the support price reached Z$15/tonne above parity. The efforts of the SLA in encouraging wheat production in the lowveld were largely successful and in 1971, the country was 75% self-sufficient. Although the level of support declined later on in the 1970s, the price remained above import parity.

Wheat production took a second boost with the FIF encouraging production in Mashonaland. In 1974/5 prices were raised to encourage more production. In 1976, Zimbabwe became self-sufficient in wheat and exported

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47 Mulr-Leresche, (1984) is the most comprehensive analysis to date on Zimbabwe’s price policy during UDI and the first four years of independence.
small amounts in that year and two subsequent years. Self-sufficiency declined after demand for wheat increased rapidly after independence in 1980. The country is still about 80% self-sufficient. Virtually all wheat is produced on large scale farms.

Development of Tribal Trust Lands

After the Native Land Husbandry Act (NLHA) collapsed in 1962, the government did not announce a new land tenure policy until 1965. The Tribal Trust Lands (TTL) Act was passed in 1965. Under this act, traditional land tenure was re-established. The enforcement of the land tenure was, however, placed under newly established Tribal Authorities. Tribal Authorities were generally led by chiefs, whose status was then of paid civil servants. The TTL Act was also the basic legislation through which separate development for blacks was implemented. The Act propounded a philosophy of "community development," and instituted Community Boards and local government councils. Councils were authorized to charge taxes and raise revenue, operating like a TTL legislature under the District Commissioner (DC). DCs had autocratic power over the Councils and directed all development activities within a TTL. Agriculture fell under the control of DCs and extension workers reported to the DC.

TILCOR was established by Act in 1968 and it became the parastatal responsible for the economic development of TTLs. Since all urban centers were in white areas, job seekers still migrated to these areas. TILCOR was charged with developing nuclei urban centers in TTLs to arrest the drift of black job-seekers to white areas. These nuclei centers—growth points—became a trade mark for TILCOR. Centers were established at Chisumbanje, Sanyati, Katiyo as growth points based on irrigated agriculture. On these irrigated Growth Points, the state farmed a large area and allocated plots to outgrowers, who in turn, received support and marketing services from the state farm (Rukuni, 1984). TILCOR was severely under-funded and by 1971 only two small industrial projects were underway. After independence TILCOR was absorbed under ARDA.

THE FIRST DECADE OF INDEPENDENCE

In 1980, at the end of a long and bitter war for independence, the first democratically elected independent government took over, led by Robert Mugabe's Zimbabwe African National Union (Patriotic Front) (ZANU.PF). At independence in 1980, Zimbabwe's first black premier announced a policy of national reconciliation in an attempt to rebuild the economy and society. Independence was followed by a period of relative peace and prosperity. ZANU(PF) took over a fairly strong macro economy, albeit the white monopoly on the land and wealth. ZANU(PF) became the first government to significantly redirect agricultural policy towards peasants. This section discusses the successes and limitations since 1980, and how the long-established financial, marketing
and research institutions have reformed their agendas to include the peasants who had been locked out for 90 years.

The Economy, 1980-1989

In 1980, Zimbabwe became a member of the IMF and started using its drawing rights to finance an increased volume of imports. We discussed earlier that the country's economy went through two distinct phases of economic performance after UDI. The years 1965 to 1972 were of relative growth, with the economy growing at about 6% per annum. The years 1973 to 1979 saw a contraction of the economy. Independence in 1980 came with automatic removal of trade sanctions and Zimbabwe, once again, had access to international commodity and financial markets. In 1980/81, Zimbabwe had a bumper agricultural season and the following season, 1981/82 was also a good season. In 1980, the economy grew by 11% and by 15% in 1981. At independence, the economy was estimated to have 25% capacity underutilization (Kadhani, 1986). This was largely as a result of Zimbabwe losing some of its regional markets when the Federation broke up in the early 1960s.

The Transitional National Development Plan (TNDP) was adopted for the period 1982 to 1985. This period was concerned with rebuilding the social infrastructure that had been partly destroyed and run down during the war for independence. The government also announced a development policy of Growth with Equity. The TNDP was fairly ambitious and optimistic—targeting an 8% per annum growth rate during its term. It also targeted 3% per annum growth in wage employment. The country suffered its longest and severest drought in recorded history during 1982 to 1984. Agriculture performed badly and the economy had a negative 2% and negative 3% growth in 1982 and 1983, respectively. In 1984 a light growth of 1.3% was recorded.

The first Five Year Development Plan (FYDP) was adopted for 1986 to 1990, and its review of the TNDP identified drought, world recession and low levels of investment as the causes of the low economic growth rates. Wage employment also grew by 3% in 1980, 2.8% in 1981 and 1% in 1982 (Kadhani, 1986, :108).

The independence government also increased its expenditures on education, health and other social services which had been hitherto limited for blacks. The government maintained the cheap food policy and increased the levels of consumer food subsidies. During the first few years of independence, tax rebates were given for some

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48 Kadhani (1986) analyzes the state of Zimbabwe's economy for six years following Independence.

49 This was the first plan of the Government of Zimbabwe.
basic food items. The government announced Minimum Wage legislation and this in turn increased consumer demand for manufactured food items like bread, milk and margarine.

Zimbabwe came under heavy pressure to adopt the standard package of IMF structural adjustment reforms. In general, Zimbabwe was one of the few African countries able to withstand some of this pressure and underwent selective and cautious reform. In some cases, Zimbabwe actually tightened up its control on the economy. For instance, Zimbabwe has slowly devalued its currency and has gradually reduced consumer subsidies. At the same time, the government instituted strictly enforced price controls, has maintained minimum wage laws and has not de-regulated its marketing boards—which do perform relatively efficiently.

The FYNP has a target for a 5.1% per annum growth of the economy and 28,000 new jobs each year.

**Land Resettlement**

Land is arguably the single most important reason that led to the liberation war. Land, after independence, ceased to be referred to by race. The former white large scale farms became Large Scale Commercial (LSC) and the TTLs became Communal Areas (CAs). Both LSC and CAs are commercially important to Zimbabwe's economy, which makes the names a bit misleading. Up until independence, it was speculative as to the land policy which was going to be pursued by the independence government. The government basically followed the status quo as was stipulated in the Lancaster House independence constitution. When in 1980, the government embarked on a land resettlement programme, land was bought on a "willing seller-willing buyer" basis.

At the inception of the resettlement programme, a new Ministry of Lands, Resettlement and Rural Development was established. The target was to settle 162 000 families by 1985. By the end of 1987 only 46 300 families had been resettled on 2.6 million ha. This represents 7% of the agricultural land and 6% of the rural population (Hwekwete, forthcoming). The programme has proceeded much slower than originally envisaged and the said ministry was scrapped.

A number of obstacles bewildered the resettlement programme. The land was costly. Since government has been buying on a "willing buyer-willing seller" basis, land has been available mainly in marginal areas. The combination of limited finance and high cost of infrastructural development to allow human settlement has hindered progress. Water is limited in these areas which are generally in drier parts of the country. Roads, schools, shopping and health facilities are also limited in these often remote areas.
At independence, Zimbabwe had maintained 90 years of a sustained policy supporting white large scale agriculture and generally discriminating against and taxing the black peasants. Since 1890, land, research, price, marketing, and credit policies had worked directly and indirectly against black peasants. Following independence, the RNFU became the Commercial Farmers Union (CFU), and continues to represent LSC farmers. The CAs have also developed organized representation and have the largest union—the National Farmers' Association of Zimbabwe (NFAZ). The Native Purchase Areas, later African Purchase Areas, became Small-Scale Commercial (SSC) areas in 1980. The SSC farmers have representation through the Zimbabwe National Farmers Association (ZNFA). Government efforts to merge the three unions have failed. The three unions are involved in the traditional negotiations between government and farmers. They all give their production cost estimates to the agricultural ministry. The CFU maintains a broad based professional staff and therefore is still dominant in the ability to influence price and other policies.

The government has basically tried to pursue an agricultural policy consistent with the overall philosophy of Growth with Equity. Since LSC agriculture became viable in 1950, it has maintained a dominant role in the economy, especially with respect to foreign currency earnings. Government policy has been to maintain LSC agriculture and keep it viable. To address the historical land hunger of the peasants, the government launched a Resettlement programme in 1981. The TNDP regarded land resettlement as a new source for growth and the way towards creating a broad based economy.

When the Chavunduka Commission was set up in 1981, it was tasked to investigate the entire agricultural industry—land resettlement, rural employment, marketing, trade policy, price policy, finance, research and extension, water and irrigation and transportation. While acknowledging the limited economic potential of Communal Areas, the Commission's recommendations, on average, were to maintain a status quo and maintain the policy of Growth with Equity. The Commission had no recommendations for transforming CA agriculture and endorsed the traditional trade oriented policy for agriculture.

The Maize Success Story

Agriculture and the whole economy were shrinking from about 1973 to 1979. In 1980, maize was imported for the first time since 1966. In an attempt to boost confidence and production, the government announced a guaranteed pre-planting price of Z$120 per ton, a 50% increase from the previous year. Combined with a good rainy season, that year maize production increased by 147% with the largest increase from the CAs. This was an immediate success of a positive price policy. Since then, the CA farmers have remained a major force in the commercial production of grains and oilseed crops. The CAs contribution has been maintained and increased.
because of positive support in other areas than price—to include marketing infrastructure, credit and transportation. Maize and cotton technologies are available to CA farmers that allow them to increase yield and income returns to hybrid seed, fertilizers and chemicals.

Until independence, the GMB had built its marketing depots on the line-of-rail in LSC areas, with only three such depots in CAs. Ten new depots were built in CAs between 1980 and 1985. Because of the bumper crop in 1980/81, the GMB built several buying points, numbering 55 in 1985 (of which 13 were mobile), allowing more market access to CAs.

**The Cotton Success Story**

The Cotton Marketing Board (CMB) which is the monopoly buyer of cotton, has also increased the number of buying depots in the whole country and in CAs. Between 1980 and 1985, the depots have increased from 5 to 16. By allowing CA farmers more direct access to the CMB, the CA farmers have continued to increase their share of marketed output. In 1985, CA farmers, for the first time since the early 1900s, produced and sold more maize and cotton than their large scale counterparts. By avoiding middlemen and agents, farmers fetch a better price and receive payment quicker than through cooperative societies.

In 1980, the GMB took sunflower, finger-millet and bulrush millet under its control. Although this initially stimulated sales of these commodities, the GMB has had to carry the burden of financing the small grain stockpile. Local and trade markets are very limited for these small grains including sorghum.

**Price Policy and Food Subsidies**

Price policies in the 1980s has been entangled with the food subsidy policy. In 1979, the government introduced direct subsidies on the processing of maize meal, wheat flour and vegetable oils. This exacerbated the deficit situation of the marketing board since they were selling at a loss to millers and oil processing companies. Although these subsidies have declined, the boards still run huge deficits. Up until 1975/76, boards operated on a "no profit-no loss" principle. In that year, the principle was abandoned, and the boards have run a government financed deficit. In 1984/85, marketing boards deficit was 58% of the total budget of the Ministry of Agriculture, which is 3.6% of the total government expenditure (Harvey, 1988).
Price policy has been traditionally used in favour of maize production, and until the mid-1970s, wheat. Price policy, however, has generally discriminated against groundnuts and sorghum. Groundnuts, which for decades was the main cash crop for peasant farmers, was always discriminated against because it was a minor crop for the LSC farms (Muir-Leresche, 1984). Groundnuts have also been consistently taxed through cross-product subsidization. Cotton has been favored by price policy although producers have been traditionally taxed to finance exports by subsidizing local sales. Cotton prices are lower than export prices.

Price announcements, especially the timing of the announcement, has become an important part of overall price policy. In deficit period, government has used guaranteed pre-planting prices as an effective way of boosting production in the short run. When large surpluses appear, the government tends to move away from guaranteed prices, as was the case in 1980/81. In the following season, 1981/82, government did not announce pre-planting prices. The government adopted the Chavunduka Commission recommendation of announcing pre-harvest prices. For the 1981/82 season, however, the government informed farmers that the previous year’s price was not going to be reduced.

In 1982/83, the price remained at the nominal Z$120 per ton. LSC farmers reduced the acreage planted to maize by 20%. CA farmers maintained the same area. In 1983, the government once again announced a pre-planting price of Z$140 per tonne for the 1983/84 season.

The current system is to announce post-harvest prices for all crops except wheat, which receives pre-planting prices. Prices are announced in April, just before harvesting, and take the following estimates into account: production, cost of production, local and export demand and the boards’ trading accounts.

Agricultural Research

During the colonial period, DRSS primarily addressed the needs of large white farms. The needs of the small low-productivity mixed black farms, predominantly in the lower potential areas of the country, were neglected. This policy was changed in 1980 and DRSS was expected to address the needs of Communal Areas. The department responded to this new challenge by introducing on-farm research in Communal Areas, surveying Communal Areas under specific programmes and introducing new ideas such as agroforestry and research on small-ruminants.

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51 For further reading on price policy in the 1970s and 1980s, read Harvey (1988).
The biggest achievement of this new effort is probably the new found relationship between small farmers and researchers. Researchers report that going out and working with farmers in their own field conditions has become a most satisfying part of their job.\textsuperscript{52} DRSS has also joined hands with the extension service AGRITEX, and formed research-extension linkages for Communal Areas. DRSS believes that this is going a long way towards the adoption of high yielding technologies.

On-farm research (OFR) was introduced, initially by CIMMYT in 1981 and subsequently as a package requirement for a World Bank loan of about US$17 million to the Ministry of Agriculture for research and extension. Whilst the introduction of OFR has brought a desired re-orientation, progress in the long run depends on how those procedures are incorporated in the department and also on the extent to which on-station commodity research produces new technologies to test on smallholder farms. DRSS took the cautious approach of starting small with OFR. A small team was established and other researchers also carried out work in Communal Areas. By 1986, nearly 20\% of the total research effort was being devoted to On-farm research activities.

The ISNAR study (1989) identifies a number of constraints to the effectiveness of DRSS given its post-independence mandate. The new activities of OFR, agroforestry etc have been carried out on an ad-hoc basis and there is need for a comprehensive strategy. Because of its over-centralisation, DRSS is not well suited to Communal Area research. Whilst the budget for the Department has been maintained, nominally, it has declined in real terms and this makes it difficult to expand its new mandate. Following the Black Advancement Presidential Directive and the early-retirement financial incentive for whites, DRSS lost a considerable proportion of its senior staff. Staff turnover is still high because of poor conditions of service -- about 60\% of the professional staff has less than 5 years working experience.\textsuperscript{53}

The Extension Service

Until 1981, The Department of Conservation and Extension (CONEX) provided extension services for large scale farms with the Department of Agricultural Development (DEVAG) catering for Communal Areas. In 1981, the two departments were merged into the Department of Agricultural and Extension Service (AGRITEX). The Department of Conservation and Extension was generally a professional service whilst the Department of Agricultural Development was generally staffed by technical level staff. The merger had an initial effect of

\textsuperscript{52}Discussion with Mr Ron Fenner, Director, Department of Research & Specialist Services.

\textsuperscript{53}Discussion with Mr Ron Fenner, Director of DRSS.
linking the professional and technical staff, at the same time unifying the extension service for the whole agricultural sector.

Extension policy after independence emphasized support to Communal Areas and AGRITEX level of support to LSC farms generally dropped. The Government increased the establishment of staff, especially the village level Extension Workers. The Extension worker to farmer ratio has narrowed from 1:1000 in 1980 to about 1:800-850 in 1990. This ratio is believed to be about 1:4-600 in the resettlement areas and 1:150 in SSC areas.

Through a World Bank loan, AGRITEX embarked on a number of activities aimed at strengthening its role and effectiveness in Communal Areas. A facility was established to furnish some Agricultural and Extension officers (AEOs), who are professional level, with trucks. A total of 66 trucks were allocated, and a total of 200 motor­cycles were allocated to Extension Workers. These vehicles were sold to the individual staff at a tax-free price and subsidized level of interest. Spare parts were supplied with the vehicles. This facility has increased the mobility of extension workers quite significantly. The idea of ownership of the vehicles by staff has also been regarded as progressive since government pool vehicles are generally mishandled and have a small span of useful life.

The World Bank (WB) loan was also given as a package requiring AGRITEX to try out the Training and Visit (T&V) extension method. T&V, which has been universally recommended by the Bank, was tried out in the Midlands, one of eight administrative provinces of Zimbabwe. Within the Midlands, T&V was tried out in 3 districts; Chiundura, Lower Gweru and Gweru. T&V is probably the most significant failure in the World Bank package. AGRITEX have concluded that T&V is too expensive to be adopted in its entirety. The method, it is felt, is too rigid and its implementation often ignores the realities and tradition of the local extension service. Some of its more adaptable aspects, for instance, do exist or are more easily incorporated into some of the existing methods. A for the World Bank package deal on T&V, AGRITEX appreciate the equipment that came along with the method.

AGRITEX has not prescribed an extension philosophy to apply across the nation. The methods that have been developed since 1980 have, in varying ways, incorporated the need to deal with farmers in groups in an attempt to narrow the extension worker to farmer ratio to the target of 1:400. The Group Development Area (GDA) approach, started in Mashonaland East province, has slowly been emulated in other provinces. This approach groups a number of villages into a GDA and an Extension Worker will work with several of these. Group Development Areas will incorporate training sessions, work groups and also facilitate the lending process.

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54 Discussion with Mr Sam Kawa, AGRITEX.
In Masvingo Province, the Master Farmer Training technique, which traditionally aimed at developing an elite class of smallholders, has been modified to operate on a group basis thereby reaching a larger number of farmers. Another method is the Commodity Groups practiced in Mashonaland Central province. The Savings Club scheme, original incorporated in the Wedza project, (Trustcott, 1985), was subsequently tried in Chiduku area of Rusape. Today, a number of other areas try to incorporate savings in the group approach.

As a result of the policy change after independence, LSC farmers have had to rely more on commercial companies and consultants for service. AGRITEX, however, has maintained conservation service in these areas. The SSC areas were neglected during the colonial period, and although the pendulum swung the other way after 1980, these areas have continued to be neglected and are generally regarded as a less significant sub-sector.

At the merger that formed AGRITEX, a considerable number of white staff left the service. This, as with DRSS, was because of a number of reasons: the Black Advancement Presidential directive, a financial incentive for early-retirement for whites, and in some cases it was simply the change in political climate. The loss of experienced staff was a setback for AGRITEX, at least in the short-run. This loss may have been partly offset by the increase in training activities embarked upon and support by the World Bank loan. The training, for staff and farmers, was reinforced with new equipment such as videos and radios.

Seed Distribution

Zimbabwe has been world renowned for some of its impressive maize varieties which primarily led to its production revolution. At centre stage of seed multiplication and distribution is a private company - Seed Co-op, arguably the largest seed company in Africa. Seed Co-op originated in the Seed Maize Association of 1940. Since then, the company has released the likes of SR52, the world yield-breaking hybrid released in 1960, and R201, released in the early 1970s, and went on to contribute to the "mini-production revolution" by smallholders in the 1980s.

Through what has been traditionally known as a Tripartite Agreement, the government’s DRSS releases all its hybrid material to Seed Co-op. Co-op members multiply the seed annually. Seed Co-op guarantees reserve stock of about 20% of national requirements. Seed Co-op carries out research at its Rattray-Arnold Research Station established in 1974 (Tattersfield, 1987; Seed Co-op, 1990). In excess of 100 variety trials are conducted annually for DRSS and the majority of these are maize. The station also tests sorghum, wheat, barley, soyabeans, groundnuts and sunflowers. All seed is certified by Seed Co-op in collaboration with the Zimbabwe Crop Seed Association, a designated certifying agency with the Seed Services section of Department of Research and Specialist Services. This allows the Seed Co-op to maintain a high standard of seed production. There is a
estimated 150 seed growers, and inspectors visit these growers at frequent intervals during the growing season. Each inspector is responsible for about 20 growers.

Seed Co-op markets the seed and supply the 3 sub-sectors of LSC, SSC and CAs. In 1989, Seed Co-op established an export company, Certseed International, which supplies a good number of Southern African and a few other countries: Swaziland, Namibia, Mozambique, Angola, Malawi, Tanzania, Botswana, South Africa, Mauritius, Argentina, Ethiopia, Cameroon. The Tripartite Agreement with government has allowed Seed Co-op to commercially market an impressive array of crop seed: 11 maize hybrids, four soyabean varieties, three sunflowers, seven wheat varieties, to mention the major crops. (Seed Co-op, 1990).

When Communal Area farmers joined the maize production revolution in 1980, it became clear that the majority of them bought and used certified hybrid seed every season. It is estimated that between 80-90% of these farmers use hybrids. The demand for hybrid seed in Communal Areas has grown to the extend that 90% of maize seed is bought by this sector. Two factors have assisted in achieving this level of growth. First, the Co-op introduced "small-packs" in the mid-1970s. Seed is distributed in 5, 10, 20 and 50 kg packages. This allows small farmers to buy according to need and ability. Second, the cost of seed is relatively low. The cost of maize seed : producer price ratio is 4:1 as compared to 8-33:1 in the United States.55

A major setback is that the distribution of seed in Communal Areas is still very inefficient, often leading to delays in planting. Distribution is by 22 appointed distributors. The Farmers Co-op, owned by Large Scale Commercial farmers, distributes 43% of all seed. The rest is distributed by cross-country wholesalers. These wholesalers, which are a few in number, sell to retail shop owners who distribute the seed in Communal Areas. The monopoly held by these wholesalers has led to distributional inefficiency.

Another drawback is the lack of other breakthroughs besides maize. There is still a limited supply, often at a higher relative cost, of groundnuts, sunflower and sorghum seed. These are important Communal Area crops and improvement is their seed multiplication and distribution could contribute to the maize success.

Agricultural Credit

The Agricultural Finance Corporation (AFC), which has its origins in the Land Bank of 1911, provided credit facilities for white Large Scale Commercial farmers during the colonial era. No credit facility of a similar nature existed for the black smallholders. In 1978, the AFC launched a Small Farm Credit Scheme for Communal

55 Discussion with Mr Ron Fenner, Director DRSS.
Areas and SSC farmers. This facility was boosted at independence, providing 34,000 loans in 1981/82. The provision of credit had its contribution to Communal Area mini-production revolution of the 1980s. The provision of credit was partly responsible for the 45% increase in fertilizer purchase by Communal Areas farmers from 1981 to 1985.

An interesting trend of credit use has occurred in Zimbabwe since independence. Borrowing by Communal Area farmers has increased several times over, from 18,000 loans in 1979/80 to 44,000 in 1980/81. The nominal total value of Communal Area loans increased, in the same period, from Z$4.2 million to Z$32.7 million. Lending reached a peak in 1985/86 when 77,526 loans were granted, giving a total value of Z$38.9 million. Two main reasons have contributed to the decline in credit use by Communal Area farmers since 1985/86. To start with, recurrent droughts have increased the risk of borrowing and defaulting increased considerably. The AFC became more selective in funding defaulters. The second problem is the excessive delay in cash payment to Communal Area farmers by the AFC which enforces a 100% stop order on all crop sales by their clients. The AFC lodges the stop order with the parastatal marketing boards, mainly the Grain Marketing Board (GMB) and Cotton Marketing Board (CMB). After deliveries by farmers, the marketing boards pay all proceeds to the AFC, who in turn deduct loan repayments before paying the net return to farmers. This process often leads to delays which are exacerbated when computers are malfunctioning.

The "stop-order" system has been a drawback and the National Farmers Association of Zimbabwe, representing Communal Area farmers, has officially lodged its disapproval of the system with the AFC. The AFC, on its part, has been innovative over the years and is gradually promoting the concept of group-lending. Group lending often obviates the need of other collateral or guarantees, and a stop order is generally unnecessary under the security of group-lending.

The number of Large Scale Commercial loans has declined significantly from 2,233 in 1979/80 to 720 in 1989/90. The total value of loans has, however, increased from Z$75.6 million is 1979/80 to Z$113.1 million in 1989/90. LSC farmers have turned more to private banks for loans. Those Large Scale Commercial farmers who have continued to borrow from the AFC are however, borrowing larger loans that before, with total outlays larger than Communal Area and Small Scale Commercial farmers together.

Livestock

Zimbabwe has estimated 5.6 million cattle (CSC, 1988) of which 69% are Communal Areas. The significance of livestock in general and cattle in particular, on the Large Scale Commercial economy is different to the Communal Area economy. Large Scale Commercial farmers produce 80% of all commercial beef sales through
the Cold Storage Commission (CSC). Cattle in Communal Area, by contrast, serve a number of important purposes, generally playing a key role in the intensification of crop production by providing draft power, manure and transportation. Cattle are also an important store of wealth for Communal Area farmers. For this reason, beef has a negative supply response (Scoones and Wilson 1989)

As population densities have increased in Communal Areas, cattle numbers per household have declined. This has generally prejudiced the household economy, as well as further depressing the off-take rates by these farmers. Small ruminants, particularly goats, as well as poultry, have become more important cash sources for paying school fees, as well as supplying meat. There is an estimate of 2 million goats and sheep in Communal Areas.

Livestock policy during the colonial period, however, was generally focussed on beef supply and government policy in Communal Areas was generally close to coercing farmers to destock. The multi-purpose role of cattle in Communal Areas was not recognised and off-take was generally viewed as irrational behavior or down right intransigence. Technological policy was generally focussed on beef, and research throughout the colonial era concentrated on breeding animals with high feed conversion efficiency as well as pen-grain feeding of beef cattle. These technologies generally by-passed smallholder who did not adopt any of the pure-breeds of indigenous cattle. Attempts to introduce exotic breeds also failed in Communal Areas.

For the same reasons discussed above, government has generally recommended rotational grazing paddock systems as is the practice on Large Scale Commercial farms. Given the traditional tenure in Communal Areas, grazing areas are communally owned and rotation grazing is usually possible after fencing off some paddocks. A considerable number of grazing schemes have been established in Communal Areas after independence. Researchers are currently examining the performance of these schemes. Some of this work argues that fencing might be an unnecessary expense since fences do not seem to have reduced the likelihood of boundary disputes nor have they provided greater flexibility in management (Cousins, 1989). It is also questionable as to the net benefits in terms of increased access of cattle to farmers who need them for draught, manure and transportation. Technological policy on small ruminants and poultry has also been undefined. During the colonial period, goats were actually discouraged and viewed as destroyers of the environment. This policy has since changed and goats are now viewed as excellent users of browse. All the same, productivity in Communal Areas is still low and no new breeds, nor management and nutritional technologies are on the horizon to provide new sources of growth in Communal Areas.

The multipurpose role of cattle became recognised by researchers after DRSS embarked on the OFR work. Since then, researchers are researching for ways of keeping cattle in the system as opposed to de-stocking. This is because cattle are a critical resource in the process of cropping. Farmers without their own cattle generally
achieve 50% of production and income levels of those owning their own. Since high yielding technologies for crops generally rely on timeliness of operations, farmers without cattle generally plant and weed late, losing yield potential. They also apply less fertilizer (Shumba, 1989). Current OFR work in Zimbabwe also seeks for ways of reducing the need of cattle: zero tillage and chemical weeding. Work is also underway to try and improve feed availability in the dry season. The introduction of pasture legumes in pastures is an example (Chinembiri, 1989).

Since independence, emphasis has also been given to animal health in Communal Areas. AGRITEX is currently working with the Department of Veterinary Services to establish about 250 animal health and management centres in Communal Areas. The long-term impact of these centres has to be seen. Animal diseases, particularly tick-borne diseases, increased during the liberation war when tick-control dipping services were disrupted in Communal Areas. Whilst animal health will probably be a useful service, this is prejudiced by the general low levels of animal nutrition.

CONCLUSIONS

The most important conclusion on one hundred years of agricultural development is that it took about 60 years - 1890 to 1950 - of sustained government support to white large scale agriculture before it could make a real profit. After the production revolution started on large farms in the 1950s it still took a system of government support and interventions to keep it profitable. Agricultural policy over the colonial period of 1890 to 1980 led to a production revolution on large white farms only. Whilst the distribution of income became heavily skewed in favour of a few thousand large land owners, peasant agriculture stagnated during this period and overall economic and distributional efficiency of the whole agriculture sector is in question today. The success of the major policies favoring large scale agriculture have to be measured against the racial bias of the policies. In this regard, land, research, price and marketing, finance, institutional and budgetary policies were all geared towards the success of large scale white agriculture. This was at the expense of, and sometimes in disregard of, peasant agriculture. One of the difficulties of analysing agricultural policies of the colonial period is the fact that most policy instruments worked positively for large scale agriculture and negatively for peasant agriculture. Recently, the institutional capacity developed for white agriculture started bearing some beneficial results for black holders. Widely adopted maize hybrids and cotton varieties are examples of these.

After independence in 1980, the Zimbabwe experience has shown that smallholders can be a major commercial force in Africa. The phenomenal growth of maize and cotton production by Communal Area farmers after independence has proved that such success is only possible given an affordable and proven technology on the shelf, service institutions which facilitate uptake and use of such high yielding technology and a price and
marketing policy that is positive to small farmers. The challenge now is to have the political commitment to make long term infrastructural and support service to this sector over the next 20 to 50 years.

Land Policy

Land policy was the single most dominant policy leading to the dual agrarian structure and the economics of farming. For the period 1890 to 1979, the colonial land policy was to acquire as much of the high potential land as possible. The number reached a peak in the late 1950s and dropped after independence.

Turning to land reform, this has been an extremely difficult issue for Zimbabwe. The 10 year Lancaster House Constitution allowed Zimbabwe to pursue a status quo. A limited land resettlement programme was slowed down considerably before much land had changed hands. With economic hardships increasing in the later half of the 1980s, land redistribution is once again seen as a solution. A new lobby by the Communal Area farmers union is working on the premise that land can no longer be a birth-right, and that only potentially productive farmers must be resettled. Because of the status quo, land continues to be a racial and political issue.

It is disturbing that there has been little professional debate on land reform and the debate has largely been political. For this reason, only two options are visualised - large farms and communal type farms (including Model A resettlement). The author believes that Zimbabwe needs a new class of farmer - a medium-scale commercial farmer in the high potential zones. If 30,000 to 50,000 of such farmers are established over the next 20 years, this could revolutionise Zimbabwean agriculture, provide new sources of growth and employment and propel the economy into industrialisation. There is need therefore, for a high powered team of technical experts to be tasked with preparing a blueprint for the new resettlement programme that is intended to absorb approximately five million hectares of high potential areas.

Research And Technological Policy

In my judgement, the most progressive decision for research by the colonial government was to build, starting in the late 1920s, a research infrastructure and staff it with highly competent and professional researchers. The most retrogressive development, on the other hand, was to confine the infrastructure to high-potential large scale areas and give priority to crops and technologies suited to these areas and disregarding the present day Communal Areas.

Zimbabwe built an impressive research infrastructure during the colonial period and agricultural research was well funded. Judging from the success of maize, tobacco, wheat, cotton and soyabean research, Zimbabwe has
proved that significant and long term investment in physical and human capital is necessary in order to generate local technologies. At the same time, a strong indigenous capacity is necessary to borrow technologies and products from elsewhere and successfully adapt them -- as with tobacco, wheat, cotton and soyabean.

As the national research system geared itself for fundamental research in the 1920s and 1930s, major choices and priorities were set on what crops and technologies to pursue. Commercial and export crops were the major priority putting maize and tobacco at the top of the original list and these remain priority crops today. Whilst these crops were of interest to peasants, technological choices went in favour of high-rainfall and high-input characteristics. This effectively closed the door to commercial tobacco production by peasants. At the same time advances on sun-cured tobacco, which is more suitable to peasant production were minimal. As for maize, the door to commercial production remained small until the early 1970s when drought tolerant varieties were released to farmers. Until then, varieties such as the record yield-breaking SR52 were largely confined to high-rainfall and fertile soils of large scale farms.

Crop research policy changed in the 1960s and during UDI as cotton, wheat, soyabean, groundnuts and sorghum became important crops for large scale farmers, diversifying from tobacco. During this period, innovative work by national researchers proved that, given a political will, technologies can be fine-tuned to deal with economic realities. These new commercial crops were largely confined to large-scale farms. Peasants, however, started growing larger areas of cotton in this period and cotton has since become a major commercial crop for peasants. Groundnuts were the second most important cash crop to maize during the colonial period. Groundnuts, however, were not a major crop for large scale agriculture. The crop was of low priority for breeding and technological research. Coupled with a negative pricing policy over time, groundnuts never became the major commercial crop for peasants that it had promised to be in the 1950s and 1960s.

Livestock research over the colonial period also provided sound technologies for large-scale farms. The overall impact of this work on smallholder agriculture is negligible. Both exotic and indigenous breeds have been successfully commercialized on large farms. Meanwhile, no breeding and feeding technologies emerged that were suitable for peasants, and technologies today are similar to those of pre-colonial days. A discriminatory pricing policy during the colonial period worked against peasants and against rangeland beef, favoring high input grain fed beef. Not much research has been done on goats, sheep and chicken and peasant technologies stagnated over the colonial period. Pig research was successful in commercializing exotic pigs on large farms.

Although the Department of Research and Specialist Services was staffed mainly by white professionals before independence, and worked mainly on the needs Large Scale Commercial farmers, the high professional standards of researchers has been a hallmark and pre-requisite for success. After independence, Department of Research
and Specialist Services has maintained the policy of high professional standards. The fact that government has
maintained the levels of research funding has helped DRSS perform the way it has. Success has come through
a sustained level of support. The drop in real value of the budget in recent years, however might jeopardize new
efforts aimed at Communal Area farmers.

Whilst livestock has not been a resounding commercial success as crops, Zimbabwe is still 75% a dry cattle
country. One major lesson after independence for researchers and policy makers was to recognize the multi­
purpose nature of livestock, particularly cattle. Another fact is that beef is commercially important for Large
Scale Commercial farmers whilst goats, chicken and pigs are commercially important to Communal Areas. This
means research and policy making resources have to be increased on these animals. The recognition that a
production revolution on crops is more feasible with energy inputs of cattle has provided a more rational
explanation for the economic behavior of smallholders on livestock. In many ways, the ball is in the court of
researchers, policy markers and service institutions to place affordable, proven technologies on the shelf for these,
till lately, neglected small stock animals.

Price and Marketing Policy

Price and marketing policy during the colonial period largely favoured commercial crops grown on large-scale
farms. This policy was more strictly adhered to in the first half of the century when world markets were
unstable and large-scale agriculture in Zimbabwe was not so profitable. Before the Federation days, government
generally provided direct subsidies to white farmers for purchase of land and in support of depressed prices of
maize and tobacco. The depression of the 1930s led government to introducing pricing and marketing controls
at an unprecedented level. A series of laws and parastatal boards were introduced to control maize, tobacco,
dairy, beef and other crops. The suprastructure of marketing boards and their controls remained intact
throughout the colonial period and was somewhat reinforced during UDI when the AMA was formed to
coordinate all agricultural pricing and marketing of major crops.

In general, price and marketing policy succeeded in maintaining the profitability of large scale farms. As
peasants became more impoverished and hungry in the 1960 to 1980s consumer subsidies of food were also
introduced. Over time, and especially after independence, the cheap food policies seem to have favoured the
urbanites as opposed to the rural poor. After independence, the AMA suprastructure has continued to play the
dual role of maintaining the financial viability of large-scale agriculture as well as commercial production of
maize and cotton by peasants, whilst food has remained subsidized for the growing urban and unemployed
population.
The years 1950 to 1973 were of impressive economic growth with local manufacturing reinforcing agricultural growth. The export economy boomed and it was relatively easier for government to maintain a dual policy of subsidized producer prices for some crops and cheap food on the other hand.

Institutional Development

Consistent with overall agricultural policy during the colonial period, the government made significant investments into research, extension, finance and educational institutions. Large scale farming areas were provided with road and railways networks, grain depots, electricity grids and other services necessary to run a modern commercialized agriculture.

The most significant drawback with institutional policy during the colonial period was the dual structure developed between white large scale agriculture and black peasant agriculture. Separate institutions were established for the two sub-sectors. Whilst research, extension, credit and marketing institutions were housed in a ministry of agriculture for whites, only extension services were available for blacks under an internal affairs ministry. It was a major drawback that neither fundamental research, nor credit and marketing services were available to peasants. The very fact the policies in these major areas were developed separately fossilized the dual character of agriculture. Even after independence, it was still difficult to talk in terms of a neutral agricultural policy since remaining issues: land, technology development and pricing, work in opposition between large and small agriculture.

Agricultural extension for large scale agriculture became a major formalised institution only in the 1950s. Until then research results were going to farmers in a more direct fashion in any case, the volume of technological packages increased in the 1950s. The extension institution for whites was formalised, therefore, at a time when significant and relevant technological messages were rolling off the research production line. As for smallholder agriculture in low potential areas, emphasis was put on extension, formalised earlier in the 1920s at a time when there were few technological packages and messages on the shelf.

After independence, Agritex started using a number of extension methods in an attempt to reduce the extension workers to farmer ratio. Of these, AGRITEX resisted World Bank pressure to accept Training and Visit as a national policy. And by restricting it to a few districts in one province AGRITEX went for a lower risk of failure in a new idea which looked unsuitable for local needs. Most developing countries have succumbed to World Bank pressure and taken OFR and Training and Visit projects at levels which have paralysed the local capacity. One could conclude from the Department of Research and Specialist Services and AGRITEX experience that takes a strong institution to successfully withstand such pressures as the World Bank is able to apply.
AGRITEX is quite content to continue trying various models of group extension, which seem to have narrowed the extension worker : farmer ratio.

Credit and marketing infrastructure were simply absent or underdeveloped for smallholder areas during the colonial period. The experience with the Agricultural Finance Corporation after independence shows the difficulties of transforming an institution, traditionally created for large sale farmers so that it serves both large and small farmers. The tremendous increase in the number of loans required the Agricultural Finance Corporation to revise its operational and administrative structures. The need for decentralizing the decision making process has been recognized. An area of difficulty has been the use of "stop-orders" as collateral. The bureaucratic delays in paying farmers has been difficult to rectify. Side marketing has also created a problem. The current move towards group lending of farmers seems to be a progressive innovation.

With poor road networks and no railway access, a few marketing points were built in Communal areas before independence. Grain and livestock marketing became centralized as grains had to be moved from smallholder areas to white areas where storage and processing facilities were developed. This set up also resulted in high costs of marketing and distribution which remain today. Food crops are generally processed in urban areas and have to be transported to communal areas. As part of its drought-relief programme, government has to move large volumes of grains from centralized silos to food deficit areas.

The major challenge of the 1990s and beyond is to develop policies that will increase the overall economic and distributional efficiency of agriculture. At the same time, the increase in incomes and raw materials have to propel the economy into "take-off", hopefully providing more non-farm jobs than population growth.

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