100 years of AGRICULTURAL DEVELOPMENT in colonial Namibia

a historical overview of visions and experiments

Brigitte Lau
Peter Reiner
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I INTRODUCTION

This book is the second publication in the ARCHEIA series on Namibian resources in history, following on "Namibian Water Resources and Their Management. A Preliminary History". It is different from the first volume in its theme, but the same people have contributed ideas, research, and archival resources.

We gratefully acknowledge the early contribution made to the compilation of data by Christel Stern before she left the Archives. Her research has been incorporated, and her place in the research partnership taken by Peter Reiner. Special thanks are due to Annemarie Heywood, who not only asked the key questions which prompted the series, but has again adviced us on the organising structure, titles and layout. For the selection and presentation of the source materials, and any errors that may have crept in, the editors alone are responsible.

The elements and concerns making up this book have emerged as so similar to those of the report on Water Management that this Introduction will follow that of the first volume very closely.

This new source publication series on Namibian resources in history was born when the Namibian of 30.9.1988 published a book review by Annemarie Heywood, in which she raised a number of questions related to research into Namibian history, namely:

- It is particularly the last 25 years which have a direct bearing on the truth of our present reality. Only the UNIN publications touch on this. Where are the investigations of what happened to the many flourishing labour-intensive industries established in this country? What happened to the creameries, the cheese producers, the vegetable plantations of Osona, the citrus groves at the Waterberg? What happened to municipal power stations? The railway yards for the maintenance of rolling stock at Usakos? The brick works, the lime kilns, the tanneries, the tile factory right here in Windhoek?
- What has happened, in this quarter-century, to our mixed agriculture, our fishing enterprises, our ecology? What has happened, still in that period, to our mining, our water management, our communication networks, our energy supplies, our national housekeeping?

Inspired by these questions, we realised that Prof. Heywood had pointed not only to a gap in our research landscape but also to one in the general awareness of existing sources; that the National Archives indeed houses source materials for such investigations; and that our source publication series ARCHEIA was an appropriate vehicle for presenting and making available some of these little-known sources to the wider public.

The sketched analysis of contrasting agricultural policies was guided by the simple structuring question: "To whose benefit?" This survey does not claim comprehensiveness. In the absence of literature, research, sources and studies on Namibia's economic history - a most surprising gap considering its relevance and importance - no such enterprise could be undertaken within the limits of time imposed by National Archives administration. At the same time the editors feel that the material gathered here is of such interest to the wider Namibian public that it should rather be presented in this broad outline than not at all - a resource for future scholarly investigation.

Therefore the existing lacunae in data and information are indicated each time by the formula "no further data are on record". It must be stressed that "not on record" does not mean that the information is not available at all. "Not on record" means that the information has not reached the public in accessible form - such as, in the first instance, published material including systematic collections of oral data but also internal reports, unpublished theses, and other writings which may be stored in a public library.

Overview of Content and Definition of Terms

In line with the research results presented in the first volume on Water Management, the history of agriculture in Namibia is very inadequately characterised by broad references to "colonialism". Rather, as will be demonstrated in detail, three distinct phases can be made out within the period of colonial domination which ended only three years ago:

- German colonial period, 1892-1915
- Union/Commonwealth period, 1915-1961
- RSA period, 1962-1990

One of these periods was beneficial to the development of the country's agricultural resources, namely the German era; the other two were 'underdeveloping' the country in the sense Rodney introduced in his controversial analysis of 'How Europe Underdeveloped Africa'. Rodney traced a continental pattern of destructive strategies, operating over centuries, by which African resources have been exploited by being perversely directed away from self-sufficiency, towards feeding and strengthening the resources of the imperial First and Second World countries. As will be seen in this survey of agricultural

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1 Authorised by C. Stern and B. Lau, Windhoek 1990
2 See Bibliography
visions and experiments, this is the role Namibia was forced to play vis-a-vis South Africa.

The three phases will be seen to emerge in this light. During the German era, effective planning documents were drawn up, informed by community-intensive ideas of settler autonomy, self-sufficiency, and what today has been rediscovered as appropriate technology. This was the progressive strand in an undertaking which by force took both the land, and the planning, out of the hands of Namibia’s indigenous peoples. The role of the colonial administration was to be supportive of initiatives leading to autonomy. These planning documents came to shape settlement policies; the emergence of smallholdings; the setting up of government plantations or forestry stations, and the planning for agricultural infrastructure, especially water development. The beneficiary in these projects was the emerging colony, through the individual settler.

In the Union period Namibia came to be considered not as a place for settler autonomy, but as a place to be used in the interests of the Union’s own development. Settlement policies exhausted the country’s financial means in an indiscriminate dishing out of land to poor-whites; when the established smallholdings, reserves and farms wished to commercially market their surpluses of vegetables and crops, they were faced with primitive or even hostile distribution arrangements. Their requests for infrastructures were ignored, with the sole exception of dairy products, where such an infrastructure was provided after the introduction of motor transport. As will be demonstrated, competition with Union-based agriculture was not tolerated. At the same time, the branches of agriculture that were allowed to develop and actually encouraged were those in which the Union was not entirely self-sufficient and for which it required a cheap source. The interests of multinational companies overrode not only questions of ecological survival, but the very statutes of the land.

The RSA period, beginning in 1961 but demarcated by policy shifts following the victory of the National Party in South Africa, saw the destruction of remaining pockets of Namibian self-sufficiency and diversity. The vegetable fields of smallholders, the integrated dairy industry with its networks of producers and processors among both white farms and at least nine reserves, the wheat fields of the Auob valley and Okombaba, the orchards of the Waterberg and the Klein Windhoek valley ceased to exist. This was demonstrably not linked to ‘market forces’; neither does it appear to have been related to ‘drought’ or other natural forces. Rather, available evidence suggests that the destruction of these industries, and of the small-scale, productive and diversified nature of farming activities in Namibia as a whole, emerged as the result of specific South African policies apparently serving specific South African interests. These may be summarised as follows:

- to create captive markets and eliminate all possible competition from Namibia as soon as South Africa became self-sufficient and an exporter of the same product (such as in the case of the dairy industry)
- to eliminate all possibilities of independent enterprising participation in an integrated economy of Namibia’s black rural population

The instruments with which these interests were realised were the Railways; production and marketing subsidies combined with South African-based commercial marketing monopolies; price manipulation of South African products by means of fertiliser control and research input, and exclusive Bantu Development Corporations backed by apartheid legislation. This gave South African produce the advantage of a lower shelf price.

The combined effect of these policies was that monocultural businesses replaced the white and black peasant farmer on the land. In this manner, all settler autonomy was lost, together with that of all black farmers, and Namibian agriculture became a heavily indebted business tied to South African political and economic interests.

This publication has been structured into a brief survey of pre-colonial agricultural visions and experiments; a broad historical overview over colonial agricultural policies, legislation and bodies; and selected segments in which a more comprehensive survey was attempted. It is hoped that a more detailed analysis will be provided by future researchers. This will be a difficult undertaking, especially due to the lack of records; such future study will, therefore, have to include informants from people on the land throughout Namibia.

**Pre-colonial agricultural development**

For what is known about Namibian pre-colonial agriculture during the preceding centuries or even millennia, one might say that it was subject to rules and regulations aimed at self-sufficiency or surplus for trade, benefitting the whole socioeconomic unit, whether this was the family group, tribe or kingdom. This seems to be true even considering that pre-colo-

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3 The apparently total control of these corporations over individual or co-operative enterprise in Namibia’s homelands remains curiously undiscussed in the scant literature available; see for instance Moorsom: Transforming a Wasted Land, Section 4.4. These researchers have not focused on the role of the corporations either but strives to establish this as a major gap in Namibia’s research landscape.
nial Namibian societies were clearly stratified, and that in the times of war, conflict or other stress which are on record, such as during the 19th century, subordinate groups or members of the polity were more likely to be deprived than others. Very little research has generally been done on patterns of land use, cultivation, animal husbandry, or the social or political principles which governed agricultural production/distribution, and experimentation. There are also no surveys or studies of the impact which the long-distance trade with the Cape, emerging around the turn of the last century, had on agricultural development, although the fact that such an impact can be observed was noted by several researchers. Similarly the agricultural experimentation of the missionaries at their 19th-century settlements has not been systematically studied.

Namibia had, for centuries if not millennia, various populations of gatherers and hunters, of pastoral nomads breeding and managing small as well as large stock, of sedentary groups supporting themselves largely on undomesticated fruits and vegetables, ocean or fish resources, and veldkost (such as the Topnaars), as well as cultivators of tobacco, vegetables and grain (such as the people of the Kavango and Caprivt), or of peoples combining all or several of these agricultural pursuits. While the cultivation of grain and domesticated vegetables seems to be limited to northern Namibia, purposeful cattle and stock breeding as well as tobacco and pumpkin cultivation is on record for at least the last 150 years throughout Namibia, from the Orange to the Kunene.

Recently a few detailed studies have emerged which document the sexual, age-group or hereditary (clan or royalty) social divisions determining land use in pre-colonial and pre-19th-century Namibia. For the first time, the studies also make use of either long-term archaeological sequences or oral traditions.

These studies document socially regulated and agriculturally diverse systems which led not only to food self-sufficiency for all, but also to surpluses used for exchange and barter. Williams discusses the relations between the women who are at the centre of the production and processing of sorghum, millet, groundnuts, beans and pumpkins, as well as the managing of sheep, pigs, chicken and cattle, and the men who seek to control usufruct, access, and distribution. She also documents the extent to which men, and especially the members of the royal household and the king, were obliged to redistribute agricultural products rather than accumulate them. Among the Bushmen, food sources and their exploitation appear to have been regulated in an even more reciprocal manner.

To the best of these researchers' knowledge, the bulk of other existing remarks in the available literature have been compiled by Europeans on the basis of written sources produced by European men, or on the basis of unrecorded interviews with unnamed informants. The results do not go beyond a listing of agricultural production and wild or domesticated foodstuffs, so that patterns, dynamics, developments and experiments remain unresearched and unrecorded. Examples of such surveys are, for instance, Vedder's lists of Damara veldkost in Die Bopdama, or the notes on the cultivation of sorghum, millet, maize, tobacco, beans, groundnuts, calabashes, animal husbandry including goats and chickens for the Kavango peoples in Gibson, Larson, McGurk: The Kavango Peoples; Köhler's studies of wild vegetables in Bushmanland in Die Welt der Kxoe-Buschleute im südlichen Afrika; Laut's remarks on early Nama animal husbandry and tobacco cultivation, based on archival sources, in Namibia in Jonker Afrikander's Time; and Irl's sparse, lone notes on Herero cultivation of tobacco, calabashes, and animal husbandry in Die Herero.

Research trying to establish when and how and from which directions crops and animals were introduced, domesticated, processed, hardly seems to be on record. Yet there can be no doubt that the centuries or even millennia of introducing, managing, and produc-

4 E.g. Williams and Slikosn; see Bibliography.
5 For southern and central Namibia, see for instance Law: Namibia in Jonker Afrikander's Time, 11-12; for Hereroland and Damaraland see the numerous references to tobacco and dagga cultivation, as well as other crops, in Carl Hugo Hahn Tagebücher/Diaries 1837-1860, Vol. 1-5 (collected in Vol. 5, Register, under "Crops"); for Ovamboland, see Slikosn: Trade and Socioeconomic Change in Ovamboland, 1850-1906, 53
6 See Kinahan for what he terms the central Namib, in Kinahan: Pastoral Nomads of the Central Namib Desert. Unfortunately Kinahan makes no attempt to associate the settlements he studied with any of Namibia's peoples, with the exception of coastal settlements which he hastily concludes have been settled by the Topnaar. Also unfortunately, he concentrates almost exclusively on herding, hunting, and coastal fishing, so that gathering, even including huna exploitation - otherwise recognised as the mainstay of pastoral peoples - is but mentioned in his study.
7 See Williams for Ovamboland: Precolonial Communities of Southwestern Africa, and the study compiled by the Ju/va Bushmen Foundation for Bushmanland, summarised by NEPRU for the recent Land Conference; see National Conference on Land Reform and the Land Question, Vol. 1, Office of the Prime Minister.
8 It should be noted that 19th century missionarics have produced more detailed observations, but these have not been systematically studied with regard to agricultural developments.
9 See for instance, Williams' note that horses and donkeys where domesticated animals in Ovamboland by the middle of the 19th century (Precolonial Communities, 42); Kinahan's contention after 10 years of research on pastoralism that "the immediate origins of the actual livestock and the fine pottery brought into the region 2000 years ago can only be
ing tobacco, wild and domesticated vegetables, cultivating grains, breeding small stock and cattle in Namibia, by peoples who came to be close neighbours, must have been accompanied by a process of experimentation, selection and exchange based on sophisticated knowledge and insights which it might be useful and necessary to study.

The 19th century to the eve of annexation

Again no systematic attempt of tracing and studying agricultural developments, changes and experiments is on record, and only the briefest survey can be provided here, indicating that this is indeed a significant gap in Namibia's research landscape.

As elsewhere on the continent the pre-colonial 19th century in Namibia was one of innovation and dynamism. The 19th century saw the large-scale immigration of Oorlam peoples from south of the Orange into Namaland and central Namibia; it saw the establishment of long-distance trade with the Cape and the introduction of firearms throughout Namibia; the emergence of literacy and Christianity, and it also saw a persistently growing European presence. In Namibia south of Ovamboland sedentary agricultural settlements emerged based on the cultivation of wheat, maize, vegetables and dates brought by the missionaries and the Basters. Nama groups became horse breeders, and began to experiment with systematic quarantine regulations in order to contain cattle diseases spread or introduced by long-distance trade. Certain types of veldkost were tested for new alcohol distilling techniques - as is on record for the so-called reseiitje berries (Grewia flava). The problematic way in which new commodities such as arms and ammunition were introduced into Ovamboland, leading to increased slaving and alcohol consumption, has been noted but never systematically studied.11

The fact that none of these developments have as yet been examined in depth does not mean that they happened on a small scale. For example, by the early 1880s rather surprising quantities of foodstuffs such as rice and sugar were imported into the country via Walvis Bay and Angra Pequena (Lüderitzbucht). In 1883 more than 40,000 lbs of coffee, 70,000 lbs of rice, 30,000 lbs of sugar, 15,000 cigars and almost 35,000 lbs of salt were imported.13 While missionary Irie's remarks on food in Hereroland suggest that by the turn of the 19th century all, most or many Herero settlements actually had gardens with wheat, pumpkins and maize,14 the best established central Namibian settlements supported by cultivation were centred around the mission stations at Otjimbingwe, Ojikango (Groß Barmen), Otjiseva, Rehoboth and Okombahe. Missionary Hahn's records of Otjimbingwe document, for instance, that in 1865 about three tons of grain - probably wheat and maize - were harvested from fields in the Swakop River which by the 1870s stretched from Otjimbingwe to Salem. At Ojikango the missionaries had introduced fruit-tree cultivation with date palms, mulberries, figs, vines, pomegranates, apples and pears.15

At Omaruru the resident Herero were supporting the growing European trade establishment with corn, growing wheat in large fields in the Omaruru River, as well as establishing gardens with maize, sorghum, pumpkins, tobacco and other vegetables. Palgrave in 1876 noted that 125 "muid" of wheat were harvested - that is about 1/2 tons.17 Okombahe in 1876 had about 800 residents, mostly Damara, who had a mile of the riverbed under cultivation, growing maize, pumpkins, and tobacco. Apparently they harvested between 3 and 4 tons of maize.18 Although the cultivating and gardening energy of the Rehoboth Basters is often noted in the sources, not one study is as yet on record documenting agricultural production among the Rehobothers.

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10 See Boahen: African Perspectives on Colonialism, Ch. 1
11 See, for instance, Williams: Precolonial Communities, Ch. 7; Siikonen: Trade and Socioeconomic Change, Ch. 5. For surveys of central Namibia and additional details, see Lau: Namibia in Junker Afrikaner's Time; Palgrave: Report 1876 (for full reference, see Bibliography); Heywood & Muusdorp: The Hendrik Witbooi Papers
12 Additional imports via land are not recorded.
13 Cape Blue Book A.7 - '84, 14-17
14 Irie: Die Herero, 114; see also Palgrave in 1876, noting that "we hear that in Damaraland [Hereroland] many people live by sowing corn" (Report 1876, 57)
15 Lau: Namibia in Junker Afrikaner's Time, 52, note 131; Palgrave: Report 1876, 11
16 Ibid., 12
17 Ibid., 24
18 Ibid., 52
II HISTORICAL OVERVIEW

German Colonial Period

The German colonial administration actually emerged in Namibia very slowly\(^1\) and was effectively established in the 'police zone' for less than a decade (c. 1908-1914).

For reasons of colonial policy still to be analysed by future historians but surely related to the lack of funds and suitable skills in both natives and immigrants; the new colony's distance from Germany and especially distances within Namibia, the administration sought to implement a model of population-intensive agricultural development which focused on settler autonomy with regard to subsistence, overall food self-sufficiency, and setting up a marketing infrastructure. This will be demonstrated by a survey of legislative measures, administrative policies and the government bodies created to realise them.

Although the administration never had the power to make laws, binding rules and regulations with definite penalty provisions for non-compliance were issued since circa 1890. These ordinances can be seen to fall into three groups:

- Protecting existing agricultural resources;
- Establishing production and distribution centres to achieve self-sufficient subsistence and identify potential cash crops;
- Regulating and defining the relationship between the administration and the settler farmers.

Among the earliest ordinances, beginning in 1892 and being continuously updated, consolidated, refined and reinforced until 1915, are those forbidding and/or restricting the cutting of trees, the pulling out of grass by its roots, the burning of veld, and the hunting of game. There was no notion that these resources were 'privately' owned anywhere, or that farmers, districts or municipalities had privileged rights.\(^2\)

Hunting permits were made obligatory by January 1892.\(^3\) Between 1892 and 1909 an increasing number of animals could not be hunted at all, such as certain birds, elephant, giraffe, female kudu, rhinoceros, hippopotamus, all young antelopes, flamingo and seals shorter than 50 cm.\(^4\) At the same time, the closed season for all other game except ostriches was prolonged several times until it was set at the period 1 October - 28 February. By 1907 the rule was established that male adult ostriches could only be hunted during the month of July each year.\(^5\)

More important and more numerous were the regulations and rules made to encourage and guide agricultural production in the new colony. Apart from the Verordnungen forbidding or restricting the import of cattle, goats and sheep whenever there was any news of stock diseases,\(^6\) or trying to prevent farmers from sharing Angora goats and merino sheep for breeding in order to facilitate the emergence of thoroughbreds,\(^7\) there were Verordnungen demanding the establishment of gardens and plantations, and the growing of certain crops and fruits.

Such administrative circulars can be found in virtually all of the circa 1 000 files dealing with various aspects of agriculture of the central colonial government based in Windhoek between 1896 and 1915.\(^8\) Many settlers had begun to grow a variety of foodstuffs almost as soon as they set themselves up on a farm - hoping to supply their own needs as well as start marketing surpluses in order to finance the development of their farms.\(^9\) Administrative staff were expected to identify and demarcate suitable sites on government land, request basic equipment such as a plough and a spade, and some funds to pay native assistants, and to start growing trees and crops. And when they did, as will be outlined in a few examples below, they were immediately expected to support the settler commu-

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1 See, for instance, the summary of the first 10 years, when the Germans were extremely few and had no power at all due to the determined stance taken by Hendrik Witbooi, in Heywood & Maasdorp: The Hendrik Witbooi Papers, Introduction by B. Lau.

2 See for instance Verordnungen of 7.8.1894; 28.10.1895; 10.12.1908. The restrictions on pulling out grass by its roots were made general on 18.3.1907, but subsequently various districts applied additional regulations when a certain area had been overgrazed; veld fires and the systematic burning of so-called 'sour grass' were also outlawed in 1894 unless a permit had been granted (Verordnung of 4.8.1894).

3 Verordnung of 4.1.1902

4 See Verordnungen / Verordnungen published in the Amtsblatt, the German official gazette, of 4.1.1892; 15.10.1896; 1.9.1902; 20.1.1903; 3.2.1907; 16.12.1907; 4.3.1909.

5 The reason for this particularly heavy restriction was that the Germans hoped to establish ostrich farming throughout the 'police zone'.

6 See for instance Verfügungen of 30.11.1902

7 Verfügungen of 17.10.1907

8 These are now preserved in the National Archives of Namibia.

9 See for instance Schlettwein: Der Farmer in DSWA; also farmer Brandt in the Mariental district who reported in 1908 that, in addition to the 20 ha of wheat and maize on his farm, he intended to "supply the whole district of Gibeon with bread fruit" by the next year (ZBU L.II.5.3, Bd. 1).
nity in the region by providing advice and plants, thus facilitating further cultivation ventures. For example, after a few years the Gobabis government plantation worked about 200 ha, selling 10 000 fruit trees and 30 000 vines annually to farmers and administrative outposts - plus other plants and crops - with one gardener, six labourers, 10 oxen, 3 mules, a plough, spades, and the stones found on the site for irrigation canals.

Another set of supportive circulars promoted smallholdings as self-sufficient stepping-stones for less resourceful prospective farmers on the one hand, and the nuclei for future urban development on the other.

A few years after such beginnings the bodies established to carry the burden of experimentation and distribution would produce results which enabled the administration to request the cultivation of specific crops and vegetables in certain regions, and promote specific types and strains.

The third thematic emphasis found in the hundreds of circulars and regulations relates to the relations between the administration and its various bodies (which are briefly outlined below), and the settler farmers. The pattern that was established ran along the following lines: the administration would take over part of the costs and efforts involved in the efforts at subsistence and settlement but make sure that a considerable part was carried by the individual settler farmer. Even after the wars against the Herero and Nama in which the latters’ property and land were expropriated, the central idea remained the building of a viable colonial infrastructure, whose emphasis on settler autonomy exploited but included Africans. For instance, settler assistance for the purchase of farms was made dependent on a number of factors such as own capital (a minimum of 10 000 marks); proof of improvements and working the farms after a maximum period of six months; setting a maximum size for farms (20 000 hectares); limiting ownership to one farm only; no resales within ten years unless the farm had been paid for in full.

The administration would order seeds, plants and even freshwater fish for new dams from Germany, from its own local plantations or sometimes the Cape; it would offer to purchase farmers’ produce for provisioning its own non-military staff if there was a good rain year, and if the produce was locally grown; it would ardently and voluminously publish relevant data and information and sell these publications cheaply; it would support the building of tobacco drying sheds with funds but only if the sheds were built precisely to government specifications; it would issue seeds and crops for free to selected farmers if the farmer agreed to send detailed reports about growing conditions and harvests. In all cases, however, the farmer had to pay certain tariffs and take over the responsibility of risk; there was no question of subsidies in the form of refunds in the event of a poor rainy season or if the fish died or the crop failed. With the exception of small-scale bonuses for special settler projects which the administration sought to support such as the erection of tobacco drying sheds - there was also no financial support for even very basic infrastructural expenses such as boreholes.

The administration also took care to reward farmers and their wives for quality in their endeavours: from 1910, regional agricultural shows were organised in which almost as much prize money was paid for various crops, fruit, processed foods as was for locally-bred cattle and small stock.

The 1913 Windhoek Show was focused on local products, but German industry was encouraged to participate in so far as they wished to exhibit
- farm and horticultural products;
- agricultural machinery, agronomic and horticultural implements.

In order to encourage exhibitors they were granted reduced railway tariffs and exempted from customs.

Between 1910 and 1914 the colonial administration also offered prize monies for similar agricultural shows at Gobabis, Omaruru and Grootfontein; Outjo - placing special emphasis on foodstuffs - and Okahandja rose to the occasion and organised their own show, again supported by the administration, in the wake of the enthusiasm for the 1914 colonial show. The first of these regional shows - apart from Windhoek - was apparently held in Omaruru in 1910, and interestingly placed emphasis not so much on cattle, sheep and goats, but on apiculture, fruits of the soil, agricultural machinery, and local agricultural techniques such as irrigation systems and procedures for the successful production of tobacco and wine.

It emerged very soon that in order to promote subsistence and fodder self-sufficiency in Namibia, the col-

10 See for instance the Runderlaß of the Colonial Office of 13.3.1911 (ZBU L.IV.1.k.1).
11 LAN 4545. See also the most developed group of smallholdings, namely Klein Windhoek, in Führer durch Stadt und Land Windhoek.
12 See for instance Verpflichtungen und Bekanntmachungen of 29.10.1907; 19.10.1908; 23.10.1908; 19.9.1909; 13.6.1910; 9.11.1909. Yet different forms of support were experimented with. For instance, the administration set up so-called ‘water drilling columns’; see Stern & Lai: Namibian Water Resources and Their Management
13 See Appendix A for a translation of the prize plan for the 1914 Colonial Show held in Windhoek
14 ZBU L.III.1.7
nial administration would have to gain experience and expertise as well as create production and distribution centres for seeds and plants for its own stations, and the farmers. Police, railway and military stations, prisons, district offices, government farms for the Truppe and its horses had been expected to establish gardens for subsistence, but were soon called upon to experiment with the cultivation of crops and fodder. For example, in 1911 members of the Truppe and police stations in southern Namibia were told to sow grasses, especially so-called ‘aristida’ grasses, in areas damaged by heavy grazing of cattle and horses. They were supplied with grass harvests from other spots in the same region, which they then had to dry and thresh. With home-made harrows they loosened the soil in many places and sowed about 10 kg of seed; this minimal effort - there were, for instance, no provisions for water, fertiliser, levelling the ground over the seeds - led to apparently surprisingly successful results.  

However, more systematically, the colonial administration sought to establish a network of experts. The administration fostered strong links with world research and innovations. Ideas on grasses, trees, and crops came mostly from other parts of the world; information was sought not from South Africa, which was comparatively undeveloped in those years, but from the USA, from Russia, Australia and South America. For example, the Trans-Siberian Railway Line, hailed as a great modern achievement around the turn of the century, could not have been completed had it not been for certain grasses successfully bred and grown to fix shifting dune sands in wide stretches of Russia. These grass seeds were imported and planted in experiments around Lüderitzbucht. Similarly, the USA were in the process of cultivating their huge and dry ‘wild west’ savannah country. These models inspired German planners in GSWA, and they were strongly supported by central research institutes in Berlin, Hamburg, and the then famous Institute of Rome.  

On a concrete level the administration established ten agricultural/forestry stations all over the country, from Bethany to Grootfontein. These were variously called Forstgarten or Versuchsstation or Truppengarten. They also established a bacteriological research institute at Gammans; various stations to breed horses and mules only; a state ostrich farm, and a laboratory at Gariganis. These government gardens or plantations and research stations were established on the basis of a multitude of reports, suggestions, experiments by settler farmers as well as native Namibians whose suggestions are not on record but whose knowledge must have proved invaluable to many farmers - which had been collected, and after a number of research journeys had been undertaken by botanists and geologists such as Dinter and Rchbock between 1896 and 1907. By 1912/13 plantations and research stations existed at - Grootfontein (viticulture and trees) Okahandja (trees and tobacco) Ukuib (date palms) Windhoek (fruit, crops and trees) Gobabis (fruit and vines) Neudamm (crops, cattle and sheep) Brakwater Gibeon (trees and bushes) Fürstenwalde (karakul breeding centre) Bethany  

The South West Africa Company also established and ran a similar station, which included a large-scale afforestation project, at Kreyfontein, four kilometres north of Grootfontein.  

These stations/plantations had four tasks:  
- To produce saplings and seedlings and/or pure seeds to be sold or distributed throughout the country;  
- To experiment with certain types of crops, fruit and trees in order to identify and breed those best suited for the soils and climatic conditions of the region served by the station;  
- To produce foodstuffs and fodder for own consumption; and  
- To identify ‘exotics’ - i.e. cash crops for an export market.  

The beneficiaries of these stations thus were the farmers and smallholders; the various administrative outposts, and the emerging urban centres. The scale on which these stations operated as well as experimented may not be underestimated merely because their equipment and staff was minimal and inexpensive. The station at Gibeon distributed, for example, 4 750 of its trees in 1913; Windhoek sold 12 208 woodlot trees and Grootfontein 30 000 vines. An annual report of Grootfontein is included as Appendix B.  

15 Amtsblatt 1911, 91-92.  
16 See for instance the 1911 Eriß from the Berlin Colonial Office requiring all districts to grow grains and beans on the ‘dry farming’ system pioneered at the time in the USA, and to submit detailed reports because these were being collected at the Rome Institute (ZBU L.IV.k.1; L.IV.k.2).  
17 Many or most of these reports and discussions are on record and may be studied in detail at the National Archives (ZBU L series). Among the more influential studies seem to be those of botanist Dinter, of whose prolific writings it might suffice here to mention two: Die vegetabilische Veldkost Deutsch-Südwest-Africas; Deutsch-SWA: Flora, forst- and landwirtschaftliche Fragmente.  
18 See the documentation in the ZBU L.III.f series, as also in the ZBU M.I. series.  
19 ZBU L.VIII.d.5
In 1914 an Agricultural Council was established. This body had only advisory powers but was, interestingly, elected on the basis of regions (called districts and excluding areas north of the so-called police zone) from among the farming community.\(^{21}\) Nominees had to come forward themselves and see whether their neighbours would elect them. Thus the trust in expertise was placed in the local settler farmers. Members were to meet at least once a year; no salaries were foreseen. It seems that this Council never came to operate fully; soon after its election the transition military regime of the Union troops had taken over.

Lastly the various marketing co-operatives which emerged for agricultural produce should be mentioned. In Omaruru, for instance, a marketing co-operative run by an undisclosed number of farmers sold 8,811 lbs of vegetables, 24,250 lbs of potatoes, 1,100 eggs and 693 lbs of butter during a single month in 1909.\(^{22}\)

It is difficult to sketch the direction; the nature of official support/guidance; the quality, and the productivity of food and fodder cultivation in Namibia during the German colonial era. One way of summarising this complex picture and representing the often surprising diversities, quantities and qualities of local agricultural products is to consider regional and country-wide agricultural shows. A translation of the prize plan for the 1914 colonial show is attached as Appendix A.

### Union/Commonwealth Period

Under the Union administration agricultural development in Namibia came to serve South African interests to the long-term disadvantage of settler, native, and the country at large. This is suggested by a brief survey of constraining legislation, the lack of policy for the mandated territory and the refusal to respond to farmers' requests for infrastructure to market their surpluses, as well as the absence of effective agricultural bodies.

Almost no legislation pertaining directly to the enhancement of agricultural production and marketing was in fact promulgated in the mandate itself. Since 1927 a legislative assembly had limited powers to promulgate ordinances and proclamations, and these included provisions for the protection of grazing, soil conservation, afforestation, the local dairy industry and, by the early 1950s, price-control ordinances for the commercial marketing of farmers' surpluses of maize and wheat. However, available records suggest that with the exception of dairying legislation these provisions were either ignored or kept vague, while others which were in fact specific and enforced represented a source of revenue for the Union. This is demonstrated in some detail by the examples of the deforestation of Namibia and the tobacco industry in Chapter 4.

Other pieces of swiftly implemented legislation affecting agriculture in Namibia indirectly were focused on deriving revenue from Namibia's existing agricultural and transport infrastructure, thus also protecting Union producers; and in settling large numbers of clearly resourceless Union immigrants. One of the first steps taken was the expropriation of the comparatively advanced existing railway network, under Act 20 of 1922.\(^{23}\)

Thus the Union came to determine how often and where trains ran, how much rolling stock would be available in the territory and when, and perhaps most important of all, the Union determined the tariffs.\(^{24}\) The differentiated tariffs applicable for Union produce imported into Namibia afforded Union farmers the advantage over Namibian farmers attempting to market their surpluses in good years. In 1932, for example, railage on tobacco from the Union to Okahandja came to 3¢ per 100 lbs, while it stood at 3/6 from Okahandja to Tsumeb.\(^{25}\)

The second revenue-creating and agriculturally constraining legislative action benefitting the Union of South Africa was the inclusion of the mandated territory in the South African customs area in 1921. This meant that Namibia was being forced to protect as well as actually finance South African agricultural and industrial development, to the detriment of Namibian agricultural production and processing. For instance Namibia, now cut off from the world market, in 1931 had to import sugar at the South African price of 24/6

\(^{20}\) For additional details on specific research and experiments, see the ZBU L.III.r series.

\(^{21}\) This, as a matter of course in these early colonial days, excluded all natives and all women.

\(^{22}\) ZBU L.VI.g.2

\(^{23}\) From the urgent criticism of the Permanent Mandates Commission it is clear that this act merely legalised a fait accompli. Although this expropriation constituted a violation of both the Treaty of Versailles and the Mandates Treaty — according to which all existing assets had to remain Namibian property — the Union of South Africa persisted. See Appendices to AR 1924-1926 for some documentation on how the Union won its struggle against the League of Nations with regard to the railways expropriation.

\(^{24}\) The Farm Industry Commission of 1927 discussed this issue in some detail in its report (Farm Industry Commission Report, 1927, 6-7, 21-22).

\(^{25}\) SWAA A.80/6
per 100 lbs, rather than at the world-market price of 10c. When it was found, apparently per chance, that this price difference was channelled directly to the budding Natal sugar producers, even the pro-colonial Permanent Mandates Commission queried why the territory should have to finance Union development. The restriction of access to the world market also changed previous patterns of the direction of trade in Namibia - away from overseas to overland trade with South Africa. This not only led to a regression of Swakopmund, where the harbour was simply abandoned, but also created a generally disadvantageous balance of trade very quickly: by 1920/21, 65% of all imports came from the Union, but the Union only absorbed 20% of all Namibian exports. Disadvantageous customs and excise legislation with regard to Namibian tobacco was implemented in 1921; another Namibian industry which was destroyed within a few years by the same mechanism was the distillation of liquor from locally produced fruit and vegetables.

The third important set of Union legislation which indirectly affected agriculture related to the settlement of poor whites in Namibia - by all appearances one of the Union's top priorities. In 1922 the Union Land Settlement Act of 1912, designed to deal with the growing problem of poor-white Afrikaners, was made applicable to Namibia. This led to large-scale settlement of resourceless whites under most generous assistance schemes, at the acknowledged expense of agricultural development; the process and its effects are discussed in some detail in Chapter 6. Food production in Namibia simply did not appear on the Union's agenda.

A pervasive rhetoric of Namibia as an 'arid' and 'unproductive' country came to dominate official statements from the first year of mandate administration, 1918.

A striking example of this negation of Namibia's agricultural record and potential established during the pre-colonial as well as the previous colonial era is represented by the denial of what was directly before people's eyes in the report on a visit to Osona by three members of the Land Board in September 1921:

Unfortunately, like all other small settlements in this country, the establishment of a small settlement at Osona was another optimistic venture on the part of the late German Government without having any regard to profit and loss aspect of the case. The soil has a rather misleading loamy surface. The settler naturally assumes that the soil is ideal for fruit growing, only to find that when the trees or vines are a year or two old, the roots strike sand and the trees die off. It cost them many thousands of pounds to discover this. Market gardening and tobacco cultivation were therefore the only source of income, and although water in plenty can be found at no great depth, experience has shown that gardening does not show a profit when water has to be raised by mechanical means, especially in the quantities required for irrigation in this climate. A big irrigation scheme which will cost about £100,000 has been suggested, but as this will bring the cost per irrigated hectare up to about £500, the scheme cannot be regarded as feasible. The Board considers that the case of Osona from an agricultural point of view is hopeless, and its only hope appears to be that in the future the weaker settlers will leave or die out, leaving the financially stronger ones to carry on, and possibly making a little more than a bare existence. The establishment of further settlers at Osona would only tend to turn the ruthless into a poor white colony, which it practically is already.

However, the report on an inspection conducted at Osona at the same time documents a blossoming horticultural establishment. In all, 54 ha was under cultivation; 3805 grape vines, c. 230 fruit trees (apple, peach, pear, apricot, almond), a bee-house with 5 hives, and almost 3000 trees for shade and windbreaks. By that stage the distillery had had to close
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26 Rädel: 'Die Arbeiterfrage in SWA', 104. As regards maize meal, the difference was even more pronounced: Namibia imported maize meal via South Africa at 6/6 per 100 lbs, as against 1/8 on the world market (ibid.).
27 Appendix to AR 1930, 64. The Union Representative excused this by drawing attention to the Union's expenses for the Angola Boro and other Namibian settlement scheme benefits - not mentioning that these expenditures were listed as Namibia's only 'capital debts' until the late 1940s (ibid.).
28 Rädel: 'Die Arbeiterfrage in SWA', 102
29 This will be surveyed in the next volume in this series, on manufacture.
30 At one stage during the 1920s the Permanent Mandates Commission in Geneva, pondering over the reports, asked the Union representative rather perplexedly what the inhabitants of the territory lived on (Appendix to AR 1928, 67). The Union Representative again asserted that the country was 'not agricultural', and that the Union government had no intention of development by irrigation schemes. When the issue was again taken up by the Commission in the next year's report, the Union Representative plainly said that while South Africa also had once been pastoral and was now growing crops in plenty, this was not imagined ever to happen in Namibia (Appendix to AR 1929, 143).
31 LAN 2659; for further examples, see AR 1922, 30; AR 1923, 29; SWAA A.138/1, Vol. 1.
down due to high duties imposed by the military transitional administration who apparently wished to ensure that Union troops consumed Union products, but the premises had been fully converted into a canning and packing factory which produced salt meat for export, polonies and sausage, bacon and hams, and, interestingly, tinned vegetables. The factory was equipped with machinery for making the tins, ice plant, brine vats, cool chambers, abattoir and smoke room, and employed 22 people.33

Although this clearly shows that the above evaluation of the scheme was totally inaccurate and unfounded it would in the future become representative of the Administration’s attitude to all agricultural activities but stock farming.

As has been suggested above, and as will be detailed in some selected segments below, many of the existing German-era and even earlier general agricultural pursuits of all farmers continued to blossom; left to their own devices, they continued to grow and market their surpluses of fruit, vegetables, tobacco, etc., on a significant scale. They continued to concentrate on the products of living animals rather than their carcasses, e.g. by producing wool, and cream for the manufacture of butter and cheese.

Thus when the diamond industry went into recession and almost collapsed during World War II. Namibia experienced what surprised Union commentators later termed “unprecedented financial prosperity”34 due to its export earnings from these products - not minerals, fish, or slaughter cattle.35

Where there is neither legislation nor policy there need not be bodies. Of the ten experimental plantations which existed during the German period, one survived - Neudamm, which changed its character and began to focus on cattle and karakul as from 1915, rather than dryland farming.36 The station at Grootfontein was renamed Tigrequelle and closed down in 1930. The other experimental farms with their country-wide tasks were either closed down, relegated to the status of mere municipal nurseries, or even burnt down (e.g. the date plantation at Ukub - see Ch. 4). Although two additional experimental farms emerged during the Union period - Omatjentjena in 1934 and Gellap-Ost in 1939 - very few records could be traced of actual crop experimentation, and none of horticultural assistance to farmers, both as regards production and marketing infrastructures. Nonetheless harvesting figures show the remarkable productivity and diversity of these farms, despite the apparently minimal expert input.37

For instance, the Administration employed only one agronomic adviser, and then only until 1931.38 Although at least two Union horticultural experts visited Namibia in the mid-1950s and submitted reports in which they stressed the - apparently surprising - extent of vegetable, crop and fruit production on farms and in the reserves, recommending the permanent appointment of horticultural experts in the administration, no such posts were created or filled.39

The only agricultural bodies existing throughout most of the Union period ‘proper’,40 backed by legislation, seem to have been the Dairy Industry Control Board and the Meat Trade Control Board. The Meat Trade Control Board was established by law in 1935; however, no pre-1951 records could be traced. The Board controlled the export of live slaughter animals (listed as cattle, small stock and pigs) through a permit system; it also controlled those animals slaughtered within Namibia for local consumption. It collected export levies in order to feed a levy fund for subsidies, cover its own running expenses, and maintain a Reserve Fund for savings. As is suggested by its name,

32 LAN 2660-2669; LAN 1510
33 LAN 2697. The fate of this and other manufacturing concerns in Namibia during the last 100 years will be surveyed in the next volume of this series, on manufacturing.
34 SWA Annual 1946, 81
35 For detail, see the segment ‘Cattle: Milk or Meat?’.
36 For a more detailed discussion, see Ch. 6.
37 For details see the discussion on government experimental stations under ‘Economics of Land Use’.
38 That official was attached to the office of the Veterinary Surgeon until 1927. In 1927 the agriculture (read horticulture and agronomy) section was separated from the office of the Veterinary Surgeon. Dr P.J. v. d. H. Schreuder, formerly Vice-Principal of the Government Agricultural College at Pothenrostroom, was seconded by the Union Government to the newly-created post of Chief Agricultural Adviser, and assumed duty on 27 June 1927. (AR 1927, 56) This promising development proved to be short-lived: Schreuder left at the end of 1931 and was not replaced. All agricultural issues were then again dealt with by the Office of the Veterinary Surgeon, and agronomic and horticultural queries by farmers could only be answered to the effect that they could not be answered. (AGV A.7/3, Vol. 2)
39 AGR 68/11, Vol. 2; see also Watt: ‘Oorig oor Landhou’, 24. In 1955 a horticultural officer from Upington, R.J. Goosen, visited the Administration’s experimental farms at Neudamm and Omatjentjena, as well as the larger private fruit and vegetable plantations (Osona, Klein Windhoek, Waterberg, Goanikontes, Rietfontein, etc.), and the lands beneath the proposed dams in the Fish River (Naute and Hardap). Clearly very impressed, he concluded his 20-page report with the notion that the creation of a post for a horticultural officer was “not only desirable, but is considered to be essential” (AGR 68/11, Vol. 2)
40 i.e. until the mid-1950s - see below.
serve Fund for savings. As is suggested by its name, the Board was involved in a trade with the Union, not a locally-based industry.

Certainly this study cannot begin to unravel the complexities of the stock trade between Namibia and the Union of South Africa over the decades. However, it should be mentioned that at least three previous historical analysts have emphasised the vicissitudes of this trade over the decades. As it was oriented wholly at the requirements of the Union’s controlled-quota markets and, later, the RSA markets, the Namibian farmer was at an inherent and permanent disadvantage. Last but certainly not least the Board also controlled a colonial system whereby black Namibians, especially those outside the ‘police zone’, could not participate in this trade.

No such built-in disadvantage was apparent with regard to the dairy industry which was, moreover, wholly locally-based and fully integrated. The Dairy Board was constituted in 1932 and backed by a multitude of regulations and amendments of the first 1926 ordinance regulating Namibian dairy production. The Board had the power to inspect premises and seems to have concentrated on maintaining basic hygiene standards on the one hand, and protecting the local product on the other (by, for instance, prohibiting the processing of imported cream into Namibian butter).

Towards the end of the Union period, in 1950, one other Board - the Grain Board - was established. During that year, farmers reaped record surplus maize and wheat harvests, but could not market their surpluses. The Board, which functioned in its initial form for a mere seven years, for the first time sought to establish a viable locally-based crop marketing infrastructure. The successor to this Board, operating on principles less beneficial to the local producer and sensitive to South African interests, is discussed in Chapter 4.

RSA Period

Following the election victory of the National Party in South Africa in 1948, the picture of agriculture in Namibia changed profoundly. It came to be characterised by the destruction of the multitude of self-sustaining and diversified farming activities - both on farms and in the reserves. These were replaced by a political economy of heavily indebted single cash-crop businesses coupled to South-African-based marketing monopolies on the one hand, and to the near total exclusion of black Namibians from income-generating agricultural pursuits on the other. An entire infrastructure of local, regional and even national food self-sufficiency and export-earning surpluses was dismantled.

As regards legislation, the year 1954 was a watershed mark for the RSA colonial period. This year saw, for instance, the SWA Native Affairs Act which began to change the system of colonial administration in the process of imposing apartheid, and the eventual full administrative integration of Namibia into the RSA between 1969-1979. This process required a deconstruction of the integrated colonial SWA Administration, which was, at the time, based on a racial division between settler and native but not then on apartheid principles of ‘ethnic’ divisions and fragmentation. The Act demoted the Administrator to an official of the newly-created Ministry of Bantu Administration and Development by conferring direct and central control over native administration on this body in South Africa. As we will show, it appears that the agricultural effect of this step was an almost immediate decline in dairying, crop cultivation and individual or co-operative enterprise in the reserves in the ‘police zone’.

42 For more detail, see Chapter 3.
43 AGR 68/1/1
44 It seems that other researchers who have studied the decline of self-sufficiency and agricultural production in the relatively recent years of this era continue to ascribe it inter alia to land hunger and privileged white land settlement; see for instance Moorsom (fuller discussion in Ch. 6) and Fuller: ‘Institutional Appropriation and Social Change among Agropastoralists in Central Namibia, 1916-1988’, 139f. However, this is quite anachronistic and erroneous: land expropriation in order to settle whites on the land had vanished from the colonial agenda by the 1960s.
45 The Act changed the position of the Administrator of SWA with regard to Native Affairs only, and for the first time defined ‘native’ as excluding Coloureds and Basters. The Administrator had been a colonial governor who was accountable to the Governor-General of the Union of South Africa, from 1961 the State President of the RSA. However, from 1954 onwards, the administration of ‘non-white’ Namibians was divided into two racial subgroups, that of the Bantu-speakers and Namas being run directly from Pretoria, and Coloureds and Basters remaining under the auspices of the SWA Administration; with regard to the former, the Administrator became the Chief Bantu Affairs Commissioner of SWA, accountable to the Minister of Bantu Administration and Development in South Africa. Thus when it came to Native Affairs, the Administrator was now downgraded from the position of governor to that of a civil servant answerable to ‘his’ minister. (See the comprehensive summary plus diagram in the Odendaal Report, fig.15, 51-55.) The legislation came in the wake of the establishment of a dominant Afrikaner and Broederrat government in South Africa in 1948. The existing records reflect this change in a strange way. For instance, files compiled by the Magistrates/Welfare Officers who were in charge of the reserves under the SWA Administration give continuous if not always solid data on dairy production in the reserves; these
The sequel to this Act was the so-called South West Africa Act of 1969 which implemented the proposals of the Odendaal Plan. Namibia was incorporated into the RSA as a de facto 'fifth province'; all RSA legislation was therefore by definition applicable to the territory. In the 'homelands' delimited by the Odendaal Commission according to ethnic criteria, those who were to make a living from the land were no longer in a position to take any decisions regarding short-term and long-term developments, investments, purchases and land tenure; nor were they in control of the financial or other means which were required for even small-scale projects. Control of these means legally became the resort of a variety of South-African-controlled, financially powerful corporations; the scant literature available in this regard lists several of these covering a variety of fields such as mining and industries. 46 Unfortunately there do not seem to be any studies investigating this complex but purposeful and near-total marginalisation and disempowerment of black Namibians on the land on the one hand, and the multi-million-rand operations of the Corporations on the other. 47 There are also no studies examining the overall impact of the expropriation of over 450 white farms with a total surface area of over 3 million ha, of which at least some - possibly many - were crop and fruit-producing businesses, as part of the Odendaal Plan's homeland creation. 48

Legislation pertaining to white agriculture became so complex that an overall picture cannot possibly be represented here. However, as will be shown in various places below, it seems that one area of decisive impact were marketing schemes controlled directly (as in the case of the dairy industry) or indirectly (as in the case of the Grain Board) by South Africa, and by ever-growing conglomerates of agents linked to or based in South Africa.

The recommendations of the 1948 Long-Term Agricultural Policy Commissions provided the framework for the dismantling of labour- and population-intensive diversity and autonomy in farming, towards the official encouragement of a few monocultural business operations. For instance, official assistance schemes to farmers now focused almost exclusively on the raising of slaughter cattle (today called 'meat production') through a programme of subsidies and state services which concentrated on boreholes for cattle posts, fencing, stock-feeds and stock-removal schemes. This led to overstocking and overgrazing and ruined the Namibian dairy industry; this is traced in some detail in Chapter 3. About two decades later, in 1981, the creation of meat monocultures was paralleled by the introduction of so-called 'production loans' which manipulated farmers into single cash-crop production. 49

Most of these policy changes took full effect in the late 1960s, when priorities for water development also changed from providing for people on the land (both black and white) to consumptions, mines and/or tourist attractions. 50 One of the results was that productive, self-sufficient smallholdings such as those at Osona, Klein Windhoek or GOAANIKONTES, orchards and other plantations were destroyed to make way for tourist camps or elite residential areas.

At the same time the reserves were thrown into final decline. Under the Odendaal Plan the authorities took economically viable and productive agricultural units out of the hands of the whites and incorporated them into the so-called homelands - and then denied

46 For background data documenting the history of legislation promulgated since 1959, as well as the direct linkage of these corporations, of which ENOK became one, to the South African state-run Bantu Trust, see the publication compiled by Corporation leaders around 1973 (no date, no author): Homelands: The Role of the Corporations.

47 For instance, Chapter 6 in Namibia 1884-1984: Readings on Namibia's History and Society, on 'The South African State in Namibia', does not mention these Corporations. Only UNIN's 1,000-page study on Perspectives for National Reconstruction and Development lists several of ENOK's projects and provides brief criticisms such as its capital-intensive strategies; its lack of success; its non-consultative style of operations; and its accumulation of property (see pp. 697-98). In addition a sentence on p. 456 suggests its totalitarian control over black enterprise and its direct if secretive linkage to the South African state. It is interesting that one or two oases of Namibian producers escaped the grip of these legislative and political arrangements and continued to engage in the self-determined growing and marketing of numerous crops and vegetables; thus the 500 residents of Zefaatfontein cultivated 50 ha and marketed the produce towards the end of the colonial era (see Fuller: 'Institution Appropriation and Social Change').

48 Odendaal Report, 91-105

49 Administrasie van Suidwes-Afrika: Witboek oor die Werksonahede van die verskillende Afdelings, 1981, 21. This loan, which would be better described as a credit facility enabling farmers to purchase seed, fertiliser, pesticides, etc., was available for maize, wheat, sorghum, sunflowers, groundnuts and cotton. In order to qualify for the loan, the farmer had to plant at least 100 ha with one of these crops; the loan was granted for the first 500 ha only. (Info. de Wet)

50 See Stern & Lau: Namibian Water Resources and Their Management.
the residents of the homelands the possibility to continue the activities.

Among the effective tools of policy implementation appear to have been monopolistic marketing schemes. For example, between 1954 and 1957 both dairy products and staple crops were forced under the direct control of South African state-run boards/agents. Under a Dairy Marketing Scheme by a Union proclamation of 1954 Namibia and South Africa, both exporters of dairy products, were declared a single market in which all decisions were ruled by South African interests. Exactly parallel to this development, the Control of Grain and Grain Products Ordinance of 1957 encouraged or stipulated the appointment of a sole South African agent for the purchase and sale of all locally-produced and all imported maize (for details, see Ch. 4).

In line with the policies outlined above, new implementing bodies emerged which served corporate or apartheid political interests, not the people on the land, or the country as a whole. This is suggested by a brief glance at the administration of agriculture. The various divisions and branches of the Department of Agriculture, which were committed entirely to cattle and stock-raising and keeping, had a staff complement of 37 people in 1950, 102 people in 1960, and 710 people in 1966. Thus the white staff had increased more than twentyfold within 15 years. In the 1970s the Department, ever growing, split into 'central' administration Agriculture, and so-called 'Landbou-techniese Dienste' (Agricultural Technical Services) to which the homelands were delegated. In the 1980s again there were several bodies, the largest of which was Agriculture under the auspices of the Administration for Whites.

Another semi-state body administering agriculture, this time in the homelands or reserves, was the Bantu Investment Corporation of the 1970s, which in 1978 was replaced by ENOK, the First National Development Corporation. ENOK's policies and programmes, largely based on the notion of monocultural businesses, have been referred to in the various segments below. Both the Bantu Investment Corporation and ENOK are not on public record by any standards: neither progress reports, nor funding, nor harvesting or marketing statistics, nor financial transactions could be traced, with the exception of certain confusing or extremely summary statements. Also state-run were experimental farms, whose number was increasing by the 1980s. Again documentation is extremely poor. It appears that all those which are on public record were constituted around the raising of slaughter cattle or karakul breeding, with the exception of a 50-ha area at Hardap. The majority of listed research projects, whether related to stock or crops, formed integral parts of registered national RSA agricultural research based at a number of South African Universities. At least three so-called 'production farms' bought by the Administration for Whites in the 1980s are scarcely ever mentioned in official publications.

Corporate South African rather than rural Namibian interests enjoyed the priority of the old and new agricultural semi-state boards, namely the Grain Board constituted in 1957 (followed by the Agronomic Board in 1985), the Meat Trade Control Board, and the Dairy Industry Control Board.

The Dairy Board in 1962 was backed by comprehensive legislation which manifests the extremely diversified and sophisticated state of Namibia's dairy industry at its height. For example, the introductory section on 'definition of terms' lists over 120 products and types of manufacturing, from milk, butter, cream and cheese to casein, milk powders and ice-cream. However, the fiercely struggling Dairy Board could not fight the South-African-engineered decline of the industry. Not included in the colonial apartheid blueprint, the Otendal Plan, it became a powerless subsidiary to the South African Ministry of Agriculture in 1969, and was abolished by an AG proclamation in 1982.

The Meat Trade Control Board, it seems, did not change markedly from either its brief or its problems since the 1950s. By 1979 these erupted in an ugly scandal, when a Commission of Enquiry revealed extensive bribery of Meat Board officials, corrupt insider-trading of export permits, a fraudulent meat

51 It is interesting to note that the establishment of monocultures coincides with the accumulation of Namibia's foreign debt - a process warranting detailed research.
52 Watt: 'Oorsig oor Landbou', 26
53 The fact that ENOK's monocultures were divided among many cash-crop farmers rather than owned by one, should not blind one to the fact that monocultural businesses were promoted rather than self-sufficient and surplus-creating farming activities.
54 For as much detail as could be extracted from publicly available records, see the section on Experimental Farms below. However, for extensive reporting suggesting purposeful secrecy, see The Windhoek Observer, 10.10.1987, 19.9.1987, 3.6.1989.
55 More detail on the demise of this national industry and the multi-million-rand deals by which it came into ENOK's and then into two private hands is provided below.
grading and 'merit allocation' system, and more. While procedures certainly appear to have been changed in the wake of this scandal, the system was not.

The successor of the Grain Board, the South West African Agronomic Board, was established under the Agronomic Industry Proclamation, 1985 (Proclamation AG 11 of 1985), which took effect on 1 April 1985. As opposed to the Grain Board, the latter Board was responsible not only for grain crops, but all agronomic or horticultural produce classified as "controlled products" at the recommendation of the Board. The schedule provides a list with the names of 102 crops covered by the Proclamation.

The role which these largely monopolistic marketing control bodies came to play in the agricultural branches for which they were created, is discussed in some detail in the relevant segments. However, all three these bodies were effectively controlled by South African corporate or economic interests: the Meat Trade Control Board through the quota system which regulated the South African market, the Dairy Board through the single marketing scheme which Namibia was compelled to join, and the Grain Board through the fact that both the co-operative and company operating the territory's only legally permitted mill were South African concerns.

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57 See the extensive reporting on Commission hearings in The Windhoek Observer, August-October 1979. These hearings seem to be the first occasion at which the emerging issue of absenteeism of farm owners was raised - an issue awaiting future research.


59 The concept of controlled agronomic produce has not been investigated.

60 A similar process of furthering Afrikaner companies has been reported on as part of Broederbond policies in Wilkins & Strydom: The Superafrikaners.
III CATTLE - MILK OR MEAT?

Cattle breeding for export did not exist during the pre-colonial era, although with the establishment of the long-distance Cape trade in the 19th century live cattle became a major trade commodity, and thousands of head were exported. However, there is no indication to be found both in written witness accounts or in the rare oral records which have been collected that any leader or community began to consider cattle primarily as 'live meat', or as a form of money. Quite the contrary seems to be true: Europeans hardly stopped complaining about the unwillingness of the Herero to part with their cattle; Nama herds had dwindled to small sizes by the second half of the 19th century and were more precious than ever, and the cattle they traded was raided or taken as tribute from the Herero; the Ovambo nations appear to have stepped up slaving with the Portuguese in order to satisfy new needs for new commodities although this issue is barely touched on in existing research.1

Similarly there can be no doubt that Namibians were not keeping stock to eat the meat, but rather to support themselves on dairy and other animal products. The consumption of meat seems to have been strictly regulated in that only game meat was consumed, and only during the hunting season, and cattle or stock only in cases of drought, or on religious or festive or otherwise clearly defined special occasions when oxen or bulls were slaughtered rather than cows.2

Seen simply in terms of the quantity of records compiled during the German period, the administration was not half as interested in cattle and all other animal breeding as in food and fodder cultivation for self-sufficiency, and in finding exotic cash crops for export. Export of live cattle did not appear on the colonial agenda at all, although the problems attaching to overland cattle transports from Namibia to South Africa - an ongoing pattern taken over from the pre-colonial 19th century - were occasionally discussed.3 There were, however, directed attempts to encourage certain selected lines of animal breeding, namely for dairy herds;4 for various types of wool from sheep and goats;5 for horses and mules;6 for pigs, camels, ostriches and poultry.7 A karakul and woolled sheep breeding centre was established at the farm Fürstenwalde; dairy breeding was allocated to Neudamm, over and above their responsibility of experimenting with dryland crops and fruit; the government also nourished a core dairy herd at the farm Annenhof.

By 1913 there were the first systematic attempts to identify available numbers of cattle and interested farmers for slaughter cattle export.8 However, the idea at the time was to establish meat canning and processing plants and send the meat to Germany - a proposal that was not very energetically pursued. It is obvious that the German colonisers, for once continuing a pre-colonial tradition, were generally interested in cattle and animal products, not their meat.9 They were inspired by animal breeding in the new colony for the purposes of producing wool (including mohair), karakul pelts, ostrich feathers, leather and, probably most importantly, dairy products. While the concrete efforts at establishing what became the basis of a Namibian manufacturing industry will be detailed in the third volume of this series, the question of dairying versus meat production has been pursued through the historical phases of Namibia's colonial history.

While dairying remained in its infancy during the German colonial era, an impetus was given to this sort of production. Local butter and cheese were regular items on the agricultural shows in Windhoek, Omaruru and Keetmanshoop, and won prizes; the winning cheeses and their makers were discussed in the newspapers; and the government actively sought to disseminate information on dairying.10

Available figures documenting the scale on which milk and butter production took place are almost certainly incomplete because they exclude production for household needs, and because farmers did not always, as requested, send records to the district offices, and may not have kept such detailed records themselves. However, as far as lists were compiled and available,

1 See for instance the comments on this issue found in Lau: Namibia in Jenker Afrikaner's Time, Ch. 1 and Conclusion; Williams: Precolonial Communities, Ch. 7; Siikonen: Trade and Socioeconomic Change in Ovamboland, Ch. 5.
2 See Williams, ibid., 46; Lau on early Nama communities in Namibia; ibid., 8; Irie's definite remarks in Die Herero.
3 See for instance ZBU N.1.d.3, Streitwolf to Leutwein, 19.11.1903.
4 ZBU N.4.b.1-4, Bd. 1-4
5 ZBU N.V.a-e, 19 files for karakul breeding, pioneered by the farmer Albert Voigts in 1908; also ZBU N.VI-VII series
6 ZBU N.II and N.III series
7 ZBU N.IX-XII series
8 Verfügungen of 26.3.1913 (ZBU N.1.d.3)
9 See, for instance, the quantity of files and records relating to the processing of animal products in the ZBU N.XIII series, which is comparatively much larger than all records relating to meat exports.
10 See for instance the numerous articles stitched into ZBU N.XIII.b.5; see also lists of relevant articles provided by the NAMIT bibliographic database.
it appears that about 165,000 lbs of butter was marketed annually between 1911 and 1913. Swakopmund alone consumed more than 500 lbs of milk every day, plus 20,000 lbs of fresh cream daily. Okahandja had a cheese factory called Lukullus, for which no figures are on record, though. Swakopmund was supplied from Okahandja, Karibib and surrounding farmers, and in 1910 there were four dairies in the town.

Most other districts also produced and sold cheese; while Maltahöhe offered a modest 100 kg in 1913, the district Omaruru sold 3,190 kg - more than 3 tons of cheese - in 1910/11.11

In the Union/Commonwealth Period, the 1920 Report surprises the reader with the statement that 'excellent cheese and butter are produced at centres such as Okahandja and Kalkfeld, and during the year large quantities were exported to the Union and realised good prices."12 Unfortunately no details on these early 'centres' could be traced because the creameries were officially registered only five or six years later, but it clearly emerges that railway stations were favoured sites for creameries and milk depots.

Between 1923 and 1928 at least nine creameries registered with the Administration: at Kalkfeld, Rehoboth, Dordabis-Onitara, Okahandja, Omaruru, Keetmanshoop, Aroab, Witvlei/Gobabis and at Tigerque.13 Several of these, and a number of unregistered producers such as the Rehoboth Station Store manager,14 a growing number of farmers, and the Lukullus Cheese factory in Okahandja, made and sold cheese.

Statistics were very slow in coming, the Administrator and his staff apparently requiring time to realise that a national industry was unstoppable emerging.

In 1925 the Report listed figures for the first time, when there were four registered creameries. At this stage the Administration also took active steps to assist this emerging industry. In 1926 a South West African Dairy Ordinance was passed, protecting the local product and setting basic standards of cleanliness and government inspection powers. By 1928, butter exports exceeded three million lbs15 and export earnings had almost tripled.16 In 1930 the Administrator's report lists "three more cheese factories",17 but no records were traced on previous registration of cheese factories. In 1931 added legislation provided for the establishment of a South West Africa Dairy Industry Control Board. Butter production fell due to drought (just over two million lbs in 1931), but despite the drought almost four million lbs was produced in 1932.18 About one third of this was exported overseas; thus the Namibian revenue earnings in this time of world depression were reported as "considerable".19

In 1935 - barely nine years after the first Dairy Ordinance was passed - butter production crossed the 6 1/2 million lbs mark, and never again fell below this until 1959.20 Moreover, as stated below, Namibian butter was making a name for itself on the London market. The Administrator's Report of 1937 states that South West African butter has not only maintained its high reputation on the London market but at the Dairy Show at Berlin competed successfully with the products of the old butter-producing countries in Europe. The butter passed for export again elicited favourable comment from overseas trade and buyers who expressed their appreciation of its reliability and uniformity in grading. It is noteworthy that the degrading percentage in London was considerably less than that of Union butter.21

For the 24-year period between 1935 and 1958 butter production averaged nine million lbs per annum (not even counting the not inconsiderable quantity of farm butter and farm cheese - about 20,000 lbs per year for both products), as the statistics below indicate. The butter was highly graded, about 70% to 80% of it being first choice.22 It was exported not only to South Africa but also to London (8 million lbs in 1939), Rhodesia, the Belgian Congo and French Equatorial Africa. Although complete statistics for the whole period are not on record, it seems that between 15 and 20% of the butter was consumed locally during this period.23

11 For all details, see ZBU N.XIII.b.3, Bd. 1.
12 AR 1920, 18
13 SWAA A.174/1 - A.174/9
14 SWAA A.174/4
15 AR 1929, 25
16 Ibid.
17 AR 1930, 36
18 AR 1933, 19
19 AR 1932, 31
20 AR 1935, 24
21 AR 1937, 25
22 Radel, 'Die Arbeiterfrage in SWA', 120
23 The sources for these figures and observations are the Administrator's Annual Reports until 1939, and the Annual Reports
Agriculture: Cattle - Milk or Meat?

<table>
<thead>
<tr>
<th>Year</th>
<th>Butter (lbs)</th>
<th>Cheese (lbs)</th>
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</thead>
<tbody>
<tr>
<td>1935</td>
<td>6,646,129</td>
<td>1,690,776</td>
</tr>
<tr>
<td>1936</td>
<td>7,062,205</td>
<td>2,691,138</td>
</tr>
<tr>
<td>1937</td>
<td>7,137,500</td>
<td>3,177,714</td>
</tr>
<tr>
<td>1938</td>
<td>9,150,402</td>
<td>5,951,241</td>
</tr>
<tr>
<td>1939</td>
<td>10,857,472</td>
<td>7,733,037</td>
</tr>
<tr>
<td>1940</td>
<td>11,617,288</td>
<td>4,488,553</td>
</tr>
<tr>
<td>1941</td>
<td>8,433,991</td>
<td>1,96,91</td>
</tr>
<tr>
<td>1942</td>
<td>7,269,223</td>
<td>2,208,746</td>
</tr>
<tr>
<td>1943</td>
<td>11,490,238</td>
<td>3,336,822</td>
</tr>
<tr>
<td>1944</td>
<td>10,747,363</td>
<td>3,336,822</td>
</tr>
<tr>
<td>1945</td>
<td>7,856,888</td>
<td>79,229</td>
</tr>
<tr>
<td>1946</td>
<td>8,337,376</td>
<td>21,930</td>
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<tr>
<td>1947</td>
<td>7,355,632</td>
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<tr>
<td>1948</td>
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<tr>
<td>1949</td>
<td>9,421,803</td>
<td>241,067</td>
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<tr>
<td>1950</td>
<td>11,817,066</td>
<td>400,071</td>
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<td>1951</td>
<td>11,788,139</td>
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<td>8,997,189</td>
<td>816,916</td>
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<td>8,615,720</td>
<td>713,279</td>
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<tr>
<td>1954</td>
<td>11,068,625</td>
<td>702,884</td>
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<td>1955</td>
<td>10,241,335</td>
<td>640,079</td>
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<tr>
<td>1956</td>
<td>9,442,179</td>
<td>568,334</td>
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<tr>
<td>1957</td>
<td>7,948,160</td>
<td>353,929</td>
</tr>
<tr>
<td>1958</td>
<td>8,611,565</td>
<td>326,265</td>
</tr>
</tbody>
</table>

No comprehensive corresponding figures of the value - especially with regard to export earnings - of the butter and cheese production are on record. However, export earnings for the years 1935-1939 on butter alone were, in pound sterling:24

<table>
<thead>
<tr>
<th>Year</th>
<th>Earnings (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1935</td>
<td>309,896</td>
</tr>
<tr>
<td>1936</td>
<td>337,195</td>
</tr>
<tr>
<td>1937</td>
<td>44,215</td>
</tr>
<tr>
<td>1938</td>
<td>4,234,48</td>
</tr>
<tr>
<td>1939</td>
<td>534,365</td>
</tr>
</tbody>
</table>

In comparison, the total export earnings from diamonds and base metals in 1939 came to £772,061. It must be admitted that the diamond industry was in almost total recession during exactly those years in which the butter and cheese earnings skyrocketed, i.e. the Depression and World War II.25

How was this extremely healthy, surplus- and wealth-creating industry organised? As will be outlined briefly, it was labour-intensive, run on small scales only and thus protective of natural grazing resources, almost entirely locally based in its technology, and therefore self-sufficient. It was also integrative in that hundreds of thousands of litres of cream which went into the exported butter were produced in the Damara and Herero reserves - a fact which is, interestingly, not even mentioned in the Annual Reports of the Dairy Industry Control Board. On the same point, i.e. the creation of integrated locally-based industry, it should be mentioned that many dairies, creameries and butter factories kept pigs which were fed by-products.

The 13 creameries which existed in the late 1920s consolidated into 5 to 7 so-called creameries which were, however, butter factories. These existed and operated until the late 1960s. They were supplied by about 93% of all white farmers between Windhoek and Grootfontein,26 and thousands of direct producers in the reserves. For example, the Otjihorongo Reserve, a small Herero reserve in the wider Omururu area, was listed in 1950 as having 78 productive dairies and 130 milk-separating centres.27 Okombahe had 210 dairies in 1954.28 The Otjimbingwe Reserve, with only three dairies in 1952, also managed to produce more than 6,000 litres of cream per month in a good rainy season.29 In addition, there were 13 registered farm-butter and 2 registered farm-cheese makers in 1950, as well as 2 dried-butter-milk producers, 2 cream depots, and an undisclosed but clearly massive number of dairies/cream depots/milk-separating centres in nine different reserves.30 The arrangements of dairy production varied in the reserves, and over time, but it seems to have been a rule that milk-separating centres were owned/run co-operatively by two to three families.

By 1961 this huge number of direct dairy producers had been increased by 85 registered fresh milk distributors and 30 ice-cream makers, as well as seven dried milk powder factories (buttermilk, skimmed milk, whole milk) and one renovated casein factory.31 Creameries as well as butter-production facilities also existed at the government farms Neudamm and Oma'jjenne.

24 Earnings from butter exports in 1939 came to more than 75% of total agricultural and foodstuff export earnings (including cattle, skins and hides, fish, wool and karakul).
25 See AR 1939, 206-207.
26 Rüdel: 'Die Arbeiterfrage in SWA', 122-23
27 SWAA A.158/123, monthly report for May 1950, Magistrate's Minute No. 2/18/8/1
28 SWAA A.158/119, Vol. 1
29 SWAA A.158/118, Vol. 1
30 Amanis, Epuvikir, Okombahe, Otjihorongo, Otjimbingwe, Otjituwo, Ovitoto, Rehoboth, Waterberg East
31 DICB 1961
The industry was created not only by thousands of direct producers, but at the same time created employment and income for all those who transported the cream to either cream depots or butter factories. In the following the question as to how the milk from Namibian cows - both in the reserves and on the white farms - reached Namibian British and South African consumers, is considered.

**The way of the milk**

Although these researchers have only surveyed the sources and not made, nor attempted, an in-depth study, it is clear that there was not one single system. The way the reserve dairies were run differed from place to place and over time. The cream from the separating centres/dairies was sold to the country's butter factories either by an individual 'contractor' whose cream lorry in some but not all cases was franchised by the SA Railways and Harbour Administration; or the people sold the cream directly to the creamery, organising and paying for transport themselves; or they sold the milk to a contractor who then produced the cream and took it to the creamery. The white farmers produced and transported the cream in the same way.

This was done not only via the existing railways network, but also through additional informal transport as well as official road motor networks, which were partly run on private franchise, and serviced both farmers and reserves. For example, the Otjimbingwe dairies in the 1940s paid a donkey-cart owner to pick up the cream cans and take them to a point on the established road from Otjimbingwe to Karibib. That was a transport route serviced by a cream lorry of the firm Hälßich, who took the cans to the railway line. From there railway workers transported the cream either to the creamery at Kalkfeld (which meant back to Karibib and reloading onto the narrow-gauge line to Kalkfeld) or to Windhoek. The trains, called the 'milk trains', ran during the night and stopped at virtually hundreds of sidings and small stations, all of which were thus usefully and productively run.

Both on settler farms and also in the reserves farmers produced the cream by using a low-cost hand-operated centrifuge which separated the cream from the milk. All the farmers - individuals on European farms and co-operatives in the reserves - had evaporation coolers. Hygiene stipulations according to which dairying required a regularly-inspected white-washed room and various other equipment applied to all. In this exceedingly simple but entirely appropriate manner, the above-mentioned averages of highly-graded butter were produced. The contribution from the reserves should be properly researched as it was by no means negligible. For example, in 1948 the average monthly cream production in the Otjihorongo Reserve came to about 6 000 litres; the annual dairy cash distribution to producers in the reserve amounted to almost £4 000.

**During the RSA period** this labour-intensive self-sufficient industry disintegrated in the 1960s and had all but vanished by 1974. Not only did Namibia become wholly dependent on South African butter and cheese, all dried milk powder products, ice-cream, etc., but for many years during the 1970s even fresh milk had to be brought in from South Africa in tankers.

How did this happen? The first point to be observed is that the profitable dairy industry was allowed to exist rather than actively supported from South Africa. For example, no data are on record indicating systematic official efforts to breed, sell, improve or create dairy herds in Namibia. The local administration supported the industry by local legislation as well as inspection/extension staff (see below); South Africa maintained it by suitable railway tariffs, and its railway road motor services. But the big government farms Neudamm and Omatjene from the 1920s to today channelled their energies and resources into the export industries of karakul and cattle-for-meat breeding. The Long-Term Agricultural Policy Commission of 1948 was openly hostile to the Namibian dairy industry; earlier official enquiries were either on a minute scale; or haphazard. The result was that when the South African dairy industry began to produce a surplus - South Africa apparently recorded its first butter surplus ever 30 years later than Namibia, in 1954 - it had long identified breeds, areas, types

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32 For a cursory overview with some evidence, see Werner: 'An economic and social history of the Herero of Namibia'. An example of such a scheme, the proposal for the dairy scheme for Okombahe, is provided in Appendix C.
33 SWAA A.174/10(6); D1CB 1931-1947
34 While road motor services by the South African Railways and Harbours Administration are on record in Namibia since 1927, no specific data on official motor routes were traced, with the exception of 1962 and 1969; relevant data are curiously inaccessible. This is due in part to the fact that the SAR&H never even attempted to maintain separate statistics/charts for Namibia. A detailed study may yield information, though.
35 SWAA A.158/118, Vol. 1
36 These were cool-rooms which were cooled by the action of drops of water on charcoal between mesh-wire.
37 SWAA A.158/123, Welfare Officer to Magistrate Omaruru, undated
38 As in the case of the South African expert who travelled in the country in the early 1920s and wrote a six-page report.
of grazing etc. for dairy herds, and its farmers possessed well-adapted cows which on average produced more than double the milk of a white Namibian farmer's cow.\textsuperscript{41}

Much more importantly, South Africa held the political advantage and, in spite of heavy international as well as mounting local pressure, was not prepared to let it go. Evidence suggests that SA wanted an export market for her own dairy products precisely in Namibia where a powerful and healthy export butter industry existed, and precisely at a time when the other colonising powers let go of their possessions.

In 1954 South Africa introduced a so-called Dairy Marketing Scheme (Proclamation 183 of 1954) which created a single market between South Africa and Namibia. Namibia was to market her surplus in South Africa only. The SA Dairy Board was to use the money from a new dairy products levy fund, also introduced under the scheme, to stabilise the single market artificially at fixed prices, to standardise grading and terminology (table butter, first choice butter, first grade butter), and to run itself. This was the first item of South African dairy legislation which was applicable to Namibia, and set the scene for long-term intricate and inaccessible manipulation. For example, a cheese surplus was still produced in Namibia and exported to South Africa in 1958, but at the same time South African cheese was imported.\textsuperscript{42} Only three years later, two thirds of Namibian cheese consumption was imported from South Africa.\textsuperscript{43}

The 1950s saw South African surpluses not only with regard to butter, but also milk powder. In this suddenly competitive situation - Namibia had seven dried milk powder factories by 1958\textsuperscript{44} - exports from Namibia were no longer accepted or marketed in South Africa; at the same time, two Ordinances of 1959 and 1960 forbade the importation of cheese, dried milk powder and condensed milk into Namibia from any country except South Africa.\textsuperscript{45} Thus, the exploration of international trade bypassing South Africa was curtailed. By 1959 two milk powder factories had closed down, another two were closed by 1963. By 1966, only dried buttermilk powder was manufactured at two creameries, with a diminishing production tendency.\textsuperscript{46}

Moreover, the Dairy Marketing Scheme legislated in 1954 meant that Namibian butter became subject to grading not by an inspector in Walvis Bay but by administrative officials in Pretoria, and by 1963 Namibian butter, which throughout the decades had been graded at between 70% and 80% first grade - both in Walvis Bay and in London - was graded 45% first grade in Pretoria.\textsuperscript{47} With profits thus declining, cream supplies diminished and butter production decreased. This trend was reinforced at the same time by the often-mentioned "curtailment of uneconomic milk transport routes".\textsuperscript{48} This apparently refers to the road motor services mentioned above. Although these researchers, despite energetic and determined searches, could only supply the two route systems of 1962 and 1969 presented in the illustrations section, these support the notion that routes were curtailed especially in the cream-producing areas Gobabis-Aminuis, Otjo-Franzfontein, and Rehoboth-Windhoek; no specific data seem to be on any kind of record. For example, it remains unclear whether these two route representations record franchised or unfranchised private milk/postal transport routes. Surprisingly no data were traced documenting the decline and eventual destruction of the prolific cream production in the reserves; it is obvious that this happened in the mid 1950s but these researchers could not determine how.

Last but by no means least a set of so-called hygiene regulations appeared in the \emph{Official Gazette} of April 1955. These did not concentrate on good and healthy milk, but on the enforcement of infrastructure, licences and permits which each and every milk supplier had to establish or obtain before he could supply milk. As was pointed out at the time, the emphasis of these prescriptions seemed designed to crush cream production rather than ensure healthy milk, because milk deliveries from whichever source could be pasteurised and tested at the creameries - which they had been for decades.\textsuperscript{49} But the new restrictions forced anybody who thought of milking his or her cow to comply with elaborate and very costly prescriptions, such as building stables and fences.\textsuperscript{50} For the

\begin{footnotesize}
\begin{enumerate}
\item DICB 1954, 12
\item Dairy Industry Control Board: 'Report on the Investigation into the Cost of Production of Industrial Milk', 21.4.1953; SWAA A.174/10/5
\item DICB 1958, 5
\item DICB 1961, 6
\item DICB 1958, 9
\item For a summary of local dairy legislation, see Laws of South West Africa 1962, 397.
\item DICB 1966, 15
\item DICB 1963, 26-7
\item DICB 1959, 12
\item See for instance the detailed commentary in the Allgemeine Zeltung, 1.8.1955.
\item Government Notice 97 of 26 April 1955
\end{enumerate}
\end{footnotesize}
Agriculture: Cattle - Milk or Meat?

case of Windhoek, they also contained obligations that the smallholders had to fence in their dairy-herd plots of the Avis Dam commonage, at their own expense.51

Thus the three areas in which South African colonial government policy could have an immediate and direct impact on a private industry, namely the railway operations, legislation and administrative-political control of all Namibians, were used in such a way that the dairy industry was constrained.

From milk to meat

Before considering the production figures documenting the unstoppable decline of the industry, one additional but perhaps decisive factor should be mentioned which influenced the dairy industry very negatively.52 White farmers were singled out for extensive production subsidy schemes unrelated to marketing; these shifted the approach and focus of farmers away from the diversity and self-sufficiency of dairying and other farming activities towards monocultural 'meat production'.

Beginning in the 1950s, following the 1948 Long-Term Agricultural Policy Commission, was a process of determined support schemes for cattle ranching for meat only. As J.S. Watt, a senior and long-time agricultural and dairy official argued in a special report to the Administrator, the so-called Soil Conservation Ordinance, the Promotion of Farming Interests Ordinance and the Preservation of Trees and Forests Ordinance, all promulgated in 1952, were designed to safeguard the farmers against drought and adverse circumstances. Their emphasis was on cattle farming, and they resulted in subsidy policies for the establishment of camps, fencing, extra cattle feed, provision of water for cattle, stock-removal schemes, etc. For example, a fund for the promotion of the development of farming activities was established in 1950, even before the promulgation of the above-mentioned ordinances,53 which by the mid-1960s paid out almost R500 000 of public money to white farmers in support of cattle farming.54 At a different point in his study Watt drew attention to the abnormal growth of the Agriculture Department - recording a 700% growth in white staff between 1960 and 1966 - noting that this staff was wholly committed to the breeding of slaughter cattle alone. As Watt concluded, desperately warning against the imminent ecological damage by overstocking and overgrazing, these new support structures were not used in Namibia to facilitate sound farming, but only 'om met meer en meer diere op die plase te boer' (to stock the farms with more and more animals).55

Watt noted that in the past the cattle export market to South Africa had not only been restricted and tightly controlled - the first time a local representative was allowed on the South African Meat Industry Board was in 1947 - but was subject to haphazard albeit substantial profits. With the exception of the Liebig Extract of Meat Company at Okahandja and the overseas export activities of the early 1930s under the auspices of Liebig and Imperial Cold Storage Company in Walvis Bay - two endeavours whose shortlivedness requires further research - cattle breeding and export was entirely dependent on the vacillations of the South African market. The Namibian representative could not influence the South African Meat Control Board which issued permits and licences for the export of Namibian cattle to South Africa, and what was a good business one year was a total failure the next, for reasons entirely beyond the farmer's control. For decades farmers could never afford the risks of this trade, and therefore diversified by focusing on dairying, vegetable and crop production, karakul, angora goat and woolled-sheep farming, with noteworthy results as noted above.

After the above-mentioned ordinances and financial and staff support schemes had cushioned the farmer against such difficulties, a phenomenon set in which Watt compared to 'stock exchange speculation' and which today has become dominant: "bekte word oral opgekoop en plase word volbewei en dikwels oorbewel. WAar die boer nie grond genoeg van sy eie het nie, huur hy 'n plaas van 'n kamp."56 This, according to Watt, was not only ecologically disastrous because it ruined the land, encouraging spirals of

51 See MTCB 1931, 9.
52 "Cattle are bought everywhere, and the farmers use all their grazing and often even over-graze. If the farmer does not have enough land of his own, he rents a farm or a camp." (Watt: 'Oorsig oor Landbou', 68)
53 See Annual Report 1963/64 of the Promotion of Farming Interests Board SWA. Again, very little research, statistics or data compilations are on record. Mooroom notes farmers' high level of capitalisation in terms of subsidised fencing/feeding schemes but neglects to provide concrete data or trace the overall political colonial context of this very recent phenomenon.
54 MTCB 1951, 7
overgrazing and drought, but its sudden profits also made the farmers greedy and complacent and unwilling to engage in the continuous hard work of cream production. Again, the pattern of ecologically destructive systematic overstocking beginning in the late 1950s and actively encouraged by South African policies towards white Namibian farmers has not yet been researched.

A fixed and intractable single dairy market selling a non-subsidised product was thus, within the span of hardly more than five years, forced to compete against an open cattle export market selling a heavily subsidised product - and 'subsidy' here means financial government support at production - not marketing - level.

Political leverage to the disadvantage of the dairy industry came to play a more open role with the Odendaal Commission which quietly abolished the impact and power of the local Dairy Industry Control Board. The Board was to be directly answerable to directives and controls issuing from the South African Minister of Agriculture; no Namibian representative was foreseen on the South African Dairy Board despite the fact that there was a clear conflict of interests in that both countries were (still) exporters of the same product, and the industry was now centralised, serving a single market. The Commission's report manages not to comment on the dairy industry except by listing some statistics, and neither to include it in its recommendations. Be it in its surveys of or findings on the reserves, or on the government farms, or on aspects of future development, the dairy industry is erased from the record.

This led to protests from the local Dairy Board and its officials, as well as from the white population (as to black Namibians, there must have been protests but these do not seem to be on any traceable record), but these protests were indirect and apparently too cautious to have any effect. For instance, the detailed and comprehensive report by Watt cited above was especially compiled to save the Namibian dairy industry, and submitted to the Administrator. The Board sent a memorandum to Mr Odendaal detailing why it had decided to remain an autonomous body independent of the South African Dairy and Milk Board; it also tried to initiate a commission of enquiry and was promised this, but there never was a commission of enquiry into the Namibian dairy industry.

Statistics showing the decline of the industry are as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Butter (lbs)</th>
<th>Cheese (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>8 611 565</td>
<td>326 265</td>
</tr>
<tr>
<td>1959</td>
<td>5 415 513</td>
<td>152 742</td>
</tr>
<tr>
<td>1960</td>
<td>4 649 019</td>
<td>72 182</td>
</tr>
<tr>
<td>1961</td>
<td>7 600 451</td>
<td>152 804</td>
</tr>
<tr>
<td>1962</td>
<td>5 059 372</td>
<td>108 625</td>
</tr>
<tr>
<td>1963</td>
<td>5 507 942</td>
<td>55 035</td>
</tr>
<tr>
<td>1964</td>
<td>5 159 125</td>
<td>165 240</td>
</tr>
<tr>
<td>1965</td>
<td>3 847 014</td>
<td>165 240</td>
</tr>
<tr>
<td>1966</td>
<td>4 175 855</td>
<td>253 008</td>
</tr>
<tr>
<td>1967</td>
<td>4 175 855</td>
<td>152 421</td>
</tr>
<tr>
<td>1968</td>
<td>4 250 616</td>
<td>254 820</td>
</tr>
<tr>
<td>1969</td>
<td>3 135 357</td>
<td>150 454</td>
</tr>
</tbody>
</table>

The last report of 1969 mentions that 97% of the butter produced in Namibia was consumed in Namibia. Thus, the export industry was dead by 1969 but Namibia still appears to have been self-sufficient. No production figures are available from 1970 onwards because under the South African Department of Agriculture audit reports only were published.

It is therefore unclear how the butter and cheese industry as a whole finally died. The cheese factory in Otjo still hung on, heavily subsidised by the South African Ministry of Agriculture and operating at constant losses, until at least 1976. A few pounds of butter were apparently produced in Gobabis until the 1980s. In 1974 a venture referred to as the 'rationalisation of the dairy industry' led to another two Namibian creameries being paid to close down. In 1973 the local dairy industry was in such a state of disintegration that fresh milk had to be imported from South Africa. The Namibian Dairy Industry Control Board was officially dissolved by an Act of the appointed National Assembly in 1982.

58 This was implemented on 1 April 1969, the date of the full inclusion of Namibia into SA as a 'fifth province' under the SWA Act of 1968.
59 See Watt: 'Oorsig oor Landbou', Intro.
60 Ibid., 84
61 DICB 1968, 24
62 The figures up to 1966 were obtained from the published Annual Report of the Dairy Industry Control Board; from 1967 to 1969 from the unpublished typescript annual report found in RDC 20/1 Annual Reports. It should be noted that the comparatively high butter figure for 1961 veils a de facto heavy decline by downgrading (DICB 1961, 9).
63 Report of the Controller and Auditor-General on the accounts of the Dairy Industry Control Board of SWA for the financial year 1 October [...] to 30 September [...] , 1969-1978
64 Ibid, 1974, 2
65 Ibid., 1973, 2
66 AG Resolution 187 of 1982
Parallel to this story of dissolution and decay of the butter and cheese industries was a process of monopolisation of fresh-milk suppliers and distributors which still awaits close investigation as no public records could be traced. It appears that the infrastructure of the 85 registered fresh milk distributors - reflecting local and regional self-sufficiencies - recorded in 1962 (see above) was transformed into one or two single control bodies first called Kroonster, and then called the Dairy Co-operative Ltd - a 'company' so obscure that it had to be decided by a court of law whether the body could be called a company. When it was established that apparently legal transfers of profits to the agricultural cooperatives Melcor and Agra were on record, the court ruled that the Dairy Co-operative was to be treated as a company. Apparently this body for several years - from the mid-1970s to 1983 - engaged in such monumental mismanagement, fraud, theft and corruption that the destruction of Namibia's countrywide dairy infrastructure - which continued to exist even though cream supplies had dwindled or vanished - seems purposeful.

For example, the body purchased the dairy plants in Otjiwarongo, Gobabis, Outjo, Keetmanshoop and Windhoek with no regard to cost effectiveness. Then it did not run the plants, and at one stage as much as 80,000 litres of milk per month were dumped. The Co-operative crashed in 1984 with a total debt of more than R4 million, borne by the taxpayer because some or all of the non-existing funding had been secured by the Turnhalle Council of Ministers. The remaining assets were taken over by Melcor, owned by ENOK; situated around Windhoek and Rietfontein, Melcor's assets were sold soon after - in 1986 - to Bonmilk who received a loan of R3,5 million interest-free for one year, and to Olthaver & List (who also received a State loan for the purchase of the extensive, run-down but sound Rietfontein installations). Thus a surplus-producing national industry involving thousands of direct producers and processors was dismantled; and the substantial ruins came to be the private property of two large concerns.67

67 The crash of the Dairy Co-operative Ltd. was reported on in The Windhoek Observer, 8.12.1984. The reporter noted that his data came from an extensive report by the liquidators which had been made available to the press. The report itself could not be traced. For further data, see ibid., 3.12.1983; 4.4.1985; 15.4.1985; 28.3.1987.
IV CROP CULTIVATION

A. Staple crops

Population-intensive subsistence crop production with marketable surpluses in good rainy seasons existed in Namibia long before the colonial era, as was briefly outlined in our survey of the pre-colonial period. One particularly striking example from central Namibia may be commented on with slightly more detail, though, namely Okombahe. Established in 1870, it had an ethnically mixed population of 800 or more, consisting of Herero under Chief Zeraua, Damara, Bushmen, 'Namaqua', and also some Swartbooi Nama, by 1876. Daniel Cloete, the evangelist at the settlement, reported during that year that the people who stay at the station are rather industrious in making gardens and growing corn, which is to their own benefit and makes them wealthy. ... They sow corn [wheat], plant tobacco, maize, pumpkins, watermelons, calabashes, etc., and exchange the produce with traders for everything they need. ... ¹

Planting of wheat commenced around 1870, and two photographs entitled 'Omaruru River and Corn Lands', taken during William Coates Palgrave's expedition in 1876, show that this was done on a relatively large scale. Zaby, a European priest, observed wheat cultivation as recently as 1938.²

In the German era, records indicate that Africans also practised subsistence as well as commercial soil cultivation within the 'police zone' after the annexation and conquest of the territory; the extent of this is entirely unresearched. A farmer would, for instance, list in great detail what he grew on how many hectares, and then add to his list that the 'Herero Paul, Herero Petrus, Ovambo Joseph' also had 53 ha of maize under cultivation.³ Alternatively, an official attached to the District Office at Omaruru reported on 12 January 1912:

The residents of Okombahe have been cultivating crops for a long time already; some by irrigating the alluvial land, others in the riverbed itself after the river has come down in flood. The latter was not possible during the past few years, but has been done this year; wheat is sown. During good years, the yield was so great that they could even sell wheat. On the alluvial soil, they grow maize, pumpkins and tobacco; currently some 20 ha are under cultivation at Okombahe. Everything looks quite good; last year, so much tobacco was harvested that they were able to meet their own requirements and sell to the storekeepers at Okombahe and Usakos to the value of approximately 10 000 Mark. This year, the harvest will be a little less.⁴

Any investigation of such commercial farming by Africans would, it seems, have to include research on patterns of actual land occupation, rather than on the wholesale land expropriation legislated in Berlin in 1905. By 1914, reserves were neither surveyed, delimitated, legislated nor established.⁵ Real land occupancy by settlers - as opposed to land 'occupied' by concession companies - was on a very small scale. In 1903 there were 271 listed farms/farm owners on an area of unidentified size; in 1913 there were 1 120 farms sold by the colonial administration, plus 82 with tenant contracts, on an area of altogether 12 million hectares⁶ - i.e. about 20% of white-owned land at the end of the colonial era.

The staple crops grown on a significant scale in the German colony (i.e. Namibia in the 'police zone', although the government research plantation in Groothoefteinstein experimented with mahangu from Ovamboland) both with and without irrigation were maize, wheat, sorghum, millet and mahangu. The main fodder crops grown were lucerne, various local grasses, so-called Cameroon fodder melons and opuntiae (prickly pears). The government plantations, established between 1902 and 1912, and all other bodies listed above experimented with strains and types, and sowing at different seasons. For example, the dry-farming experiment at Neudamm in 1912/13 researched, amongst other crops, 15 different brands of sorghum, including several from the Caprivi.⁷ The

¹ Zaby: 'Die Kornleiden von Okombahe'. Moreover, Zaby's article not only provides a brief history of the corn plantations at Okombahe, but also contains a detailed description of the process from preparing the fields to processing the harvest (with the Damara expressions for the various processes and concepts), as well as two relevant praise songs.
² See for instance ZBU L.IV.1.2, list for the farm Awagobib in the Groothoefteinstein District.
³ ZBU W.II.n.4
⁴ For details see Ch. 6, under 'Settlement Policies'.
⁵ ZBU L.III.b.1, Bd. 1. It is interesting to note that three quarters of this amount of farm land, namely an additional 9 million hectares, was allocated to Afrikaner settlers from the Union of South Africa within the first three years of mandate administration. For further details, see Ch. 6.
⁶ ZBU L.III.f.2, Bd. 1; for more details of research results from all the other plantations as well as farmers, see the hundreds of files in the ZBU L series.
most successful cultivars were offered to settler farmers at cost price. In a feed-back situation, the experimental stations would grow those crops and vegetables pioneered with success by settlers and Africans (e.g. tobacco and fruit). 

While large-scale commercial crop cultivation by smallholders, especially at Klein Windhoek and Scehem, had begun around the turn of the century, it started at Osona in 1907. During that year and 1908 alone, the smallholders at Osona ordered 10 500 vines. As it would appear from the files of the District Office at Okahandja that the smallholders received only between 10% and 55% of the quantity ordered, it may be assumed that some 3 000-4 000 were actually delivered to them. Other crops cultivated were maize, potatoes, asparagus, onions and radishes, while a variety of fruit trees, and strawberries, were also planted.

The available farm registers suggest that all the country's c. 1 000 settler farmers - from Warmbad to Tsumeb - as a rule had fields and gardens to supply at least their household needs. It is difficult to establish how many farmers grew maize and vegetables on a commercial scale, and how many hectares were actually under cultivation by 1914. Seed orders certainly came from the whole country, but unfortunately, the only readily available statistics of harvests come from the 27 Osona smallholdings, 28 farmers in the Okahandja district and 131 farmers in the Grootfontein district. The figures given below represent a mere fraction of what was harvested in the 'police zone' in 1913.

Rädel, who did more intensive research, offers some additional statistics, but it is not altogether clear where he obtained them. His colony-wide figures for 1912 are:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Harvest (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>1 635 660</td>
</tr>
<tr>
<td>Wheat</td>
<td>67 230</td>
</tr>
<tr>
<td>Potatoes</td>
<td>1 012 770</td>
</tr>
<tr>
<td>Sorghum</td>
<td>85 950</td>
</tr>
</tbody>
</table>

This country-wide peasant production was administratively supported by the experimental stations; the agricultural shows; the marketing co-operatives; and the voluminous publications written by and offered to the settlers. The dynamic in which policies and agricultural bodies interlinked with settler production was outlined in the historical overview above.

**Maize**: In the Union period, this staple crop continued to be grown on a relatively large scale. For instance, commercial production is given as 72 553 bags (almost 6 600 tons) in the Administrator's annual report for 1928. With the exception of the odd references to the so-called "co-operative field experiment", complaints on file, and insignificant and totally unreliable remarks on production in the native reserves, however, there are no official records dealing with this crop, and therefore only an episodic and incomplete overview of developments during this period can be provided.

It is obvious, however, that at this early stage already, farmers growing maize as a cash crop were experiencing problems related to protectionist Union policies implemented via disadvantageous railway tariffs. Thus, Paul Hoppe of the farm Geinatzeb remarked the following on 28 June 1926, when he informed the Agricultural Extension Officer, G.H. Cock, on the progress of his part of the co-operative field experiment:

> The competition in maize growing has become worse, so that it hardly pays to grow mealies. Even in the Union, maize does not pay any longer. Freight to here has been reduced repeatedly, and now it amounts to only 14/- per bag to Otjo. For this, I cannot grow maize any longer; but up to now I

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8 See the annual report of the station at Grootfontein in Appendix B.
9 DOK L.5.c series
10 ZBU L.IV.1.2
11 Rädel: 'Die Wirtschaft und die Arbeiterfrage Südwestafrikas'. The fact that his sources are not obvious to these researchers does not mean the figures might be incorrect. It is possible that instead of relying merely on the records of the administrative headquarters in Windhoek, he also researched individual district and municipal records.
12 For additional details, see Ch. 6.
13 Under the scheme, the farmers participating in the experiment were obliged to return double the quantity of seed received if they reaped a crop, and this would then be distributed to other farmers. It appears, however, that this scheme was abandoned after about five years. (SWAA A.201/2)
have not come across a summer crop which can really be planted at a profit. Why the Government at all reduces the freight on maize or any crop is a riddle to the agriculturalist. It does not assist the stock breeder. You only throw sand in his eyes. ... This is a bitter pill for us farmers. South West is not treated justly, but rather the Union so that she can dispose of her products here. How much could not be saved if only half the provisions could be imported. ... The reduction of freight could well have waited until at least some other production branch has been found.\(^\text{14}\)

Maize generally continued to be grown. 200 bags of seed maize were imported from the Union in 1929,\(^\text{15}\) while it was noted in 1948 that the main cultivars were Anveld and Wisconsin (white), and Natal Eight Row, Large Boesman, Minnesota, Small Boesman and Peruvian (yellow).\(^\text{16}\) The maize was milled at numerous smaller local mills for the farmers' own use or for distribution on the local market.

In 1950, maize farmers in the Grootfontein district reaped a record crop (no exact figures are on record), and were faced with severe marketing problems owing to the large-scale imports from the Union of South Africa. To deal with the issue, the Administration in June/July 1951 decided to establish a Grain Board for the territory, despite opposition on the part of the then Director of Agriculture, J.S. Watt.\(^\text{17}\)

The Grain Board's short-term scheme for disposing of the surplus entailed the payment of a subsidy to specific designated mills and milling agents in order to encourage them to purchase, process and sell locally-produced maize.\(^\text{18}\) This marketing-assistance subsidy system was later amended in order to rather encourage production, in that the milling agents submitted returns signed by the respective producers, and the subsidy was then paid directly to the producers, among them also residents of the so-called native reserves, especially Otjiutuo.\(^\text{19}\) Although the subsidy,\(^\text{20}\) paid from August 1951, protected the local farmer in that it secured a market for his surplus, it cannot be determined exactly whether or not it actually led to increased production, since there are no continuous records on previous maize production in the territory, and production figures during the period of the above scheme remained more or less constant.\(^\text{21}\) However, local maize production clearly peaked between 1951 and 1956 with an average annual production of almost 200 000 bags (over 18 000 tons), while there was a marked decrease in maize imports from South Africa (see table below).\(^\text{22}\)

As regards long-term development, the Grain Board proposed the establishment of larger storage facilities and a larger, central mill at Otavi to cope with the anticipated increase in local commercial production. However, this scheme apparently did not meet with the approval of the Union authorities. In April 1952, the Secretary for South West Africa, Neser, met the South African Minister of Agriculture, the Secretary for Agriculture and the Chairman of the Grain Board in South Africa, and their opinion was that the maize production in Namibia did not justify the erection of a mill, and the matter was left in abeyance.\(^\text{23}\)

In the following the politics of colonial marketing control to the benefit of South Africa and the disadvantage of Namibian agriculture will be outlined. Again, these politics emerged in the wake of the National Party's victory in South Africa and the establishment of an Afrikaner nationalist government.

To retain the Namibian market for the Union farmers, the South African subsidy on maize intended for export to Namibia was almost doubled from 4/8 to 7/4 per 200 lbs on 1 May 1952.\(^\text{24}\) In order to counteract the South African subsidy, the Administration for

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\(^{14}\) AGV A.6 G.1
\(^{15}\) AGV A.7/3, Vol. 1
\(^{16}\) AGR 68/2, Vol. 1
\(^{17}\) AGR 68/1/1
\(^{18}\) Millers and milling agents were to purchase the maize at least 26/2 per 203-lbs bag, process it, and would then receive a 2/- subsidy for every bag sold at 25/6. (AGR 68/1/2)
\(^{19}\) Ibid., Vol. 2-3
\(^{20}\) The subsidy paid to local producers was lower than that paid to Union producers who exported to Namibia, but nevertheless sufficient to achieve price parity. The difference between the Union subsidy and the Namibian subsidy was paid into the Grain Board suspense account, but, with the exception of administrative costs, it could not be determined for what purpose these funds, which in April 1956 already totalled well over £200 000, were eventually used. (AGR 111/6)
\(^{21}\) AGR 68/1/1; AGR 68/1/2, Vol. 1-2
\(^{22}\) AGR 111/4, Vol. 2
\(^{23}\) AGR 68/1/1
\(^{24}\) The fact that this exorbitant subsidy was a once-only attempt intended to promote Union maize producers at the expense of local producers is corroborated by the fact that by 1956, when the establishment of a South African based marketing monopoly was well under way (see below), the subsidy on maize and maize products exported from the Union to South West Africa had dropped almost to its previous level, namely 4/10 1/2 per 200 lbs. (AGR 111/4, Vol. 2)
South West Africa increased the subsidy paid to local producers accordingly later during the same month. This time, the South Africans retaliated differently. When it proved in 1952 that local Namibian production was insufficient and local milling agents were again obliged to obtain part of their maize requirements from the Union, the South African Maize Control Board refused white maize quotas to agents who had not purchased in South Africa during the previous season, since South African stocks of white maize were also limited.

It is interesting to note that, over and above these measures, the Union of South Africa once again used the Railways as a means to give-Union farmers an edge over Namibian producers. In April 1955, railage for maize from Kroonstad to Windhoek stood at 9/8 per 200-lbs bag, while it stood at 6d per bag less, namely 9/2, from Kroonstad to Otavi, i.e. into the heartland of Namibian maize production. In April 1956, the latter rate was unchanged, while the railage from Kroonstad to Windhoek had been reduced to 9/4 per 200-lbs bag.25

The idea of the mill at Otavi was revived in 1954, and on 13 May that year, the Legislative Assembly adopted a resolution which proposed the following steps:

- the erection of a grain-elevator and mills at a suitable place in the mallee area, e.g. Otavi;
- the regulating of the consumption of the local product so that it will first be fully consumed before importing from the Union;
- the establishment of a well-equipped experimental farm in the area which will supply farmers with the necessary advice and research; and
- that in times of surpluses other markets be found.26

No decisive action followed these simple proposals which would clearly have benefitted Namibian farmers as well as urban consumers.27

By November 1954, a new scenario was clearly in the making. The Executive Committee had apparently informed local milling agents that a monopolised milling and marketing system was to be introduced, and that they should therefore not invest further capital in their milling operations.28

In September 1956, the Farmers’ Co-operative Wool and Produce Union Limited (FCU), a South African co-operative which had extended its activities to Namibia in 1946,29 approached the Administration with a proposal regarding the introduction of a scheme for the milling and distribution of maize products in Namibia. Under this scheme, FCU would receive the maize from the producers at its established depots in the production areas. The producer would be paid out in cash at the fixed rate on receipt of the maize. A mill would be erected at Otavi by the Sentraal Westelike Koöperatiewe Maatskappie, a maize marketing and milling company from the Union of South Africa,30 and this company would also be responsible for the milling and training FCU officials in the grading of maize. The processed product would be marketed by FCU. Since the erection of the mill and the milling operations themselves meant a considerable financial outlay and risk on the part of Sentraal-Wes, this company insisted on being appointed sole importer of maize from the Union, and also the sole purchaser of locally-produced maize. The scheme was approved by the Executive Committee on 18 September 1956.31

The decision regarding the importing of Union maize and the purchasing of locally-produced maize by a single company led to protests by the Rietsfontein Farmers Co-operative Creamery Ltd and Mr A. Koll (a miller at Grootfontein), as it meant that the latter and many others would have to close down their mills. The Administration’s response was that an individual’s interests could not be permitted to outweigh the national interest. This was followed by a petition signed by 70 farmers, maize producers and residents of the Grootfontein district. They appealed to the Administration not to proceed with the proposed “legal monopoly”, but to allow the existing mills at the town to continue their operations, as they were completely satisfied with the services rendered by them. Alternatively, the Administration should pay these mills reasonable compensation. This time, the Administration pointed out that they did not intend closing down any mill and that all existing mills would be permitted to continue their milling opera-

25 AGR 111/4, Vol. 2
26 AGR 68/1/1
27 One year later, the Executive Committee merely resolved that maize importers in the Territory should be warned that the Administration intended introducing import control, but this warning served no purpose whatsoever as regards local producers. In 1956, for reasons which could not be established, many were obliged to sell their product at between 25/- and 27/6 per bag (despite the fact that the Administration had fixed the price at 32/- per bag), as they would otherwise not have been able to sell at all - a fate which indeed befell many a local producer. (AGR 111/4, Vol. 2; AGR 111/4/3)
28 AGR 111/4/3
29 FCU 1919-1969, 20
30 Negotiations had been conducted with several South African milling companies, since no local milling agent was apparently in a position to raise the financial means required.
31 AGR 111/4/3
Agriculture: Crops (staples)

interestingly enough, this decline in local production following on the introduction of a monopolistic marketing scheme linked to South Africa reveals startling parallels to the decline in the dairy industry during the period 1956-1961.  

In 1966 or 1967, it was decided to "rationalise" the marketing of maize and maize products in the territory even further, with FCU becoming the sole agent, although the Sentraal-Wes was still guaranteed the same protection it had been afforded earlier. The monopoly resulted in considerable supply problems to especially smaller consumers such as retail shops.

During the RSA period, records are as sporadic as those of the last six years of the Union/Commonwealth period. The main issues of the period were price and subsidies, with production, research and development receiving very little attention. Yet, even the scant information to be gleaned from the files does provide an indication that a reversal of protectionism took place. In 1968, although South African producers received a slightly lower producer price than their Namibian counterparts, the subsidy for Namibian producers stood at 31 cents per bag on white maize and 49 cents on yellow maize, while the subsidy on South African maize imported to Namibia stood at 38.5 cents per bag on white maize and 67.5 cents on yellow maize. It should be noted that the subsidy to South African farmers on maize imported into Namibia was paid by the SWA Administration, i.e. the Namibian taxpayer. The Namibian consumer price for both the local and the South African product was identical.
The maize purchasing and marketing scheme introduced in 1957 continued until 1978, when the parties concerned terminated the scheme for reasons that we could not establish. Until the promulgation of the Agromanoc Industry Proclamation, 1985 (Proclamation AG 11 of 1985), the industry was controlled by various ad hoc proclamations. Although the exact parties and procedures involved could not be determined by us, it appears as if the monopolistic marketing practices traced above were continued.

In 1985, when the SWA Agronomic Board was allocated the responsibility for marketing cash crops, a temporary scheme was introduced to market the season’s harvest of 7 600 t white maize and 1 100 t yellow maize. The scheme was similar to that used earlier, in that the agents Agra (Koöperatief) Ltd and Oranje Koöperasie Ltd took in the harvest, which was then processed by Namib Meulens (Pty) Ltd in Windhoek and SWA Koöperatiewe Meule at Otavi. For the 1986 season, the Board considered making it compulsory for processors to take in that part of the white maize harvest immediately which is estimated to be processed during the harvesting period, with the aid of own financing, while the remaining part of the harvest will be financed by the Board.

Although the details of the maize marketing scheme eventually in force on are not known to these researchers, there was an increase as regards local production. In 1989, local production stood at 21 700 t for white maize and 1 585 t for yellow maize, while, in 1990 it increased to 26 890 t in the case of white maize, with a slight drop to 1 555 t for yellow maize. Thus, by the beginning of the 1980s, commercial maize production in Namibia stood at the same level as in the 1920s; the peak figures of the 1950s were only reached again in 1989. In all probability, this increase can be ascribed to the introduction of the ‘production loans’ in 1981, which encouraged large-scale commercial single-crop cultivation in especially the Otavi-Grootfontein-Tsumeb triangle, but also elsewhere in the country. In this manner, the structure of commercial maize production in Namibia changed from the marketing of surpluses of many to monocultural businesses of a few between 1980 and 1990.

Wheat: As in the case of maize, very little information can be obtained from the files regarding wheat cultivation during the period 1915-1950, despite the fact that, according to the Administrator’s annual reports, wheat production in the territory averaged 5 226 bags per annum between 1928 and 1933.

However, there happen to be more detailed records, albeit of a rather condescending nature, on wheat production in the native reserves.

In July 1939, the Chief Native Commissioner informed the Senior Veterinary Surgeon that the residents of Zesfontein Reserve usually have a surplus of wheat which they barter to the storekeeper at Kamanjab for goods to the value of £1 per bag of wheat. They are desirous that the Administration should find a better market for them. This was replied to with a long and involved discussion regarding the spreading of diseases, etc., but no action was taken to assist them.

As far as the Government files are concerned, however, it was Okombahe which proved to be the most active in the field of wheat cultivation. Yet, here too one finds the official negation of everything others had done and achieved prior to the advent of the Union administration. Despite the obvious evidence that crop cultivation had been introduced at Okombahe during the second half of the 19th century already, the Public Service Inspector stated the following in May 1948: "Last year wheat was sown in the bed of the Omaruru River for the first time. The result of the experiment proved most gratifying, an esti-

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40 SWA Agronomic Board Annual Report 1985/86, 5
41 On 1 July 1975, four South African co-operatives (FCU, BSB, Ko-operatiewe Wolmaatskappy Beperk and SA Ko-operatiewe Karakulteaters) had amalgamated to form the BKB. BKB decided in 1980 to withdraw from Namibia, and its Namibian assets were taken over by the locally-based co-operative AGRA on 1 July 1980. (Info. Lösch)
42 Ibid., 10.
43 The Windhoek Observer, 22.12.1990
44 See Ch. 2, footnote 50.
45 All crop production statistics in the Administrator's annual reports cease after the latter date.
46 For example, statistics regarding the wheat and barley harvest in the Okombahe Reserve, though in all probability quite inaccurate, are available, with omissions, for the period 1924 to 1954 (SWAA A.158/13, Vol. 1-5; A.158/130). Statistics for country-wide production, on the other hand, are only on record for the period 1928-1933, and again for a brief spell after 1930.
47 AGR 68/2, Vol. 1; SWAA A.552/13
48 The history of agricultural production in the Zesfontein Reserve has been researched; see Fuller: 'Institutional Appropriation and Social Change among Agropastoralists in Central Namibia, 1916-1988'.
49 See above, Intro.
mated 1 200 bags being reaped. The quantity of wheat produced was apparently sufficient to justify the erection of a wheat grinding mill. In the estimates of expenditure for the 1951/52 financial year, the Welfare Officer included the erection of such a mill, as the residents of the reserve were compelled to send all the wheat produced to Omaruru for grinding. According to the Welfare Officer, the scheme would "enable the residents to sell suitable boermeel for European consumption". Records suggest that this scheme never materialised. Thus, a request for adequate marketing infrastructures was again ignored.

Files pertaining to commercial wheat production throughout the country begin in 1950/51, i.e. at a time when Okombabe too was experiencing a boom, which would indicate that the good harvests in the reserve were not merely a fluke. In a discussion pertaining to subsidies, the Director of Agriculture, J.S. Watt, indicated that the territory had produced a surplus of wheat in the 1950/51 season and it was considered exporting this to the Union. As in the case of maize, wheat producers experienced problems in marketing their produce on account of the cheaper flour imported from the Union. To enable local producers to dispose of their wheat, the Grain Board also proposed bringing the price for local produce in line with that of Union wheat by means of the payment of a subsidy of 15/- per bag of 203 lbs to recognised milling agents, and this was approved by the Executive Committee on 7 January 1952.

However, the price structure proved still to be to the advantage of the South African producer. Including railage, a 200-lbs bag of local wheat meal cost 44/6 at Mariental, while South African meal cost 34/4 at the same destination. The Tender Board therefore considered the difference of 10/2 to be too high to give preference to the local product. For this reason, the wheat producer price for the 1953/54 season was fixed at 55/- per bag (31/- per bag paid by the mill, plus a subsidy of 24/- per bag), which meant that the local product could be supplied at Stamping at 1d less than South African wheat flour. The consumer price for the season was fixed at 37/6 per bag.

The subsidy on wheat does not seem to have had any noticeable effect other than stabilizing an existing import-local consumption pattern. Between 1952 and 1955/56, the number of bags marketed under the scheme lay between 5 000 and 6 000 bags throughout, while imports of wheat and wheat products averaged 105 000 bags per annum during the period 1953 to 1955.

It is interesting to note that the set of rules which applied to the importation of wheat differed from that for maize. Whereas the Administration was responsible for the granting of permits to import maize into the territory, this responsibility lay with the South African Wheat Industry Control Board in the case of wheat. Possibly, this could be ascribed to the fact that all maize imported into Namibia originated from the Union in any event, while wheat could be ob-

51 The First Clerk in the office of the Chief Native Commissioner in Windhoek visited the reserve in 16 July 1948. He reported that the residents planted in the river bed, and as this comprised virtually only sand, they were obliged to bring in manure, sometimes from as far afield as 12 miles from the river. He estimated that as much as ten tons per hectare were being used, and also pointed out that every time the river came down in flood, all this manure was washed away, and the residents had to begin anew. (SWAA A.158/1/30)
52 SWAA A.184/11/3
53 SWAA A.158/106/1
54 6 000 bags were reaped in the Oub area (Auob Valley?) alone.
55 AGR 68/1/1
56 Initially, two milling agents were recognised for the purpose of the subsidy, namely D.A. Kotze of Osterode Süd and Mesters Charney & Co. at Stamping. In 1958, when the mill erected by Sentraal-Wes at Otavi commenced operations, that company was added to the list, since several farmers in the North had indicated that they also considered planting wheat. It would, however, appear that the company did not enjoy the same monopolistic status for wheat as it did for maize, since in 1959, Hugo van Niekerk from Otavifontein was also appointed as recognised milling agent. (AGR 111/S, Vol. 2)
57 AGR 68/1/1
58 Ibid.
59 Wheat production in the territory appears to have been less subject to fluctuations than maize production. The Senior Engineering Assistant visited the Auob Valley, the mainstay of the territory's wheat cultivation, in October 1955 and again in February 1956, and according to his observations, the 259 ha under irrigation yielded 5 604 bags of wheat, with the yield per hectare ranging from 13,6 bags to 40,4 bags. (AGR 111/S) Since, however, this figure pertains only to the Auob Valley, the production figure for the entire territory must have been somewhat higher.
60 AGR 68/1/1; AGR 68/1/2, Vol. 1-2
61 Details of wheat imports to the territory were usually furnished by Customs and Excise, but the response to a query in 1959 was "Details of trade between Union and SWA no longer available - Cuxa" (AGR 111/S, Vol. 2), in line with the policy introduced on 1 January 1953 that no separate statistics would be kept for Namibia. As from that date, Namibia was part of the statistical area "Union of South Africa" and no longer a separate statistical area, as had been the case prior to 1955. (SWAA A.84/10)
62 In 1955, for example, the firm Ludwig Schroeder (Pty) Ltd applied for permission to import wheat flour from Canada. The Director of Agriculture forwarded the application to the Secretary for South West Africa, recommending 'that the position should remain as in the past, namely that the Wheat Control Board should remain the sole importer of wheat and wheat
tained from other countries and the Union sought to protect its own producers against overseas competition.

Once again as in the case of maize, there are substantial gaps in the wheat records for the period 1955-1965, and here too the scant information that can be obtained from the files reveals a drop in local production. Whereas farmers in the north of the country had also begun to grow wheat, albeit of an inferior quality, in the late 1950s, the wheat subsidy was paid on a mere 1 894 bags (172 t) during the 1965/66 season, because "most farmers had switched to fodder".

However, commercial wheat production increased very significantly during the RSA period, with approximately 4 300 t of winter wheat being harvested during the 1985/86 season. A total of 3 850 t was produced at Hardap and 450 t on irrigation lands at Otavi and Kombat. Stampriet, the territory's former wheat basket, is not mentioned at all. The decline of Stampriet as a wheat-producing centre has not been traced.

According to a report in a Windhoek newspaper, some 3 000 t of the 1985/86 harvest was still in storage in September 1986, despite the fact that some R3 million had been invested by the State in Namib Meulens on condition that the wheat produced at Hardap would be processed in Windhoek. This suggests that the Agronomic Board also failed to secure a market for locally-produced wheat. However, the marketing problems here were due to the poor quality of the local product, which had to be mixed with Argentinean wheat.

The following remark by the spokesperson is most significant: "Keep in mind that we here are faced with the severest competition from South Africa, where they are experienced in the field of marketing quality flour for baking purposes." Thus, South Africa's policy of underdevelopment had obviously succeeded when it came to wheat - although commercial production in the territory had increased, local producers were apparently no longer able to provide a product that was up to standard, and local processors were unable to market a product that was acceptable to the consumer.

B. Vegetables

During the Union period rather large-scale commercial cultivation, as well as surplus marketing of farmers' vegetables, continued. However, research input and other official support was cut off, and produce was marketed on an ad hoc basis. Farmers' constant pleas to the Administration to set up marketing infrastructures were ignored.

Official records of the Union Administration yield very few significant details on vegetable cultivation in the territory, but it is obvious from the scant information that is to be found that this branch of horticulture did not feature prominently on the Administration's agenda initially. In September 1921, for example, three members of the Land Board who had visited Osona stated that "the case of Osona from an agricultural point of view is hopeless," although Osona had already made a name for itself as vegetable-producing area, and would be synonymous with local vegetable production until the early 1960s.

Local farmers apparently experienced considerable difficulties in obtaining good seed material, which was generally received from the Union. This is perhaps best reflected in the following rather vehement outburst of the Agricultural Technical Adviser on 29 February 1924:

It would appear that the farmers of this Territory are being grossly imposed on by some of the seedsmen and sellers of seeds in the Union States. Correspondence in the agri-

products'. The application was indeed referred to the Wheat Board of South Africa, and the outcome of the matter is not on record. (AGR 111/5, Vol. 1)

63 Ibid., Vol. 2-3
64 Ibid., Vol. 3
65 SWA Agronomic Board Annual Report 1985/86, 9. A remark in the report pertaining to production figures is rather confusing. It is said that production figures are based on estimates, since "provision is not made for sales outside the scheme, and therefore not the total harvest was handled by the scheme", while it is stated five paragraphs later that "the Board succeeded, by means of agreement, to control all harvest intakes".
66 Once again, this increase can probably be ascribed to the introduction of the 'production loans' in 1981, which encouraged large-scale commercial single-crop cultivation at a few sites.
67 The Windhoek Observer, 13.9.1986
68 Ibid. The exact quantities involved could not be established, but the content of Namibian wheat in the flour came to a mere 13%. (Info. Nel)
69 The Windhoek Observer, 13.9.1986
70 LAN 2659; see also Ch. 2.
71 In fact, it would be only four years before they were proven wrong by H.E. Miles, an Osona smallholder who appears to have cultivated vegetables for commercial purposes on a large scale in 1925 already, as the Adreßbuch for 1925 contains an entry to this effect. During the same year, F. Luckhoff of Grünau Siding planted 5 000 tomatoes. (AGV A.5/2, Vol. 1)
The agricultural press of the Union has been filled recently with letters of protest and complaint against the practice of selling seeds of low impurity [sic] and germination. Some samples of seed shown me in the Grootfontein district were positively rubbish - impurity was high, germination low and trueness to type often absent. A good deal of the poor crops reaped last year was due to bad germination and impurities. Many of the so-called seedsmen of the Union are merely middlemen, who simply fleece the farmer in every way and are quite indifferent as to their reputation or the results obtained by the farmer.

His superiors responded indifferently to this statement, saying that it was the farmers' own fault if they bought from dealers who had not yet established a reputation for themselves. The Adviser's proposal that a list of the "dealers of repute" be published to spare the farmers losses was rejected.

A horticultural crop that was cultivated by most farmers for their household needs throughout the country, was the potato. In 1928, there were also large-scale commercial potato plantations at Scheneksweder near Okahandja, Stampaartfontein, and Rietfontein near Grootfontein, the latter under irrigation. Although production dropped from over 2 million lbs in 1912 to just over 1 million lbs in 1932, it would remain more or less constant at an average annual production of 600 000 lbs after that. Between 1927 and 1931 alone, the import of seed potatoes lay between 30 and 65 tons per year. The smallholders at Osona, whose efforts had generally concentrated on growing tobacco thus far, were faced with serious marketing problems for their potato, and in 1935 indicated to an inspector of the Land and Agricultural Bank that they would not plant tobacco during the next season, but would rather also concentrate on potatoes. The authorities feared that this could result in a surplus, resulting in a further drop in the price for the commodity. The previous season's price of 10/- to 12/- per bag was already deemed to be scarcely profitable, and it appears that local producers were unable to compete with the Union product owing to various factors which require closer investigation, but surely related to lack of official support, suitable seed material, research and, probably, fertiliser and chemical control as well as railway tariffs. In 1938, a bag (150 lbs) of Union potatoes cost 9/3, while it was estimated that local producers would have to charge 15/- per bag to make an acceptable profit. Nevertheless, it is known that smallholders at Osona and in Klein Windhoek still continued to produce relatively large quantities of potatoes for the local market. For example, G. Grossart, who grew vegetables in Klein Windhoek, informed the Senior Veterinary Surgeon in Windhoek in August 1944 that he had succeeded in obtaining potato seed from a Canadian strain of seed potatoes he had imported, and that the plants grown from this seed produced good yields.

Although vegetables marketed by private individuals received no official attention, commercial vegetable cultivation proved to be, albeit but for a short period, the only horticultural and agronomic field in which a government experimental farm would achieve any significant results. In 1945, it was decided to cultivate vegetables at Omatjennë on a trial basis, and to supply these to school hostels at Grootfontein, Omaruru, Otjiwarongo and Swakopmund, which together required some 130 000 lbs vegetables per year. Two years later, the area under cultivation was increased, and between 1947 and 1949, Omatjennë supplied vegetables to twelve institutions (eight of them school hostels). Between March and May 1949, the demand exceeded the farm's capacity to produce, and additional land was again prepared and planted. Yet, poor planning, ad hoc marketing and implicit reliance on the Union as the main supplier, undermined this successful project. Only four hostels and one hospital continued drawing their vegetables (1 660 lbs per week) from Omatjennë. As a survey indicated that the institutions initially supplied could purchase vegetables from the Union ½d per lb less than it cost at Omatjennë, it was decided in November 1950 to reduce production so as to provide only for the needs of these five institutions. When the Director of Education pointed out that even this reduced market was 72 AGV V.6/9, Vol. 1 73 Ibid. 74 AGV A.5/2, Vol. 2; A.5/2/4 75 Rädel: 'Die Arbeiterfrage in SWA'; 150 76 AGV V.6/9, Vol. 1-2 77 SWAA A.201/7, Vol. 1 78 Walter: Die Farmwirtschaft in DSWA, 3. Teil, 98 79 AGR 68/2, Vol. 1. This is the first mention on record of any potato plants producing seed in the territory, since all seed material was imported. Seed potatoes could only be imported from "British countries or states constituting the German Republic", and such importation was subject to the issue of a permit. (AGV V.3/2/2) The importation of seed potatoes was necessary owing to the rapid degeneration of the potatoes. 80 It is interesting to note that the Otjojho hostel, which was also approached, indicated that it obtained all its vegetables, with the exception of potatoes, from its school garden. (SWAA A.468/35)
not assured, large-scale cultivation was discontinued only 4 years after the commencement of the project.\textsuperscript{81} Nevertheless, vegetables were still cultivated on a small scale at Omatjenne after the cessation of commercial operations, since 9.5 tons of pumpkin, 4.2 tons of potatoes, 4,421 lbs of onions and 3.5 tons of sweet potatoes were produced in 1956, while 4,183 lbs of mixed vegetables was supplied to Neudamm between April and October that year.\textsuperscript{82}

The successes achieved at Omatjenne apparently did not in any way benefit the farmers of the territory, who, with the exception of the odd reply to a query, had received no official encouragement or assistance ever since the departure of Dr Schreuder at the end of 1931. Although a horticultural officer from the Union, Dr V. Reinecke, visited the territory briefly in late 1950 or early 1951, the main purpose of his visit was to examine the fodder tree situation in the country, and assistance to horticulturists was limited to advice to interested persons regarding gardening in general and the submission of a list of fruit trees and varieties deemed suitable for local conditions.\textsuperscript{83}

During the 1950s and in the early RSA period, commercial vegetable growers in the territory continued to experience marketing difficulties. They marketed their produce in a variety of ways. Some sold directly to the public, while others supplied to shops and wholesalers. Usually, however, by the mid-1950s, they preferred Administration tenders, as these represented a stable market, and a steady source of income.\textsuperscript{84} Yet, the tender system proved to be disadvantageous to local vegetable producers,\textsuperscript{85} who found it impossible to remain competitive within its framework. Local suppliers (no matter the product involved) were permitted a preference margin of 10% above the lowest price offered by Union producers. This proved insufficient. At the beginning of October 1960, the South West African Agricultural Union decided to recommend that this margin be increased to 25%. Furthermore, the tenders stipulated that the tenderers were to supply throughout the year, a stipulation which overrides the climatic constraints of Namibian vegetable production and can only be fulfilled under monocultural greenhouse conditions with total fertiliser control. These did not exist in Namibia, and thus, by implication, the Union had to become the main supplier. Producers who were unable to comply with this requirement had to import the vegetables concerned. If such vegetables were cheaper than they had quoted in their initial tender, the difference was deducted from the price paid to them. It was therefore decided to recommend that this deduction should also be stopped.\textsuperscript{86} The third provision in tenders which led to problems was that it was up to the hostels to decide which vegetables they wanted, and the quantities involved. Thus, the tenderer was obliged to plant all the vegetables listed in the tender document, but the State was not obliged to buy all these vegetables. Also, the suppliers were faced with a surplus during the holidays, when, e.g., hostels did not require any fresh vegetables.\textsuperscript{87}

The following episode clearly demonstrates that the Administration was indeed not interested in supporting vegetable production in the territory. No matter which marketing agency local producers chose, they faced problems. These are well illustrated in a submission of Mrs M.L. Hoffman, then Secretary of the Osona Farmers' Association, to the so-called "Vegetable Commission" of 1955.\textsuperscript{88} Her three-page list of complaints regarding producers, the market in general, wholesalers, retailers, the municipality and the consumer at large inter alia draws the commission's attention to the following:

- As it was impossible to predict the market and the demand for specific types of vegetables, the producers planted as they deemed fit.
- Producers were afraid of over-production, as the large consumers (Railways, mines, wholesalers) ordered the vegetables required on a contract basis from the Union, and thus local producers were hesitant to plant on a larger scale. If, however, they could have planted more, they would have found it easier to dispose of their produce.
- It was impossible for the local producers to supply throughout the year, and they were also not able to supply on a regular basis.

\begin{thebibliography}{99}
\bibitem{81} SWAA A.468/35
\bibitem{82} For similar figures in May 1951, see SWAA A.468/23. Returns furnished for 1957 and 1958 show a decline in vegetable production (AGR 96/11), and no particulars pertaining to vegetable cultivation at Omatjenne are on record after that. A similar pattern has been traced consistently throughout this publication.
\bibitem{83} AGR 68/11, Vol. 1
\bibitem{84} Info. Hoffmann
\bibitem{85} According to informants, the tender system was altered repeatedly as from the mid-1950s, each alteration proving to be more disadvantageous to local horticulturists.
\bibitem{86} Allgemeine Zeitung, S.10.1960. Neither recommendation was implemented by the Tender Board.
\bibitem{87} Ibid., 14.10.1960
\bibitem{88} It is interesting to note that the members of the commission did not include a single vegetable grower or expert in the field of horticulture. (WW 30/8/12, Vol. 1)
\end{thebibliography}
- Local producers were not supported by the Government, as government institutions (Railways, school hostels) were supplied either directly or indirectly from the Union.
- There was no organised scheme through which local producers could market their produce.
- As wholesalers usually had contracts with suppliers from the Union, they simply refused to buy from local producers before they had sold all the Union produce in stock, even if the latter was of a lesser quality than that produced locally.  

It was to be three years before the Commission’s report was actually released, and when it finally was, it was accompanied by a press statement in which it was said that it had been studied by all the departments and sections concerned, and that they had found virtually all the Commission’s recommendations to be impractical, with the exception of the complaint regarding the tender system, which would be investigated. No such investigation is on record, though.

Yet, the perceived potential and historical record of prolific commercial vegetable production in Namibia was such that even within these constraints, at least one constructive proposal to overcome marketing problems in the territory is on record. On 3 February 1959 the Extension Officer at Groofontein wrote a letter to the Western Province Fruit Research Station at Stellenbosch to obtain their opinion regarding the establishment of a tomato puree factory at Rietfontein, since even winter tomatoes could be cultivated on many farms in the north, and the fish factories at Walvis Bay annually imported hundreds of tons of tomato puree. No further developments in this regard are on record.

From what little information is available for this period, it appears that vegetable cultivation nevertheless continued to remain a viable proposition for those involved, despite the marketing problems. Developments related to Namibia’s imminent incorporation in the RSA as a ‘fifth province’, however, would bring this branch of horticulture in the territory to an end very soon. Osona, which featured most prominently in the field, was effectively killed by the S. von Bach Dam Scheme and concomitant policy shifts of 1969/70. As the new development priorities came to be the establishment of homelands; the creation of a colonial metropolis with luxurious residential erven; the supply of water to mines and conurbations, Namibia’s smallholdings, the centre of the country’s commercial vegetable production, were destroyed. On 12 April 1973, the Director of Agriculture for the SWA Region states that Namibia was “approximately 90 per cent dependent on South Africa as regards vegetables.”

C. Fruit

For the German period, no comprehensive statistics regarding fruit trees and production or marketing are on record. However, the system that bore significant results as regards vegetables and staple crops within the short period between c. 1908 and 1914 also worked here: the government gardens/plantations experimented with young trees and saplings, and sold their successes to the settler farmers at cost price. By 1914 Namibia had a burgeoning wine, beer and spirits industry; from locally-grown grapes, an entirely Namibian-based industry produced alcoholic beverages ranging from Riesling to brandy. The first sets of licensing and tax regulations pertaining to the emerging local wine and spirits industries appeared by 1908.

Vines were much favoured by farmers, and viticulture had developed into an established area of research and experimentation by 1912. For instance, the Groofontein government plantation experimented with at least 80 different cultivars, and nursed and sold 30 000 vine slips in 1914; Gobabis had just established a vine nursery in 1913/14 and prepared 10 000 slips; even the Gibeon garden sold 700 of its own slips. The Windhoek plantation had the largest vineyards in the colony and sold 20 000-30 000 vines annually. The plantations of smallholder and entrepreneur John Ludwig in Klein Windhoek

89 Commission report
90 Allgemeine Zeitung, 25.3.1958
91 The Administration concluded a subsequent debate by saying that they fully understood local producers’ plight, but added that “the Tender Board cannot accept a tender for the supply of vegetables to the hospital and hostel in the knowledge that, as a result of the climatic conditions, the tenderer concerned can only supply cabbages and carrots for a certain part of the year.” (AGR 68/11, Vol. 4)
92 AGR 68/11, Vol. 3
93 See detailed discussion in Ch. 6, under ‘Smallholdings’.
94 AGR 68/11, Vol. 5. In 1931, local production had constituted almost 42% of the Windhoek fresh produce market’s annual turnover.
95 See Verfügungen of 18.9.1908 and 3.10.1908. For more details, see the third volume in this series on Namibian resources in history, on the manufacturing industry.
96 See the various annual reports in ZBU M.II.3, Bd. 2; most of these annual reports were also published in the Landwirtschaftliche Beilage to the Amtsblatt, the official gazette, as from 1911.
yielded, amongst others, an average of 40 tons of grapes per year. These grapes were not exported - 3 500 kg was, in 1911, locally consumed, and the rest was used to make wine and spirits (most of which was also locally consumed).

The selling and nursing of these plants was extremely labour-intensive. In Gibeon, for instance, 2 050 bunches of ripening grapes were bound into gauze bags in 1914; the 30 000 vines sold by Windhoek and Grootfontein were all hand-packed with the utmost care to ensure that they survived the often long transports.\(^{97}\)

It is interesting to note that the banana was grown on a large scale by several farmers. A particularly large and successful project was that of R.H.A. Schneider at Okosongomongo. A sketch of his fruit plantation at the Waterberg is included in the illustrations section. Part B is the banana plantation.\(^{98}\)

The most important tree crops were citrus fruit, dates,\(^{99}\) apricots, peaches, apples and pears.\(^{100}\) Figures of harvests and local market co-operatives are not on record. However, there are not only detailed files documenting raising, hybridisation and research results,\(^{101}\) but also various statistics of fruit trees planted and grafted at the stations, as well as numbers sold to farmers and distributed to railway and other administrative stations. For example, the Gibeon forest station, with a staff of seven, produced/nursed about 500 fruit trees in 1913/14; Grootfontein planted 4 000 young citrus trees, worked on the grafting of 10 000 wild stone-fruit slips, and continued grafting their stock of 3 000 apple trees; the fruit-tree nursery in Windhoek sold 2 070 fruit trees and bushes in the same year, and had a further 4 000 fruit trees and "several thousand" fruit bushes ready for sale, very shortly after being established. Gobabis planted 30 000 of their apple saplings and executed 4 500 graftings.\(^{102}\)

During the Union period, in a development directly paralleling that of vegetable production, smallholders or farmers who had in the past established or were establishing fruit plantations found their pleas for the setting up of a marketing infrastructure ignored. Their prolific plantations not only suffered problems of ad hoc marketing but, in many cases, could not be expanded owing to a lack of policy, expertise, local testing, etc.

The early annual reports by the Administrator create the impression that the administration intended continuing the system of experimental stations, albeit on a limited scale, with a view to distributing fruit trees to farmers. The Administrator's report for 1920 states that there were "about 8 000 vines and 900 fruit trees of different kinds" at Tigerquelle\(^{104}\) and Ackerbau during the year,\(^{105}\) and two years later Tigerquelle was being "largely used for the raising of young trees for distribution to the farmers".\(^{106}\) In 1926, 2 000 trees were actually sold to farmers.\(^{107}\) The 1927 report puts paid to all illusions, since the small forestry station on the farm concentrated on the "propagation of trees suitable for stock feed".\(^{108}\)

While the plantations of the previous regime were not maintained, official attempts at establishing new orchards never proceeded beyond preliminary enquiries. In June 1924, the Administration considered establishing a small orchard outside Windhoek, with no reference being made to the already existing large orchard in Klein Windhoek, and approached the Chief Horticulturist of the Department of Agriculture in Pretoria for advice.\(^{109}\) After nothing had apparently come of this orchard, the Administration indicated in October 1929 that it intended planting citrus trees on the experimental farm in the Auob Valley, and requested the Union Secretary for Agriculture to send an expert to give advice before the scheme actu-

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97 For further details on experiments with different cultivars, pest control, etc., see the ZBU L.VIII series.
98 Private archives of Schneider-Waterberg family
99 See the date-palm chronology below.
100 For a more detailed discussion, see Ch. 5, 'Afforestation'.
101 For an example, see the annual report of the forest and crop plantation at Grootfontein in Appendix B; see also the various annual reports published as Landwirtschaftliche Beilage in the Amtsblatt.
102 See the published reports in the 'Landwirtschaftliche Beilage zum Amtsblatt', 1914
103 ZBU M.1.e.3, Bd. 2
104 Tigerquelle and the former German experimental farm at Grootfontein are identical, but this fact is never mentioned by the Union Administration.
105 AR 1920, 19
106 AR 1925, 42
107 AR 1926, 46
108 Nevertheless, apricots, peaches, plums and pears were planted in a deciduous orchard on the experimental farm, in addition to the already existing citrus orchards. (AR 1927, 60) Records, however, do not yield any information as to whether these were used for experimental purposes or to supply fruit to hospitals and school hostels, and there are also no records to indicate that any such trees were made available to farmers.
109 AGV A.5/1
ally commenced.\textsuperscript{110} No report of such a visit or any indication as to progress is on record.

Although these grand visions came to nothing, the Administration at this stage fortunately still employed a horticultural officer who could advise farmers.\textsuperscript{111} This officer, however, could do little more than provide advice based on personal experience and information available from farmers in the territory and various Union departments. When it came to ordering trees, he was generally obliged to advise interested farmers to obtain their young trees, mainly citrus, from the Union.\textsuperscript{112} Some farmers also imported young fruit trees directly from overseas.\textsuperscript{113}

With the exception of the replies to queries, the authorities devoted very little attention to either private or official efforts at building up this branch of agriculture. There are no records of extension trips or visits by Union experts for extension purposes. Nevertheless, at least two private plantations, those at Rietfontein and Waterberg, produced citrus fruit on such a large scale as to allow for export.\textsuperscript{114} Apparently, the only other fruit to be produced in large quantities were grapes, since the Chief Agricultural Officer in November 1929 replied as follows to a request for information regarding the marketing potential for fruit in Windhoek:

Local supplies during the fruit season are very scarce. Fruit like peaches, pears, plums and summer fruit in general are imported from the Union. Locally, i.e. in Windhoek, grapes only can be taken into consideration. They are earlier than Cape grapes, so the latter do not interfere with the sale of local grapes.\textsuperscript{115}

When the Chief Agricultural Officer left at the end of 1931 and was not replaced, fruit growers in the territory were left very much to their own devices. For instance, R.H.A. Schneider was compelled to negotiate a contract to supply ships at Lüderitz and Walvis Bay with fruit; he also ran a small fruit stall at Walvis Bay for years. When the contract was discontinued some time after World War II because maritime traffic was encouraged to bypass Namibia, his plantation, which comprised some 3500 trees and employed 150 labourers at the time, faced serious marketing problems.\textsuperscript{116}

Fruit growers’ pleas for expertise were largely ignored, with the exception a visit by a horticultural officer from the Union, Dr V. Reinecke, who visited the territory for one week in late 1950 or January 1951. Although the main purpose of his visit was to examine the fodder tree situation in the country, he also gave advice to interested persons regarding gardening in general, and submitted a list of fruit trees and varieties he deemed suited for local conditions.\textsuperscript{117} This appeared to stimulate local fruit and vegetable producers, since in October 1952, the smallholders at Osona, Klein Windhoek and in the Swakop River requested that a horticultural officer from the Union visit their areas in order to advise them on the growing of vegetables and fruit. The Secretary for South West Africa responded by saying that the services of the Senior Agricultural Officer in the Native Affairs Branch, M.L. Pienaar, should rather be used for this purpose,\textsuperscript{118} but no advisory services are on record.

Notwithstanding this lack of production and supply policies, commercial fruit production continued on a prolific scale, as is suggested in a report compiled by a Union official, Dr R.H. Marloth (the Director of Citrus and Subtropical Fruit Research), who visited the territory in July 1954. His itinerary provided for visits to Maltahöhe, Waterberg, Otavi, Omatjename, Rietfontein, Osona and Klein Windhoek.\textsuperscript{119} His 14-page report, submitted in November 1954, goes into considerable detail, and he comes to the conclusion

\textsuperscript{110} AGV A.7/3, Vol. 1
\textsuperscript{111} During March 1925, P. Voigt from Lidfontein approached the Administration for their advice, as he intended establishing an orchard of 10 ha (i.e. between 2650 and 3300 trees in all), planting either oranges or apples. In his letter, he also points out that apple trees had been planted at Kowes during the previous year, but no further information could be found. The Administration, upon requesting further details regarding soil composition and climate, advised him to plant 5 ha oranges, 1 ha pears, 1 ha plums, 1 ha peaches, 1/2 ha apricots, 1/2 ha nuts and 1 ha olives. A similar request, also pertaining to 10 ha, was received from L. Kayser at Eirup in the Stampriet district in June, and was replied to along the same line. A considerable number of requests regarding smaller plantations was received from farmers and native reserves throughout the country in the period 1925 to 1929. (AGV A.5/1)
\textsuperscript{112} Ibid.
\textsuperscript{113} In April 1922 already, for example, H. Höbsch applied for permission to import from Germany 100 apple trees, 10 pears, 8 plums, 10 apricots and 10 currant bushes, to be planted on his farm in the Bethanie district. (AGV V.6/9, Vol. 1)
\textsuperscript{114} In 1929, R.H.A. Schneider, to whom the plantations at Waterberg belonged and who is described by the Chief Agricultural Office as "one of our largest fruit growers in the Territory who also exports overseas", even applied for membership of the South African Coop. Citrus Exchange. (AGV A.7/3, Vol. 1)
\textsuperscript{115} AGV A.7/3, Vol. 1
\textsuperscript{116} Info. H. Schneider-Waterberg
\textsuperscript{117} AGR 68/11, Vol. 1
\textsuperscript{118} Ibid.
\textsuperscript{119} Ibid.
Agriculture: Crops (fruit)

that the territory had the potential to become self-sufficient as regards its citrus requirements within a very short period. Marloth records in his report that there were well over 15,000 citrus trees in the country, with the largest plantations being situated at Otavifontein (4,000 navel-orange trees), Rietfontein (1,800 mixed varieties), Waterberg (1,200 grapefruit trees) and Otjikoto near Tsumeb (600 Valencia trees). In 1953, the Rietfontein Co-op marketed 10,000 pockets of oranges and the Waterberg Estates shipped 6,000 pockets of grapefruit. At the same time, citrus imports dropped from 43,208 pockets in 1951 to 29,821 pockets in 1954. The files also indicate that D.J.M. Marais of the farm Poortjie in the Outjo district had a banana plantation comprising some 5,000 trees of the Cavendish Dwarf Black Stem variety in 1959, and that he intended extending this plantation. The Landbouweekblad of 8 July 1958 had already featured an article on this farm, stating that there were 200 banana, 250 orange, 60 papaw, 20 naartjie, 150 peach, 25 guava, 20 olive, 40 fig and 100 apricot trees. No further developments are on record.

One of Marloth’s recommendations was that a Fruit Variety Orchard be established at Otamatjena to determine the types of fruit and varieties best suited for the territory’s climatic conditions. A total of 150 pineapple slips had been ordered for Otamatjena in 1951 already, while a further 60 pineapple slips and 12 young guava trees were ordered in 1954, and 200 pineapple slips in 1955 (the latter order contains a remark that “the pineapples seem to be doing very well at Otamatjena”).

During the RSA period, private commercial fruit growers in the territory received even less assistance and encouragement than they had during the Union period; in fact, as the RSA became an exporter of fruit on a regional and even international scale, the Administration’s policy appeared to change from neglect to veiled hostility. This is clearly reflected in a bitter letter of complaint written to the Office of the Administrator by A.B. Harmse from Huldenhorst on 7 May 1964. He had planted 3,200 citrus trees since 1958, and the previous Administrator, Viljoen, had assured him that there would be a market for his fruit, since the Administration applied the preference clause in the case of Namibian products. This, however, appeared not to be the case. According to Harmse, the three major greengrocers in Windhoek (the Produce Market, Kempel and Marling) all obtained their fruit from the RSA, while fruit for the school hostels was not purchased under the tender system, and local producers were thus not afforded any protection in this regard either. Although the Administrator replied that the matter was being investigated, the file contains an entry to the effect that this was a matter of private enterprise and that the principle of free-market competition applied, and that nothing could be done. No further action is on record, and the farmers’ attempts, re-emerging through the decades, appear to have died down.

Large-scale commercial production of fruit henceforth appears to have been concentrated in the hands of a few development schemes such as Hardap, and Aussenkehr (supported by ENOK).

The Hardap Irrigation Scheme, where 40 farmers occupied some 200 ha of the total available irrigable land of 3,000 ha in 1973, held great promise, but suffered from the same setback as the private fruit producers in the country - lack of guidance and specialist advice. All queries had to be referred to South Africa, since no horticultural officer was stationed in the territory. Nevertheless, the plantation of one of the farmers at the scheme, D. Marais, was especially praised when E.P. Evans of the Horticultural Research Institute in Pretoria in fact visited the scheme in January 1973. Marais had planted 3 ha of unrooted vine slips in 1970, and harvested 10 tons of sultanas per ha during the 1972/73 season. No records could be traced on the fate of this project after the South African Dried Fruit Board became seriously interested, even taking the initiative as regards extension services to the farmers involved. According to the senior official of the Hardap scheme, G.M.S. Maritz, all Hardap produce was marketed by the South African Oranje Koöperasie, by 1989.

The same rather startling lack of any evidence that the produce from other comparatively large fruit-growing schemes ever reached Namibian consumers.

120 Ibid., Vol. 2
121 AGR 68/11, Vol. 3
122 Ibid., Vol. 2
123 AGR 96/11, Vol. 1
124 Ibid., Vol. 2. No further particulars regarding the progress, yield or utilisation of these fruit trees are on record. This is the general tendency for all crop experiments at Otamatjena from 1940 onwards. There are several files of correspondence pertaining to seed orders, ranging from maize to peanuts, and yet there is not a single reliable statement reflecting annual production or sales, nor do the files contain any replies to queries by farmers. (AGR 96/11)
125 Ibid., Vol. 4
126 AGR 68/11, Vol. 5
127 Ibid.
128 Stern & Lau: Namibian Water Resources and their Management, 57
or was even marketed inside Namibia, characterises the ventures of ENOK and orchards at government experimental farms. Thus, the monthly reports for the period 1969 to 1974 indicate that Omatjenne and Uitkomst in fact still had orchards (mainly citrus and peaches), but there are no records pertaining to either the extent of these orchards or their yield or utilisation.

ENOK commenced with a monocultural fruit project at Musese in the Kavango in 1980. Each farmer was allocated 2.25 ha of cleared land on which he planted citrus trees, and an irrigation system was made available to him. This was followed by a similar scheme at Shitemo. In 1983, a total of 22.5 ha was under citrus at Musese, while 40 ha was planted with citrus and subtropical fruit at Shitemo. Again, no further data are on public record. The same is true for ENOK's apparently large-scale date project at Eersbeg in 1987/88.

### D. Cash Crops

Diverse Experiments: Germany, like other colonial powers, sought to identify and produce profitable cash crops in her colony - 'profitable' meaning not only money-making but of benefit to German industry as a raw material - often to replace expensive raw material imports from Japan or South America. Unlike in many other colonies no such crops or products had suggested themselves or emerged 20 years after annexation, with perhaps the sole exception of tobacco. Nonetheless German colonial planters experimented relentlessly and thus created a body of research results and 'feasibility studies' pertaining to agricultural and crop production in Namibia which might very well be of interest to today's planners.

The carrier bodies of this experimentation were the ten forest stations and government plantations which were inter alia responsible for the supply of foodstuffs, fodder, seeds and plants to farmers, towns and other interested parties. These plantations were in constant contact with German botanical and pharmaceutical research institutions. The more exotic experiments dealt with -

- Coffee
- Afforestation projects (including fising of dunes)
- Cassia (cinnamon rind)
- Peppermint (menthol)
- Groundnuts
- Hop
- Silkworms
- Grasses and fodder plants
- Bees
- Cotton
- Rape
- Rubber
- Alfalfa
- Olive trees
- Ximenia americana (wood-oil plant)
- Opuntiae (prickly pears)
- Castor oil seeds
- Inara seeds
- Numerous indigenous plants containing tanning and leather-working substances
- Sisal and other fibres
- Palm-tree fruits
- Manketti nuts
- Salt bushes
- The identification and cultivation of indigenous and imported grasses for cattle grazing (pasture improvement)
- Welwitschia mirabilis seeds

These experiments were either not considered viable for large-scale expansion and production at the time, or they were only in the initial stages in 1914 and not continued or resumed under the mandate administration. German planners considered farmer settlers - rather than companies - to be the future commercial producers. Thus farmers needed an experimentally sound back-up system of training, advice and guidelines which the government plantations set upon to work out. However, the five odd years between 1908/9, when most of these initiatives were taken, and 1914, when they ceased, were in most cases not sufficient to formulate appropriate and proven guidelines for local large-scale commercial production. Manketti nuts could not be exported because the Namibian manketti forests were outside the reaches of the existing infrastructure as the planned railway line from Tsumeb to Ondangwa was not yet built - and was, in 1987/88.

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129 No reference to the pineapple plantation at Omatjenne could be found.
130 AGR 85/3
131 Kontuk, III(26), 13
132 Apparently oblivious of projects such as Osona, ENOK claimed in February 1982 that the settlement of the first small farmers in Namibia was proceeding as desired. [Kontuk, V(39), 3] However, the citrus project at Musese cannot be considered to represent a small settlement scheme - rather, it is a monoculture in which several farmers were granted participation.
133 Kontuk, III(28), 3
134 Ibid., III(33), 13
135 ENOK in Perspective, 6
136 ZBU L.V.o.1
fact, never built. European bees, it was found, were not strong enough to cover the distances between blossoms in Namibia, and new breeds had to be fostered; nonetheless there were 35 apiarists and 165 colonies by 1913. Silkworms and silk spiders could not feed on Namibian mulberries - of which the government plantation at Okahandja ordered and started to plant 100 000 - because the mulberry leaves became too hard too fast in order to withstand the dry climate.

The castor-oil plant, it was found, was indigenous to Namibia and grew "in large quantities" near Omaruru; the seeds were analysed in Germany and by a French and an Italian institute who all considered them to be "rather good". It seems that the necessary and relevant experimentation with these seeds at the government plantations had not been concluded by 1914. Experiments with olive trees with a view to exporting olive oil were apparently discontinued after it was found that recent similar experiments in the Cape had all been a failure due to two pests against which the trees could not be protected; olive trees were only cultivated in South Africa with any degree of success within 100 miles of the Cape coastline.

An apparently successful experiment with a certain wood-oil plant - *Ximenia americana* - which was used in the varnish industry and which the southern states of the USA planned to cultivate, was again only in its initial stages in 1914 and not continued under the mandate.

The same was true for rape cultivation, as well as the emerging manufacture of charcoal and alcohol from fruit obtained from the indigenous palm forests in the Grootfontein district, as well as cotton, which included research into the nutritional value of cotton seeds, and peppermint. In the latter case, there is a record of January 1914 of a full feasibility study - after four years of experimentation and testing - for the establishment of a factory at Okahandja to distil menthol from locally-grown peppermint. Attempts with groundnuts at Neudamm were interrupted in 1915 and thus remained inconclusive.

In 1911 German industry was approached, again after experimentation, to use Inara seeds as an almond substitute, or for commercial oil production. While the relevant State Institute in Hamburg said that 100 tons per year from Namibia were too little for commercial oil production, and German companies did not show interest in the seeds as an almond substitute, the colonial administration found a highly interested partner in the Salvation Army's office for the Republic of Argentina in Paris. Seeds were also sent to interested parties in the Union of South Africa who ran an internal and small-scale Inara trade along the northern Cape coast. In March 1914 a similar attempt to examine the possible uses and advantages of *Websterschia mirabilis* seeds was made. Again these initiatives were permanently disrupted and shelved in 1914.

This survey can be continued with references to the substantial body of research into the tanning and leather-working qualities of indigenous Namibian plants, attempts to grow coffee aborted due to another pest known from similar, recent and unsuccessful attempts in South Africa; suggestions to grow hops, a scheme (comparatively advanced by 1914) of commercially exploiting the Namibian euphorbia plants ('milk bush') for their gum; apparently promising research into the possibility of growing gum-yielding trees in Namibia; various examinations of Bushman and Herero uses of indigenous fibre plants, and suggestions for the labour-intensive exploitation of Namibian fibre plants copied from native techniques for the commercial production of fibre.

**Tobacco**: The closest the German colonial administration ever came to the establishment of a cash crop industry was the production and processing...
of tobacco. As was indicated in the section on pre-colonial Namibian agricultural developments, tobacco cultivation and curing has a long if largely unresearched tradition in the whole territory comprising Namibia, dating from well before the 19th century. Therefore it is not surprising that the impulses that led to the emergence of a colonial industry came from the settler farmers and - better documented than in most other agricultural fields - from native Namibians, not the administration.

Thus the earliest settlers began to grow tobacco; those that were the most resourceful and ready-to-experiment did so on a large scale: the farmer Schlettwein of Ojitambi had 10 ha under tobacco cultivation by 1903. In contrast, the 17 smallholders at Osona had only 13 ha under cultivation by 1912. Similarly, by the same year that an official experimental station for tobacco cultivation was established - at Okahandja in 1912 - the residents of the Okombahe native reserve were entirely self-sufficient for their tobacco needs and moreover had sold their surpluses to the storekeepers at Okombahe and Usakos to the value of 10 000 marks during 1911.

It was only during 1907/08 that the administration decided to support and encourage the cultivation of tobacco as a matter of policy. Thus a Verfügung of 29 April 1907 to all police stations, district offices, etc. requested reports on who was growing tobacco commercially, or intended doing so. Many of those who did or had plans were owners of smallholdings with orchards and vineyards, especially at Osona and the Waterberg, but also in Gobabis, among the Basters at Rehoboth, and the residents of the districts of Karibib, Otjimbingwe, Groothoof, Outjo, Warmbad and Bethany. Further reports indicated that the Topnaars at Zesfontein and the Nama Swartboois at Fransfontein were cultivating tobacco on a significant scale.

Official experimentation and testing also began in 1907, made possible by two private donations from Germany to the amount of 1 000 marks. In 1912 the "Imperial Experimental Station for Tobacco Cultivation" was established in Okahandja, and the technical/scientific literature which appeared after the first pamphlet with guidelines for tobacco cultivation was published in 1902, multiplied. In 1912 the Fish River Terracing Project reached budget debates in Germany; this project foresaw, amongst other things, the provision of 5-6 000 ha of land specifically for tobacco cultivation. The only comprehensive harvest statistics readily available are for the year 1912, when just over 100 000 pounds was harvested. In 1913 there were only 53 tobacco growers in the colony, but this number increased to 104 one year later. Some of these were registered as commercial producers, and they almost certainly included Basters and Africans.

The major problems which dominate the archival records as well as the published booklets and pamphlets, especially between 1912 and 1914, concern the production of a product of uniform quality and format; the scale for the manufacture of cigarettes, pipe tobacco and cigars inside Namibia; as well as the setting up of a marketing infrastructure. There is no record to suggest that the lower-quality tobacco which was produced and cured ever went to waste: it was smoked by native labourers, processed for snuff in Rehoboth, and some of it was smoked by Europeans. It was also, as even today's farmers will confirm from their memories, used in various solutions as a natural pesticide. However, there can be little doubt that the major reason for the establishment of the official Tobacco Research Station was to assist farmers in growing a quality product that could be used in the manufacture of cigarettes and cigars and would be acceptable to Germans both in the colony and in Germany.

Samples of cured tobacco sent to Germany for evaluation between 1907 and 1912 had received either outright or carefully formulated dismissals. A trial run by a German firm who mixed Namibian tobacco with other tobacco for cigar manufacture and returned 190 boxes of cigars to the colony in 1911, seemed to give some reason for hope. During the next year, one Osona smallholder experimented with the commercial production of cigarettes from locally-grown tobacco: Wangemann, a trained cigar manufacturer from Dresden, made 3 000 cigarettes from Osona to-

153 ZBU L VI a.2, Bd. 1
154 ZBU W II n.4
155 See ZBU L VI a.2, Bd. 1.
156 ibid.
157 ZBU L VI d.2
158 ZBU L IV l.2; see also Stern & Lau: Namibian Water Resources and their Management, Section 2.
159 Rädel: "Die Arbeiterfrage in SWA", 150
160 See the annual report of the Okahandja tobacco research station for 1914; unfortunately the records of the station itself do not seem to have been preserved. See also ZBU L VI a.1, Bd. 1-2.
161 Holtz & Holtz: 'Der Tabakbau in SWA'
162 ZBU L VI b.5; L VI g.1
163 ZBU L VI g.2, Bd. 1
bacco; in 1913 another Osona smallholder, Metzger, purchased 58 cigar rollers from the Okahandja Tobacco Research Station to start manufacturing Namibian cigars.\(^{164}\) However, these and previous attempts failed to generate a manufacturing industry due to closely related problems, among them lack of co-operation, co-ordination and expertise among individual tobacco growers.

The solution to all these problems was seen by many smallholders and other tobacco growers in the establishment of centralised factories to which growers would bring their tobacco; where cigars and cigarettes would be manufactured according to standardised and expert procedures, and where responsibility for marketing would be centred. It was also noted that the administration would have to support Namibian tobacco processing through reduced taxes on relevant imports (i.e. specialised equipment).\(^{165}\) After several years of debate the administration seemed to have agreed. A draft contract of 1914 between the colonial administration and a Bremen firm is on record: the firm had to build a factory in Namibia and undertake to purchase the manufactured product for 10 years.\(^{166}\) In return it was granted a monopoly over tobacco marketing in Namibia. However, the file stops abruptly - most probably the war broke out over finalising the contract.

**During the Union period** Namibian farmers, both black and white, continued to grow tobacco for household and commercial purposes. However, from the first year of Union administration, a pattern was established characterised not only by a total lack of policy with regard to both production and marketing (the Tobacco Research Station at Okahandja was closed down without much ado), but also persistent harassment of Namibian commercial tobacco growers through levies and fees, clearly with a view to protecting Union tobacco products by eliminating Namibian competition.

In July 1921, the excise duties on tobacco products in the Union of South Africa had been increased. This was promulgated in the *Official Gazette of South West Africa* only on 15 November 1921, but took effect retroactively as from 25 April that year. The Administration of South West Africa applied to the Commissioner of Customs and Excise to have this waived in the territory, maintaining that collecting excise from the few farmers still cultivating tobacco did not justify the costs and effort involved, but the request was rejected.\(^{167}\) Friedrich Ernst Lützelberger, who produced cheroots from tobacco cultivated at Osona, in 1923 approached the Administration with a similar request, and this time, the South African authorities considered the matter. On 1 April 1925, duties on leaf tobacco, roll tobacco, pipe tobacco and tobacco used in the manufacture of cigars were abolished.\(^{168}\)

The tobacco producers in the territory nevertheless faced increasing competition from the Union,\(^{169}\) especially since no local marketing infrastructure was established. Their plight received some attention following the report of the so-called Marketing Commission of 1930. On 9 April 1931, a conference of tobacco farmers was held at Windhoek "to discuss the feasibility of the production and export of tobacco to the West Coast of Africa". It was agreed at the conference that four of the growers present would each provide three 25-lbs bales of tobacco, which would then be forwarded to various countries on the West Coast of Africa at the expense of the Administration. The shipments left Walvis Bay on 5 January 1932, but the response ranged from suggestions for improvement to outright rejection,\(^{170}\) and nothing further came of this venture.

Also in 1932, the Osona smallholders submitted a petition to the Administrator, complaining that so-called dipping tobacco for sheep was imported from the Union, and that this was not being sold to farmers only for the purpose for which it was actually intended. Some shops were selling it as cheap smoking tobacco,\(^{171}\) while some larger companies were actually buying it for the rations they issued to their employees. The petitioners also pointed out that the raitage for this tobacco was 3/- per 100 lbs in ton lots from the Union to Okahandja, while local tobacco

\(^{164}\) ZBU L.VI.e.2

\(^{165}\) ZBU L.VI.g.1

\(^{166}\) ZBU L.VI.a.2, Bd. 1

\(^{167}\) SWAA A.84/31, Vol. 1

\(^{168}\) Ibid.

\(^{169}\) Although not all tobacco imported originated from the Union of South Africa, the imports from other sources were so low as to be almost negligible. In 1931, for example, tobacco imported from elsewhere amounted to a mere 2.17% of the total tobacco imports to the value of £74,697. (AR 1932, 22, 29)

\(^{170}\) SWAA A.138/8/2

\(^{171}\) This issue also reared its head in the Okombahe and Otjitotongolo Reserves in 1937, when a member of the Reserve Board complained during the meeting of 16 November that the storekeeper sold such tobacco to the residents, and that many of them suffered from their chests as a result. The Omeruru magistrate responded by saying that they were not obliged to buy such tobacco, as other cheap tobacco was also available. However, the storekeeper nevertheless undertook not to stock such tobacco in the future. (SWAA A.158/106, Vol. 1)
The above Ordinance, together with the fact that foot-and-mouth disease had broken out in the Transvaal and all imports of tobacco from that part of the Union to Namibia were prohibited, helped to slightly alleviate the situation. However, a report by the Post Commander of the SWA Police at Otjiwarongo, dated 26 January 1934, shows that the Union suppliers and traders in the territory soon found a way to evade this legislation. Since it refers explicitly to lick and dip tobacco, the inferior product was now imported as "unmanufactured scrap tobacco", and although it was still intended for agricultural use only by the producers, local dealers and farmers sold it to labourers for smoking. Despite recommendations to this effect, the Executive Committee decided on 19 September 1934 not to amend the Ordinance to close this loophole, and the restrictions on the import of tobacco from the Transvaal were lifted in October 1934. Thus, this whole episode of half-hearted attempts to protect local producers had come to nothing.

In 1936, there were renewed calls for closing the legislative loophole in that the Proclamation should be amended to cover all unmanufactured scrap tobacco, but it was felt that it was not justified to expect a large sector of the agricultural community to pay a higher price for a commodity in order to ensure the survival of a very small community of tobacco growers. A perusal of the Government Gazette for 1936 and 1937 shows that such an amendment indeed never was promulgated.

In 1942 further measures were introduced which severely hampered the processing of tobacco. It was determined by law that all persons manufacturing pipe tobacco had to obtain a licence for £1, and those who manufactured cigars were obliged to obtain a further licence, which also cost £1. Both licenses had to be renewed annually. Also, manufacturers were required to furnish security to the amount of £50. Furthermore, a duty of 6d per lb was reintroduced on manufactured pipe tobacco and 1/- on cigars and cigarillos. Lützelberger, who manufactured cigars and cigarillos at Osona (from tobacco cultivated at Osona by the other smallholders) at the time, submitted a return...

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172 SWAA A.80/6
173 This regulation provided that "lick and dip tobacco shall be treated by being mixed with flowers sulphur, in the proportion of one pound of sulphur to five pounds of tobacco."
174 SWAA A.80/6
175 During the German period, efforts had concentrated on producing a quality product, while the battle for survival had, owing to the lack of guidance and assistance, by now dropped to the lowest possible level, namely that of scrap tobacco.
176 SWAA A.201/7, Vol. 1
177 SWAA A.80/6
178 The inferior tobacco was sold at between 3d and 5d per lb, while the local producers could not afford to sell below 6d per lb. During a visit to Osona in July 1935, for example, the Inspector of Farms of the Land and Agricultural Bank noted that the smallholders still had 2 200 bags (110 000 lbs), which represented some 85% of the previous season’s harvest, on hand. They could not even dispose of their product at 20/- per 50-lbs bag. (SWAA A.201/7, Vol. 1)
179 SWAA A.201/7, Vol. 1
showing that he had produced 1 200 cigars and 7 300 cigarillos with a total wholesale value of £18.4.11 during the 1941/42 financial year, and pointed out that if he was to pay the £1 for a licence and deposit a further £50 as security, it would be virtually impossible for him to carry on with his operations. Nevertheless, the authorities refused to waive the requirements in his case, and eventually, seven tobacco growers at Osona, among them Lützelberger, paid the required security of £50. Lützelberger applied for a licence to manufacture cigars, while the others were granted licences to manufacture pipe tobacco. In order to avoid having to pay the duties for tobacco in stock, all smallholders stored their produce as leaf (on which no duty was payable), and only processed it as the orders were received.\textsuperscript{180} Although there were some changes in the persons involved, the number of smallholders producing pipe tobacco remained constant at six throughout the 1940s, with one smallholder (Lützelberger) producing cigars.\textsuperscript{181} 

Figures indicate that tobacco cultivation at Osona was a profitable and indeed a growing industry despite the marketing difficulties and Union protectionist harassments. An annual return for the period 26 February 1942 to 24 February 1943 shows that the six pipe tobacco producers at Osona produced 69 024 lbs of tobacco during that period, while Lützelberger manufactured 49.5 lbs cigars (approximately 9 900 cigars) between September 1942 and March 1943.\textsuperscript{182} During the 1950/51 financial year, the Osona smallholders harvested 215 000 lbs tobacco.\textsuperscript{183} 

As all Namibian tobacco growers operated on a generally individual scale, and were forced to irrigate and make use of largely outdated machinery and methods, their overhead costs were considerably higher than those of their South African counterparts. Thus, another increase of the excise duty in 1952 placed them in a position where commercial tobacco cultivation was no longer an economically viable proposition. The Osona smallholders therefore appealed to the Secretary for South West Africa for assistance, either through an amendment of the legislation or payment of a subsidy, since with the extra duty they were entirely unable to compete with the product of the Union industry. The South African Commissioner of Customs and Excise was approached in this regard, and his response of 21 May 1952 once again suggests that the Union did not deem the protection of the territory’s producers to be necessary, and in fact considered them to be an undesirable element which conflicted with the interests of Union producers:

The proposed payment of a subsidy by the Administration to compensate South West African growers for the increased excise duty furthermore appears to be a measure designed to afford South West African growers protection against competition from the Union. It is, however, felt to be highly undesirable to build up protective walls between the Union and South West Africa.\textsuperscript{184} 

The Executive Committee decided to once again waive the Union’s objection, and relief measures were decided on. These entailed a subsidy of 10d per pound on all cut tobacco sold by farmers. This subsidy, for which £10 000 was set aside,\textsuperscript{185} was payable for that year only, and would be reconsidered at the end of the year. However, before the subsidy could be paid to the producers, they were required to submit a sworn statement to the effect that the tobacco was their own produce and was sold in Namibia for use in Namibia. This suggests that although the Administration was prepared to make a half-hearted effort to prop up what it considered an almost defunct branch of agriculture, it was careful not to interfere in the Union’s market, since tobacco exports clearly did not qualify for the subsidy.

Tobacco cultivation and manufacture in the territory gradually began to peter out. On 28 October 1954, Lützelberger informed the authorities that he had terminated his cigar-manufacturing operation. This, of course, meant an even smaller market for the smallholders at Osona, and some of them stopped growing tobacco. In 1957, only three smallholders applied for a tobacco-manufacturing licence,\textsuperscript{186} and very little further development in the field of tobacco cultivation took place after that.\textsuperscript{187} 

During an inspection carried out in February 1961 to determine the potential impact of the Von Bach Dam

\textsuperscript{180} SWAA A.84/31, Vol. 1
\textsuperscript{181} Ibid.
\textsuperscript{182} Ibid.
\textsuperscript{183} Ibid., Vol. 2
\textsuperscript{184} SWAA A.84/31, Vol. 2
\textsuperscript{185} A mere £553.1.8 of this amount was actually paid out in subsidies.
\textsuperscript{186} SWAA A.84/31, Vol. 3
\textsuperscript{187} In March 1959, J.H. Erasmus of Guinas approached the Administration for further information, and indicated that he intended cultivating tobacco on a large scale. It would appear that this scheme did actually proceed, since, according to a file entry of 18 May 1959, he sold tobacco at 2/- per pound. The only other person who seems to have been active in the field was J.A.C. Boshoff of Strydfontein in the Grootfontein District, but with the exception of a request for information on subsidies, no further details regarding his operation are on record. (AGR 131)
on the smallholdings, it was found that eight smallholders were still cultivating tobacco at Osona on an area covering at least 25 hectares. This tobacco was not merely intended for own consumption (issue to labourers and dip and lick tobacco), as was the case with many other farmers in the territory who planted tobacco on a small scale for this purpose, but was in fact still sold as smoking tobacco, mainly to other farmers and, on a more limited scale, to shops.

_During the RSA period, owing to the destruction of Osona (see below) and the carefully planned and implemented emergence of meat monocultures as the dominant pattern of farming in the 1970s, this long tradition with its powerful potential, against which the Union fought so consistently, was finally forced off the farms and the market. Only one large scheme run by ENOK appears to have engaged in tobacco-growing. Cultivation commenced at Katima Farm in the Caprivi Region in 1979 or perhaps even earlier, with a total of 50 ha under tobacco during that year._

In April the next year, however, the project suffered a serious setback when approximately 60 tons of good-quality tobacco went up in flames during a fire in the drying units. Various types of tobacco were planted on the project on a trial basis. The first Burley tobacco was harvested in February 1981. The cultivation of two further varieties, Oriental and Virginia, commenced in September 1988. No further data are on public record.

**Dates:** Research into the historical development of date cultivation has already been carried out by H.J. and Dr. I. Wiss, and it would serve no purpose duplicating that research. For this reason, an English translation of the chronology (until 1921) compiled by them and published in the _Newsletter of the Namibia Scientific Society_ is given here.

1844/46 Dr Hugo Hahn plants the first date seeds at Otjikango (later called Groß Barmen).

1853 On 30 December, the Rev. Rath plants dates in Otjimbingwe at a site which remains moist permanently.

1890 During a ride from the coast to Windhoek, C. von François plants date seeds at Tsaoebis (Wilhelmsfeste).

1892 The suckers planted at Otjikango have all died, but a new seed germinates well.

1893 Riding inland from the coast, Lieutenant Kurd Schwabe sees the dates planted by Von François at Tsaoebis in a good condition. During later rides, he plants date seeds all along the Swakop.

1894/95 Wilhelm Redecker sows and plants dates at Otjimbingwe as well as other stations. It is mentioned that these also thrive in the southern Sandveld.

1896 The Rev. Böhm, Walvis Bay, establishes the date garden at Scheppmannsdorf together with Mr Cunning.

1898 The _Deutsche Koloniaiblatt_ No. 11/12 reports that tropical economic and ornamental plants have arrived via Berlin from the Botanical Garden Bapenda (India), and have been distributed to the various stations. Windhoek received 27 types, among them dates, beefwoods and others.

1898/99 The soil in the _Truppenart_ in Otjimbingwe is very nitrous, but vegetables and dates do well. As an experiment, the bountiful date harvest is transported in sand-filled boxes, but this fails.

1900 The first dates are planted in the mission garden in Bethany.

1901/02 The date plantation in the Windhoek Valley (in the area of today’s SKW) is stocked with 5.533 date saplings, and these are protected by a hedge of the fast-growing Port Jackson willow. The entire plantation dies from frost in the following winter, and is never heard of again.

The first date saplings are planted under supervision of Max Corleis at the new date plantation at Ukub on

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188 WW 64, Vol. 1
189 Info. Kützner
190 Info. Hoffmann
191 This was traced in some detail in Ch. 3.
192 Kontuk, II(13), 7
193 Kontuk, II(19), 6
194 Enokaner, IX(2), 9
195 Vol. 33, No. 11-12
the northern bank of the Swakop, founded on 15 January 1902.

The Forest Station at Windhoek has 500 dates in tins ready for planting. Scale plague on all acacias in Windhoek.

The police station and mission at Omaruru receive more date plants, in addition to those drawn by the Rev. Böhme at Ameib and planted in Omaruru. About 100 dates are planted in the Okahandja river; their roots reach the ground-water within the first year.

1903

Lieutenant Volkmann reports that the date-palm plantation at Grootfontein is progressing excellently and requests the delivery of a larger amount of date seeds, imported directly from Algeria, in order to start larger-scale date plantations in the Outjo district.

Good progress is reported as regards the growing of dates and trees at the Forest Station Keetmanshoop at the AHB River (under control of Mr Hoffmann).

1903/04

Sergeant-Major Muller takes over the police station at Franzfontein and establishes a date garden; so does farmer Janson. The springs are sufficient for a 5-ha plantation.

1905/06

Very good grape and date harvest at the Forest Station in Windhoek.

The Forest Station Brakwater is being managed by a police sergeant, and 5 ha are planted with dates. However, locusts destroy everything.

Journey of Kurt Dinter to Algiers to study date cultivation at the oasis of Biskra.

Apart from the establishment of its 5-ha garden, the station Zesfontein has also planted dates.

1906/07

The date palms in the government plantation at Windhoek yield up to 200 kg of fruit per tree.

Dates and other plants are grown at the Forest Station in Windhoek.

The plantation at Ukuib has been neglected due to the war. As yet, 13 ha are under dates, but this is to be extended, although only a fifth of the Algerian shoots have taken root and scale insects have developed into a pest.

Carl Schlettwein plants 130 dates drawn from Moroccan seeds at Otjitambvi, but it turns out later that there are few good types among them; there are also too many male plants.

1908/09

Gardener Neldner reports from the Forest Station at Brakwater: "Unfortunately, date cultivation has again not progressed; last year the locusts completely destroyed all the young plants, this year the river flooded and washed away the entire date plantation during a cloudburst. New plantations were done."

The Forest Station at Brakwater is given up in March 1908.

In Grootfontein, the new date seeds sown on an area of 2,5 ha germinate well; 200 further date kernels are planted.

At Ukuib, a further 6,5 ha are planted with 1,508 date palms, 670 beefwoods, 300 eucalyptus. 2,300 tins with date plants are in stock.

1909/10

Amongst others, the Forest Station in Windhoek offers 300 date palms in tins for sale.

1910/11

At Ukuib 20 ha are afforested, 16 of which with date palms. A further 8 ha are being prepared. At the moment, there are 5,300 date palms at Ukuib, and another 1,600 are being drawn from seed.

At the district and mission garden Bethany, a rich harvest is obtained from the now 10-year-old date palms.

1912

Kurt Dinter sees the 300 three-year-old date palms at Gaub for the first time and is full of praise; older trees yield better fruit than those in Algiers. This proves that dates also thrive in areas with more precipitation.

1913

Dinter proposes the establishment of a date plantation at Namutoni, 75 ha large with 35,000 dates; the required 5,000 cfm of water per day would be available.

Government consultant Richter reports on his inspection of Ukuib with military doctor Dr Haupt. He claims that the plantation is almost free from
living scale insects, but it should still be sprayed. Ukuih should be maintained and expanded.

1914 The experimental station Gibeon plants 117 date palms.
The forest station Gobabis offers 1 000 date palms in tins for sale.
The Windhoek government plantations report very good date harvests, especially of the brand deglet-noir; however, artificial pollination is necessary.

1914/15 War

1916 Report on Ukuih: there are 15 000 to 20 000 date palm trees on 5 plots, with one row of ornamental trees between the rows of palms. The plantation suffered from grazing cattle during the war, but the date palms are well.

1917 Mr Herzinger is appointed as the manager of Ukuih by the military government.

1918 T.J. Mepheurson is employed at Ukuih. Despite the scale infestation (Parlatoria bianchardii), the palms look good, especially those near the riverbed.

On 16 July the chief entomologist of Pretoria proposes the destruction of all date palms infested with scale; the other, smaller palms are to be fumigated with hydrocyanide.

1919 The Ukuih Government Date Farm is placed under the military government.
The owner of a farm adjoining Ukuih requests the destruction of all palms, as they represent a danger to his date plantation and those of others.

1920 On 23 March Herzinger receives the order to burn down all 11 000 palms; he asks for an extension of his dismissal because this order cannot be executed in the short time available.

1921 The palms burnt down so far produce new shoots and must be first dug out and then burnt. All palms are thus destroyed.

1921 On 16 June the Secretary for SWA informs the Director of Works in Windhoek: "Ukuih Date Farm is closed down." The end of a great experiment.

After the destruction of the plantation at Ukuih, the farmers Corliss (Palmental in the Karibib district), Dr Seydel and S. Othmer (farm Nuolis, also in the Karibib district) and Carl Schettwein in the Outjo district appear to be the only ones who continued with the cultivation of date palms for commercial purposes, while there was also an established grove at the former Rheinish mission station at Roobank. Several other farmers indicated their willingness to try. However, once again, neither the results of such attempts nor any production figures are on record.196

It appears from the 1968 report to the Bantu Affairs Commissioner that the small date plantation established at Okombabe by C.W.L. Mercker still existed,197 and attempts were made to draw further trees from seed and plant them along the Omaruru River.198 The Agricultural Officer at Welwitschia (today Khorixas) reported on 26 January 1970 that various dead trees had been removed from the plantation, which consisted of 150 palms, and replaced by others. In March the same year, 1 425 lbs of dates was harvested from 50 trees, thus averaging at 28,5 lbs per tree. The production figure for May lay at 1 238 lbs from 20 trees.199 The total harvest for 1970 came to 3 936 lbs from 59 trees, i.e. a fraction of harvest recorded sixty years earlier. Of this, 2 844 lbs was sold for R213,95, i.e. the throw-away price of just over 7,5 cents per lb.200 No further data are on record.

ENOK began a project to revive date cultivation at Eersbegin in Damaraland during 1987/88.201 This project, entailed a business-like concept of establishing 32 families with date cultivation as the economic basis over a ten-year period with which community upliftment programmes are integrated.202 No further data are on publicly accessible record.

196 AGV A.6/1
197 The date could not be established, but it must have been well before 1945.
198 BDA N.8/21/2
199 BDA N.8/2/3
200 BDA N.8/13/7
201 Annual Review 1987/88, 24
202 FNDC - Bridge to the Future, vii
V AFFORESTATION

In the German colonial period this was an area of marked concern. The first file titled 'Forest Stations' suggests that the oldest station was that at Brakwater, established around 1900; the forestry station Okahandja was established in the first half of 1902. The exact dates of the establishment of the other forest stations mentioned above (see Ch. 2) could not be ascertained from the files of the Windhoek headquarters office, which were the only ones considered for the sake of this survey. While some of the forest stations were established by 1902/3 already, e.g. Okahandja and Windhoek, others were only established in 1911/12, e.g. Gobabis and Grootfontein. It is clear from the records, though, that large-scale and country-wide afforestation only commenced around 1912.

These stations were conceived to fulfil a wide range of functions. They were to be centres for research and experimentation; simultaneously they provided advice, and a wide range of plants and particularly young trees to the public. They also sold fresh flowers and vegetables and advised on their cultivation. The stations were integrated concerns combining all the types of agricultural experimentation discussed below, with the exception of Neudamm, which had no trees. The stations each had up to 200 ha under cultivation or afforested. The total staff complement would not range beyond 7-14 per station.

A few recorded statements may be considered to have summarised policies and encouraged new ones. Thus there is Dinter's plea to encourage fruit cultivation and processing (he was focusing on indigenous trees only, especially the palm tree) in order to encourage the emergence of an alcoholic beverages and spirits industry. Both Dinter and a subsequent botanist, a Mr Metzger reporting in 1913, were much concerned

with afforestation as an agricultural principle in order to protect an existing resource, and to enhance it as much as possible. Considering the uses to which successfully identified and nursed types of trees were put, it may be concluded that trees were identified and researched, planted, nursed, sold and/or distributed for five main reasons: windbreaks, shade, wood, fuel and crops. According to a special ordinance of 24 April 1913, the forest stations were especially called upon to afforest as many hectares as possible with indigenous Namibian trees, for the same purposes - which they did. In 1913 alone, Grootfontein cleared and sowed three hectares with indigenous trees. Indigenous trees were also researched for fodder crops, tanning substances and rubber.

The possibility of planting trees - especially eucalyptus and some indigenous trees - on a large scale in order to use their wood for urgent fuel and building needs, was often discussed. Botanist Dinter was particularly adamant that this should be done. However, such plantations had not yet been begun by 1915; neither does this appear to have been in an imminent planning stage.

The main focus of afforestation seemed to have been, however, the planting of trees for protective purposes such as live hedges for windbreaks; for dune-fixing; for the protection of river banks and the prevention of erosion; as well as for shade and fodder. After careful and internationally-linked research for almost a decade - these experiments included consultation with central afforestation data banks set up in Europe at the time, especially the Institute of Rome - the prosopis, eucalyptus, beefwood and pepper trees were identified as being the most successful, best suited and most popular trees for these purposes in Namibia. Prosopis had the additional advantage of providing highly nutritious and much-favoured pods which could be used as fodder. The various types of trees and the different properties of each in Namibian con-

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1 As indicated elsewhere, all German colonial activity was by and large limited to the area in the 'police zone'.
2 By botanist Dinter (ZBU M.1.e.2). A subsequent Union forestry professional, Keet, commented in 1927: "Trees were started under an elaborate system of irrigation in about 1914 [read: 1902], and as the conditions are ultra-favourable the trees, where not too crowded, have outgrown themselves...". See Keet: Afforestation and Conservation in SWA, 27-28.
3 The various municipal and district records will in all probability yield further and more detailed information.
4 In a recent publication by a highly-funded Finnish forestry research project, the authors limit themselves to lists of trees and administrative structures, without exploring the policy and model, as well as the effects, of these forest stations (see Erkkilä & Siiskonen: Forestry in Namibia, 1850-1990).
5 Again, no detailed investigation into the sizes of individual forest stations has been conducted. The records are, however, available; see for instance the ZBU M.1 series.
6 See also Ch. 6.
7 Dinter's report 1909 (ZBU M.l.r.2).
8 Metzger 1913 (Ibid.)
9 See Metzger's emphasis on indigenous trees particularly suited for the production of charcoal: 1913 (Ibid.).
10 For details regarding indigenous trees, research results with afforestation etc., see ZBU L.I.X.d.2. Bd. 1; ZBU M.l.a.4; as well as the publications by Dinter listed in the Bibliography and also Pogge's 'Nutzhofbäume Deutsch-Südwestafrikas'. a detailed account with sketches of the ecological cycles and uses of Namibia's indigenous trees.
11 See for instance Deutsch-Südwestafrika: Flora, forst- und landwirtschaftliche Fragmente.
ditions were researched and discussed, and the find-
ings were published in an ongoing local debate in
which linkages were sought with world-wide experi-
ments. Thus these 15 odd years of careful experimen-
tation have produced a plentiful literature of
specifically local Namibian forestry research results.12
Farmers, police and railway stations were the most
eager applicants for these trees, and bought and
planted them by their thousands.

For example, the station at Ukuib offered more than
4 000 trees for sale in 1914 (and sold about half that
number); Gobabis planted, amongst other trees, 8 000
eucalyptus and 1 000 palms; Gibson sold about 1 000;
the Windhoek forest station sold/distributed more
than 18 000 trees during the same year; Okahandja's
statistics show even more, namely over 24 000 trees
sold and/or distributed in that one year. Most of the
stations reported increasing, heavy demand for trees
which they tried their utmost to meet.13 The
SWACO's forest station at Kreyfontein planted 20 000
trees in 1912 and sold about 10 000.14

During the Union period, work in the field of affor-
estation was neglected. The nurseries established by
the previous administration either ceased functioning
altogether or dwindled to municipal nurseries, as was
the case in Windhoek. According to the
Administrator's report for 1918, the gardens in Klein
Windhoek and the Government Gardens were "main-
tained in as good order as possible", while no develop-
ment took place at the experimental and
agricultural farms at Grootfontein, "with the except-
ion of keeping the experimental gardens free from
weeds and a certain amount of irrigation, pruning,
etc.". The only exception here were the Government
Gardens at Okahandja, where the German agricul-
turist, Dr Schwonder, was still stationed until 1919.

During the year, "a large extent of new ground was
brought under cultivation, a new well sunk, fences put
up and the whole of the gardens, buildings, planta-
tions, etc., have been kept in an excellent condition."15

For the first few years of Union administration, the
energies and actual establishments of the previous
regime's afforestation efforts continued to have some
momentum. In 1921, for example, the Administration
entertained the idea of re-establishing the nursery at
Tigerquelle (Grootfontein). It appears that nothing
came of this idea initially, since subsequent corre-
spendence regarding trees of whatever nature went
via the nursery of the Windhoek Municipality.16 Yet
by 1925 Tigerquelle was operative again,17 and 30 va-
rieties of woodlot and ornamental trees were being
experimented with,18 while about 3 000 trees were
made now available to the public.19 Experiments
were also made with olive, palm and citrus trees. The
Administrator adds that Tigerquelle, situated near
Grootfontein, was being largely used for the raising
of young trees for distribution to the farmers.20 In 1926,
2 000 trees were sold to farmers, and the Administra-
tor reported that "the forestry branch of Tigerquelle
is making satisfactory progress and it is hoped to sup-
ply the Territory's requirements in ornamental and
fruit trees in future."21 The latter phrase indicates
that research into the most appropriate trees for
ameliorating the conditions prevailing in Namibia
gradually appears to have ceased, as attention fo-
cused instead on ornamental trees and the creation of
urban environments evocative of the Cape Province.

In November 1923, the Administration ordered 150
lbs of seed each of the Acacia cyclopsis and the Port
Jackson willow from the Union, in order to 'have it
planted along the omurambas of this country with the
object of forming shelter for cattle, helping to fix the

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12 The literature is only partly accessible through Namibia's largest bibliographic database called NAMLIST; the relevant archival records held by the National Archives contain a surprising number of additional published booklets, reports and pamphlets.

13 See the annual reports published in the Landwirtschaftliche Beilage of the Amtsblatt.

14 See the only annual report of that station on record in ZBU L.VIII.d.5; also published in the Amtsblatt.

15 AR 1918, 15

16 The typical, and either ignorant or hostile, response to a farmer's request for trees was "that the demand for forest and ornamental trees from the farmers in this country has not been such as to warrant the Government propagating these on
a large scale, and consequently just at present it has no trees for sale" (AGV A.5).

17 The Administrator's report states that "a commencement has been made with [afforestation] in the Grootfontein District". Actually, there can be no talk of "a commencement", since the Administration's research station at Grootfontein, Tigerquelle, had in fact already been established during the German period.

18 The Chief Agricultural Officer ordered small quantities of ornamental and woodlot trees from the Union in 1929, but these
were required for experimental purposes only, and not for propagation and distribution to farmers (AGV A.7/3, Vol. 1).
Neither the exact nature and objectives of the experiments nor their results could be determined from the official records.

19 In December 1925, it was stated that the experimental farm at Grootfontein was making provisions to supply seeds and
seedlings to farmers, and that it was expected that some 10 000 young transplants would be available in the near future (no
species are indicated). A letter written to a farmer in June 1926 indicates that the nursery proper was only re-established
at the beginning of the year, and it appears that efforts concentrated on ornamental and indigenous trees, since farmers
wishing to establish orchards were usually advised to order their young trees from the Union. (AGV A.5/1)

20 AR 1925, 41-42

21 AR 1926, 46, 48
sand and improving vegetation, etc., etc.\textsuperscript{22} Late 1923 also saw an attempt to import mangrove seedlings for the Walvis Bay lagoon,\textsuperscript{23} but it could not be ascertained from the records whether the scheme actually proceeded and if so, how successful it proved.\textsuperscript{24} As from early 1925, the Administration also began distributing prosopis seed\textsuperscript{25} to farmers on a large scale.\textsuperscript{26} Hedges between fields to prevent erosion and damage to crops also received some attention. In 1926, when a farmer in the Mariental district approached the Agricultural Division in Windhoek in this regard, he was advised to plant four rows of trees for the purpose, beginning with a row of *Ceratonia siliqua* on the outside, followed by one row each of *Callithris robusta*, *Cupress arizonica* and finally the privet. The rows were to be planted 10 feet apart, and the farmer was assured that this "hedge" would not only protect his crops, but that the wood of the trees could also be utilised.\textsuperscript{27}

It was written in 1925 that "the old German law in regard to the protection of trees has been held to be repealed and the Union Act No. 16 of 1913 on the subject has never been applied to this territory. A short proclamation, however, dealing with the protection of trees was passed, No. 23 of 1925." This proclamation, despite being called the "Preservation of Trees Ordinance", left more loopholes than it closed, and thus afforded trees little protection. Although it stipulated that a permit was required to cut, injure or destroy any tree or strip its bark, it also provided that any owner of land could cut any tree on his land "for his own agricultural, industrial and domestic purposes". Such owners were only prohibited from "selling or bartering the wood or bark in an unwrought condition or cut into poles or firewood."\textsuperscript{28}

Thus, there obviously was no clear-cut afforestation policy on the part of the Administration. The first attempt to arrive at some kind of a policy may be found in a letter written by the Secretary for South West Africa, H. P. Smit, on 21 July 1926, in which he stated that although "the greater part of the territory is not apparently suitable for the planting of exotics on a commercial scale", an afforestation policy was deemed desirable in view of the increased burden fuel and mining requirements placed on the natural timber resources. In total disregard and possibly ignorance of all the research carried out at the various experimental stations of the previous regime, the Secretary also noted that expert advice should be obtained with a view to laying down a general policy.\textsuperscript{29}

J.D.M. Keet from the Union Forestry Department did in fact visit various parts of the territory from 9 September to 11 October 1926.\textsuperscript{30} A detailed report and recommendations are contained in his publication *Afforestation and Conservation in South West Africa*. Following this report, the Administrator stated in his annual report for 1926 that "provision [for afforestation] will be made on next year's estimates."\textsuperscript{31}

This positive development proved to be rather short-lived, for in 1930, "owing to the general unsuitability of Tigerquelle it has been decided to close the experimental farm at that place".\textsuperscript{32} Tigerquelle appears not to have been an isolated case. When the Police requested trees for the Kalkfontein South Police Station from the Agricultural and Veterinary Services Division, they were informed that "this branch has now no nursery and cannot therefore supply them".\textsuperscript{33} This is further confirmed by the response to a farmer's request for fruit and ornamental trees in October 1929, when it was stated that "there is no tree nursery in S.W. Africa."\textsuperscript{34} The situation had not changed by September 1941.\textsuperscript{35} In fact, even in August 1956 it was stated that "we have no Forestry Division in South West".\textsuperscript{36} However, it appears that the Railway Admin-

\textsuperscript{22} AGV A.5
\textsuperscript{23} Regarding both orders, notes in the letters indicate that, with the exception of the acacia, the trees yielded a bark that could be used in the tanning of hides - there is no mention of previous experiments with indigenous trees in this regard.
\textsuperscript{24} AGV V.6/9, Vol. 1
\textsuperscript{25} Various farmers availed themselves of the prosopis seed provided by the Agricultural and Veterinary Services Division, some going as far planting several hectares of this species. Two other very popular trees were the eucalyptus (blue gum), of which one farmer in the Keetmanshoop district, J. Schweppie, ordered 2000 in May 1928, and the pepper tree (AGV A.5/1).
\textsuperscript{26} AGV A.5
\textsuperscript{27} AGV A.5/1
\textsuperscript{28} AGV A.5
\textsuperscript{29} AGV A.5/1
\textsuperscript{30} AGV A.5
\textsuperscript{31} In this report, published in 1927 and paralleled by few as regards thoroughness, Keet deals with a variety of aspects, ranging from the protection of especially indigenous trees to the possible utilisation of the fruit and other products from such trees. Keet was also one of the rare Union professionals who matter-of-factly included the German efforts in his discussion.
\textsuperscript{32} AR 1926, 46
\textsuperscript{33} AR 1930, 36
\textsuperscript{34} AGV A.5/1
\textsuperscript{35} AGV A.7/3, Vol. 1
istration did have a nursery at Okahandja, since on 8 March 1950, a list was sent out indicating that variety of surplus trees and hedging were for sale.38

Between the late 1940s and the end of the RSA colonial era, a story unfolds not of afforestation but deforestation. As will be shown, trees were protected on paper and simultaneously exploited on a massive and indiscriminate scale, with only the flimsiest of justifications offered. The interests of multinational companies clearly overrode ecological survival, as well as the statutes of the land.

Some time before 1949, J.D.M. Keet was appointed as technical advisor to the Administration in connection with the preservation and utilisation of trees and forests in the territory, especially in Ovamboland and Kavango. His report, submitted on 15 July 1949, once again proves to be a commendable exception as regards completeness and detail, discussing the existing condition of the forest, conservation aspects and possible utilisation. As was the case after Keet's previous report, however, little was done to put his recommendations to practical effect.

He repeated his sharp criticism of 20 years earlier regarding the practice of burning the veld, this time focusing particularly on the Okavango area:

Vast areas of forest in the Okavango have been gutted by recurrent fires lit mainly by the wild Bushmen, in the season when greatest harm is done to veld and trees. In many parts the forest has in this manner been reduced to useless scrub. The result is a terrible wastage of an important and valuable natural resource. No effort on the part of man can restore the forest on such parts in less than centuries. There is nothing of value to the national economy to replace it, the land is devastated, water supplies are robbed and the people so much poorer.39

He indicated that this issue required the Administration's urgent attention, and proposed that a section consisting of one senior forest officer and three foresters be established to deal with matters in this regard.40 Furthermore, Keet, just as his predecessor Dinter fifty years earlier, recommended the establishment of tree nurseries. The closest the Administration came to heeding the latter proposal was in a memorandum on estimated expenditure compiled by J.S. Watt, the Director of Agriculture, in September 1949. He suggested that such nurseries could be established at Neudamm and Omatjenne, but once again no further developments are on record.41

On paper, Keet's recommendations bore fruit. A new Preservation of Trees and Forests Ordinance, which covered a considerably wider range of related issues, was eventually promulgated in 1952.42 This ordinance prohibited the cutting of 22 species of trees for any purpose without a permit. It inter alia stipulated that only dead trees could be utilised, but this led to some farmers killing trees with a view to applying for a permit to utilise them at a later stage.43

Although the legislation changed, there were no signs of effective implementation. The attitude of the farming community and the mining companies, and that of the Administration itself did not change. In January 1954, the Director of Agriculture again approached Keet for advice, since a considerable number of new farms had been allotted in the Groothout-Tsumeb area. The new settlers saw the timber on their farms as a ready source of income, and numerous applications were received for permission to fell trees,44 especially the tamboti – a reserved species – for sale as mine props to the Tsumeb Corporation. In December 1953, the Tsumeb mine required approximately 13 000 props per month – at a rate of two props per tree. The mine had obtained the wood (tamboti and mopane) from company and private farms, and in the past the average haul from the place of felling to the mine had been less than 20 miles. By December 1953, however, this had increased to about 40 miles, as "continued cutting has practically exhausted the nearby timber on private farms". For this reason, the Tsumeb Corporation had commenced with the establishment of a eucalyptus plantation under irrigation at its Otjikoto farm in 1949, and 60 000 trees were planted at the

36 AGR 68/2, Vol. 1
37 AGR 68/11, Vol. 3
38 AGR 68/11, Vol. 1
39 AGR 102/1, Vol. 1
40 The Administration had appointed no Forestry officers by May 1955, although one student was apparently receiving training under the bursary scheme. (AGR 102/1, Vol. 2)
41 AGR 102/1, Vol. 1
42 This, however, proved too late. In the Groothout-Tsumeb area, for example, large-scale felling of especially tamboti and mopane had taken place to meet the Tsumeb mine’s requirements for mine props for nearly half a century. Thus Keet had noted in his 1927 report that the mine used between 250 and 300 tons of tamboti wood per month at the time (Afforestation and Conservation in SWA, 7). Many farms were virtually denuded of these trees, which once constituted large forests. Further research of oral sources is required to establish a detailed record.
43 AGR 102/1, Vol. 1
44 According to a list, there were forty farmers involved. (Ibid., Vol. 2)
time, while it was to be extended to cover 116 ha in all. Since, however, these trees would only be large enough for use after seven years, the Corporation requested the authorities to permit the settlers in the area to cut the trees required until such time as the eucalyptus could be utilised. The number of trees involved was estimated at a stupendous 350,000, and this constituted but a mere 55% of the total requirement for the period. The rest would be obtained from "more distant timber areas".45

In an attempt to justify their exploitative practices, the farmers maintained that "their farms are overgrown with trees, particularly tamboti, and that they are harmful to their other farming interests".46 Keet responded by saying that tamboti should be considered "luxury timber", and that it would be possible to deliver three 14-lbs fencing poles made of iron at Tsumeb for the price a cabinet-maker at Bellville would pay for one tamboti fencing pole, implying that such applications should be refused.47 A Chief Forest Research Officer from the Union, K.E. Marsh, visited the territory during the first two weeks of May to investigate the issue. He submitted an extremely thorough and detailed report one month later,48 and recommended that the expected shortfall be met by means of a combination of four methods, namely increasing local production from exotic plantations, using indigenous species other than tamboti and mopane, introducing economizing measures at the Tsumeb mine, and securing additional supplies by importation.49

One of the arguments both Keet and Marsh advanced against large-scale tree felling is that it promotes bush encroachment. As an example, Marsh mentions the farm Walroda near Tsumeb. Especially tamboti had been felled on a large scale on certain sections of the farm during the German period already, and although the grazing pattern had been the same on all parts of the farm, bush encroachment was by far the most serious on those sections were trees had been felled.50

Despite the well-argued expert pleas submitted by Keet and Marsh, no action was taken to protect indigenous forests, as is clear from a letter written by the Director of Agriculture, J.S. Watt, to the Secretary for South West Africa on 7 December 1955:

I have not been officially informed, but according to statements in the press the Executive Committee has now granted general permission to all farmers in the Grootfontein-Tsumeb area to cut 3,000 poles per farm. If this is the case, ... applications fall away, and a recommendation is not required, but I again wish to express my misgivings in regard to a policy of unrestricted or uncontrolled tree felling in that area.51

This letter did have an effect. On 21 December 1955 he reports that the permission had been suspended pending further negotiations about the appointment of forestry officers.52 On 22 February 1956, the Executive Committee also resolved that no applications for permits to fell trees would be considered until such time as the negotiations with the Civil Service Commission had been completed.53 This, however, placed the Tsumeb mine in a difficult position, since props in stock did not suffice for its requirements, and the Railways would not be able to deliver props from the Union in time. The Corporation appealed to the Executive Committee. Following a recommendation to the Administrator dated 25 April 1956, the permit system was reinstated, and 36 applications to fell trees in the Tsumeb-Grootfontein area were received.54 On 11 May, the applications of three farmers to fell 11,000 trees in all (all of them tamboti) were recommended for approval, followed by a further ten applications for a total of 15,200 trees (7,500 tamboti, 5,500 "deurmekaar" trees, 2,000 mopane and 200 marula).55

45 Ibid.
46 The reason most often given in the applications is that the trees reduced the grazing value of their land. (Ibid.)
47 Ibid., Vol. 1
48 The report is too detailed for discussion in this publication, but it should be pointed out that Marsh insisted that the Tsumeb Corporation's eucalyptus plantation at Otjikoto would most certainly not yield the expected results. The trees were planted too close together, and even if they were planted further apart, the trees would take ten years, not seven, to reach the required diameter. He stated that the Corporation would require a plantation of 700 ha to meet its mine prop requirements, and not merely 116 ha as envisaged. (Ibid., Vol. 2)
49 Ibid.
50 This theory would seem to be confirmed by the statement by a former resident of the Grootfontein district, according to whom bush encroachment is especially severe (between 50% and 80%) on those farms for which felling permits were granted during the mid-1950s, as well as on farms formerly belonging to the SWA Company.
51 The letter goes into considerable detail and also provides specific examples. In one instance, Watt goes as far as saying that "the farmers will not rest until they have denuded their farms of these trees". (AGR 102/1, Vol. 2)
52 Ibid.
53 Ibid., Vol. 3
54 One farmer from the Grootfontein district applied for permission to fell 60,000 tamboti and "deurmekaar" trees on the five smaller farms occupied by him.
55 It is interesting to note that applications to fell camel-thorn trees were generally rejected, because their pods constitute highly nutritional fodder.
three months later.\textsuperscript{56} This contributed to the ruinous destruction of a whole region's ecology in the interest of a multinational company.

Moreover, smaller private companies joined this large-scale ecologically destructive exploitation, actively encouraged by the State. Between 1955 and 1959 two concessionaires with permits to obtain dolf in the Kavango region, namely Etosha Saagmucle and Okavango Houtnywerheid Edms. Bpk, felled 11 406 cubic feet of dry wood and 71 061 cubic feet of green wood (live trees) in their concession areas. Whereas the initial requirement in 1955 had been that only dry wood could be utilised, they were also granted permission to fell green trees in 1957. At that stage, the levies payable for green wood were considerably higher than those for dry wood.\textsuperscript{57} During the same or the next year, however, the levy for green wood was reduced to such an extent\textsuperscript{58} that by 1959, 28 times as many live trees as dead trees were cut by the concessionaires.\textsuperscript{59}

*In the RSA period* minimal afforestation efforts could be traced,\textsuperscript{60} but attempts at commercial super-exploitation of Namibia's remaining forests are on record in the 1960s.\textsuperscript{61}

ENOK established a scheme at Mile 30 in the Kavango with a view to stimulating the woodcarving industry in the Kavango region. In the absence of detailed publicly accessible documentation, at least two questions arise. The Corporation stimulates the utilisation of a resource that is becoming increasingly scarce in an already alarmingly deforested northern Namibia. Yet, none of ENOK's projects seems to have re'afforestation even as its secondary aim. Thus, ENOK appears to contribute to a process of exploitation and destruction, while it seems that minimal profits are generated, and the sustainability of this industry is also not ensured.

\textsuperscript{56} AGR 102/1, Vol. 2
\textsuperscript{57} 3/6 per cubic foot of dry wood and 5/- per cubic foot of wet wood
\textsuperscript{58} 2/6 for green wood as opposed to 3/6 for dry wood
\textsuperscript{59} In 1957, the green-dry ratio had stood at 1:2.5. (AGR 102/3/1, Vol. 1)
\textsuperscript{60} For some detail, as well as more information on official and private activities in the field of forestry during this period, see Erkkilä & Siiskonen: *Forestry in Namibia, 1850-1990*, Ch. 11.
\textsuperscript{61} See, for instance, von Breitenbach: 'Long-term plan of forestry development in the Eastern Caprivi Zipfel'
VI ECONOMICS OF LAND USE

A. Settlement Policies

The two colonial governments’ official settlement policies for Europeans directly influenced the approach to agriculture and food production, both among settlers and natives (within the ‘police zone’). In the case of Namibia, patterns of white settlement clearly show priority decisions made by Germany and South Africa as to how and why Namibia was to be colonised, and what its function as a colony was to be. Yet, this important aspect of Namibia’s history has, with a single exception, not been researched. As the framework of this publication also does not allow for an in-depth treatment of this subject, only a broad thematic survey is attempted here.

Prior to 1904 settlement of Europeans took place on a very small scale: by the end of 1903 there were a total of 271 farms/farmers on an area of unidentified size. While settlers had been thus encroaching on African lands, before the 1904/07 wars of resistance or conquest against the Herero and Nama, most land was still held by Africans, not only de facto but also in terms of the ‘protection treaties’ of the 1880s and 1890s. However, after the defeat of the Herero and Nama, who had risen in war against the colonisers, native lands were expropriated in 1905 by a Berlin proclamation in a wholesale manner - with the exception of four comparatively small areas in the Bondelswart, Bersba, Rehoboth and Okombabe region. Thus by 1914 the number of settlers had increased to 1,587 settler farmers or peasants on a number of smallholdings and on about 1,200 farms on an area comprising c. 12 million hectares (that is about 20% of the total area which was in the hands of white farmers by the mid-1950s, when rural settlement of whites ceased). The dominant theme in settlement policy came to be the requirement that prospective settlers should possess both skills and money. Therefore the colonial administration not only established research and experimental stations; developed the country’s water resources; and distributed relevant publications to prospective and established settlers, but also took three other key steps to prevent mere land occupancy and ensure actual development.

Firstly, the administration embarked on a long-term and large-scale scheme of creating ‘agricultural collectives’ around at least five huge dams to be constructed in the course of the Fish River. These were not merely envisaged as centres of vital food and fodder production, but also as ‘schools’ for new settlers. Settlers were to be given an opportunity to acquire experience and skills, prove themselves as hard-working and enterprising, and earn and save money so that those best suited could eventually become cattle farmers. At the same time, they would provide the country with foodstuffs, and thus raise the standard of living for settlers and natives alike.

The second step taken to prevent resourceless and idle settlers from setting themselves up on valuable land, as well as land speculation, were rather stringent conditions governing loans and land purchases. The objective of official settlement policies was clearly that farms should be developed into self-sufficient and economically viable units which would eventually carry the country’s food and fodder requirements. It was found after a few years that this could only be ensured if the prospective farmer advanced a minimum but very substantial amount of money out of his own resources (10,000 marks) before any loans or assistance were granted. If land was purchased without settlement assistance, a cash deposit of not less than 10% of the total price was required. In all cases, the new owner had to begin developing his farm within six months, and the farm had to be a viable and running enterprise after not more than two years. Gifts in the form of subsidies did not feature at all. Even Schutatruppe veterans of the Herero/Nama wars, a favoured group for settlement, were afforded but slight

2 This move cancelled previous colonial debates about the establishment of reserves. Thus these four areas also cannot be considered as reserves where different sets and regulations applied than on Crown land; on concession areas; or on settler farms, except that they were unalienable. For a clear visual representation, see Map 3 in Oelhafen von Schöllenbach: Die Besiedlung Deutsch-SWAs bis zum Weltkriege; for a brief but comprehensive summary, see Odendal Report, 67, as also ‘Memorandum of Treaties between the Late Government and Various Native Tribes in SWA’, 1922 (with sources).
3 ZBU L.III.b.1. See also below, as well as Ch. 4 footnote 5. As has already been noted elsewhere, the question of actual land occupation by Africans after the expropriation of their land and property by a stroke of a pen in Berlin, remains unresearched.
4 For a detailed exposition, see Schlittwein: Der Farmer in DSWA.
5 The related theme of water management, central to these concerns in a country such as Namibia, has been explored in the first volume of this series on Namibian resources (see Stern & Lau: Namibian Water Resources and Their Management).
6 For more detail regarding these collectives, first proposed by T. Rehbock, also see under ‘Smallholdings’ below. Of the five proposed dams, only two - Hardap and Naute - were eventually built half a century later. The idea of these settlement schemes was revived as from the mid-1950s but abandoned again in the policy shift of 1969/70, with the exception of a comparatively tiny area around Hardap. For documentation of this process and its results, see Stern & Lau: Namibian Water Resources and Their Management.
advantages for about two years after the wars, such as a lower price per hectare, and loans (subject to the above-mentioned cash deposit) which were interest-free for the first one or two years.  

The third step was the creation and active support of smallholdings producing foodstuffs and fodder. By 1914 there were more than 200 peasant farmers on established smallholdings growing fruit, tobacco and vegetables. This form of land use is commented on below.

_During the Union period_ this community-intensive approach to autonomy, viability and self-sufficiency in European colonial settlement changed drastically, and almost immediately. In a process apparently starting as soon as 1916 and institutionalised after a few months of holding the mandate, the Union of South Africa began to use Namibia as a dumping ground for what appear to have been their most resourceless poor-whites.

Since 1916 nomadic and ox-wagon-bound Union immigrants had moved into Namibia, and some had been granted grazing licenses. Although data on these immigrants are hardly available, it seems that they were mostly illiterate, poor Afrikaner 'byrownor' families, an economically and politically troublesome group who repeatedly came into conflict with both established European farmers and Nama communal farmers, especially the Bondelswart. In 1920 certain sections of the 1912 Union Land Act were made applicable to Namibia, and this ushered in a decade of unprecedented allocation of land to immigrants with no financial means whatsoever. Between 1914 and 1928, the number of whites in the country doubled from 14 000 to 28 000; reserves were established for Africans for the first time, and Namibia's positive budget balance of almost £1 million changed to a foreign debt of nearly £2 million. It was openly admitted that this debt was due to the indiscriminate settlement assistance schemes for resourceless settlers who were neither able to invest nor pay back advances. For instance, the total assets of the remaining government stations (Neudamm, Tigerquelle and Gammams) and one tentatively established new one (Ackerbau) were listed as amounting to £67 469 in 1931, whereas advances made under land settlement schemes by that time came to £1 364 637 - almost 20 times as much.

The figures above provide a clear indication that settlement and development were now seen as two quite different and even conflicting policies, and that the Union's interest was in settlement. As the Administrator explained in one of his annual reports to the League of Nations, all available funds were poured into maintaining settlers (omitting that debts were incurred for this purpose), while "no money is being advanced for development work". In the late 1920s the better-known Angolan-Boer settlement scheme added to Namibia's so-called 'capital-expenditure' debt. In the case of this scheme, designed to 'repatriate' approximately 200 poor-white Afrikaner families from Angola to the South African sphere of influence without inviting them into the Union itself, the SWA Administration engaged not only in the subsidies of earlier schemes, but also incurred expenditure for food and clothing, stock purchases, the provision of basic infrastructure and the building of six schools for the settlers' children; the administration even went as far as purchasing a large farm (Omatjentjie) and planning a massive dam with a view to establishing an irrigation scheme for the settlers. The fact that the Administration was well aware of the resourcelessness of these prospective settlers, and the disproportionate amount of assistance which burdened the whole country, is suggested by the concluding remark in the Administrator's discussion of this scheme:

Thus, even if it is not possible to make great successes of the parents, they should under proper supervision be able to produce sufficient for their own maintenance, and there is every reasonable hope of doing something with the children. The major advances made to the new Afrikaner settlers were not recovered. Rather, Proclamation No.

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7 See also Ch. 2. It should be noted that these conditions apparently applied not only to land sold by the Crown, but also to land sold by tland concession companies; this seems to have been a largely unexamined area of colonial conflict. The best available summary appears to be Rädel: _Die Arbeiterfrage in SWA_, 54ff.
8 Oelhaff von Schöllenhach: _Die Besiedlung Deutsch-SWAs bis zum Weltkriege_, sample contract in Appendix 2
9 Rädel: _Die Arbeiterfrage in SWA_, 105
10 See, however, the unpublished working paper by Greetschel: _TITLE_.
11 These immigrants were in fact mentioned in official sources as having significantly contributed to the dissatisfaction which led to the 1923 Bondelswarts Rebellion; see A. Heywood: "Thoughts on 'Guerrilla Goatherds and People's Theatre'.
12 Feenkel: _The Namibians of SWA_, 11
13 See Rädel: _Die Arbeiterfrage in SWA_, 105ff.
14 AR 1931, 17
15 AR 1931, 16
16 For additional details, see under 'Smallholdings' and 'Experimental Farms' below.
17 AR 1929, 38-39.
205 of 1932 practically relieved them of all repayments of advances made, at least for the foreseeable future. Furthermore, the settlement schemes led to the emergence of a white, largely if not exclusively Afrikaner 'bywoner' population about which the Administration noted in 1935 that it "finds on its hands a number of the unemployable class with whom it is difficult to know what to do". These complaints about unproductive Europeans are continued in more detail in the next Annual Report, in which the Administrator noted about the Angola Boers that "a number of these settlers were not born to be farmers and will never make good as such. Sooner or later other arrangements will have to be made in order to give them an opportunity to make a living in some other way."

Thus the sometimes-quoted "generous incentives" of the large-scale settlement of the 1920s emerge as gifts of land previously occupied by native Namibians, of basic infrastructure, and of monies which until the late 1940s, and possibly later, constituted Namibia's only foreign debt - despite the almost £1 million which the SWA Administration paid into Union funds from Namibia's substantial surpluses accumulated during World War II; these monies were reckoned as a "voluntary contribution to the war effort".

By the late 1930s the land considered to be suited for stock farming and 'available' was taken up, and it was noted with some concern in the Administrator's Annual Reports just before World War II that although there were a few unsurveyed areas, "there will remain very little land for further settlement." By 1946 the total surface area of farms allocated and surveyed had risen from approximately 12 million ha in 1914 to about 32 million ha. This figure apparently does not include the 650 000 ha expropriated from the Liebig Extract of Meat Company in the early 1940s in order to be given to South African soldiers who had served in the war. The terms and procedures of this scheme are entirely unresearched. Started during the German colonial era, this company owned 10 large farms on the Khomas Hochland by the 1940s. These were extensively developed with large-scale water infrastructure, sizeable fields on which wheat, maize and lucerne was grown, and camps and houses. The company had operated a meat extract factory near Okahandja in the 1930s, supplied the Imperial Cold Storage Works in Walvis Bay with slaughter cattle for overseas export, and had contributed to the infrastructural development of the entire central Namibia by obliging farmers adjacent to the route taken by their cattle on the way to the coast, to fence the area and build roads for the cattle and its drivers. It seems that the distribution of farms to Union war veterans was only concluded in 1954, and that about 880 farms on close to 7 million ha were involved.

During the RSA period the channelling of Afrikaner immigrants into Namibia apparently continued, despite the fact that the allocation of land to whites came to an end in 1954. It was pursued by different means, since the South African political interests which Namibia had to serve were now focused on the imposition of apartheid and the preparation of Namibia's inclusion into the RSA as a 'fifth province'. While this merits closer investigation, it seems that many thousands of white immigrants from the RSA were absorbed into Namibia under favourable conditions by the creation of an ever-growing civil service. Thus the Department of Agriculture's white staff increased by 700% between 1960 and 1966. In fact, between 1970 and 1990 the civil service increased by almost 1 000%, from 7 385 in 1970 to an estimated 68 000 in 1990 - a figure which suggests that this could not have been a natural process.

18 AR 1932, 37
19 AR 1935, 20
20 AR 1936, 26.
21 See for instance Fraenkel: The Namibians of SWA, 12.
22 See also Coetzee: 'Die Geskiedenis van Landelijke Vestyging van Blankes in SWA'.
23 See the fascinating and clearly well-researched anonymous article in the SWA Annual 1946, 81-83: 'A Brief Survey of SWA's "Unprecedented Financial Prosperity"'. The quotation in the title has not been identified.
24 AR 1937, 29
25 Werner: 'A brief history of land dispossession in Namibia'
26 See for instance LAN 1386; LAN 1387.
27 The company had also undertaken much road-building and fencing itself. See ibid., as well as Günzel: 'Liebig's Extract of Meat Company'.
28 See Jubelius: 'Land Settlement in SWA'. Jubelius does not state that the land allocations were related to reward schemes for Union soldiers. However, farms in three of the four areas he mentions formerly belonged to the Liebig Extract of Meat Company (see Günzel: 'Liebig's Extract of Meat Company').
29 Watt: 'Oorlog oor Landbou'. The country's total white population increased by about 9 000 (c.13%) between 1960 and 1970 (see Population Censuses).
30 Population Census 1970
31 The shift away from rural settlement of whites is clearly reflected in the Odendaal Report of 1964. The nature of this apartheid master plan was not to make land available for Afrikaner or white settlement. Rather, the area of the previous
B. Smallholdings

The idea of smallholdings in Namibia can be traced back to German water engineer and geologist T. Rehbock, who in 1897 proposed the establishment of 'agricultural collectives' around large government dams. He suggested that poor immigrants

must be given a competently supervised opportunity to live by the labour of their hands ... This can only be achieved by organising agricultural collectives ... In these collectives they can acquire relevant skills; ... and if they are thrifty and hard-working, they can in due course increase both cattle and savings and become cattle breeders themselves. ... [This] would thus ... reduce prices for agricultural products and make the country independent of overseas food imports.\(^{32}\)

The smallholdings scheme was based on more or less the same principles, although it did not provide for as much active official support as regards the development of the required infrastructure.

The main objectives of the smallholdings were threefold. Firstly, they were to represent a stepping-stone for immigrants who did not have sufficient financial means to purchase farms or the knowledge to run them. Their small-scale farming activities, in which the emphasis lay on crop and fruit cultivation, would not only enable them to make a living from the land they occupied, but they would also be able to produce and sell surpluses, which would enable them to acquire sufficient resources to eventually purchase farms and, at the same time, feed both settlers and natives at the emerging urban centres. As the plots were generally no larger than 15 ha, the smallholders lived in close proximity to one another, which facilitated both the sharing of equipment and an exchange of expertise. The commonage attached to the smallholdings allowed the occupants to keep a few cattle, mainly for the production of milk for household use and manure with which to fertilise the fields, but also to allow them to learn how to raise cattle. Thus, the smallholdings were 'learn-by-experience' schemes at which the prospective farmers could acquire the skills required to make a success of large-scale farming operations.\(^{33}\)

Records suggest that the second objective was to lessen the colony's dependence on food imports from Germany and the Cape Colony.\(^{34}\) The plots were too small for stock-farming, and the smallholders thus had to rely on crop cultivation. However, in order to generate sufficient income to be able to buy farms, they would have to produce surpluses, which could then be marketed elsewhere in the territory.\(^{35}\)

Finally, the small settlements were considered to be nuclei for future urban development. It was hoped that the prosperity of the schemes would draw further smallholders, thus leading to an expansion of the settlement. At the same time, a basic urbanised infrastructure would gradually develop. Although such development would lie largely in the hands of the smallholders themselves, the administration provided indirect incentives in that post offices and police stations were established at many of the small settlements. Once the growth and development of a small settlement justified this, it would receive village or even municipal status, and the commonage would become town land.\(^{36}\)

The first smallholdings scheme in the country, that at Klein Windhoek, proved so successful that the German colonial administration decided to continue the establishment of such schemes, which had been interrupted by the Herero War of 1904/05, throughout the country. Suitable sites were identified at Osona (near Okahandja), Omaruru, Waterberg, and along the Nossob between Windhoek and Gobabis,\(^{37}\) as well as at Seeheim, Otjitasu and on the Aub River near Keetmanshoop, and the first plots were allocated in 1906 (at Osona). Of these schemes, Osona developed the most rapidly, which was probably also partly due to its proximity to the railway line between Okahandja and Windhoek. It not only grew fruit, tobacco and vegetables on a significant scale,\(^{38}\) but secondary in-

\(^{32}\) For a fuller translation of Rehbock's ideas, see Stern & Lau: Namibian Water Resources and Their Management, 30-31. No such collectives were established, since the large dams proposed and budgeted for were not constructed until the 1960s, when crop cultivation and horticulture began to be actively discouraged; for a detailed survey, see ibid.

\(^{33}\) ZBU L.II.f.1; LAN 2659

\(^{34}\) The file dealing with smallholdings in general, ZBU L.II.f.1, contains a table reflecting the basic foodstuff imports for the period 1911-1913.

\(^{35}\) See also Rehbock's proposal for agricultural collectives, in Stern & Lau: Namibian Water Resources and Their Management, 30-31.

\(^{36}\) LAN 4545

\(^{37}\) ZBU L.II.f.1
Industry began to develop at the settlement very soon. Already in 1908, Carl Heck established a distillery, the Dampfbrennerie Osona GmbH, which according to a survey of 1912 processed an average of 6.5 tons of potatoes, 20-25 tons of maize and 2 tons of grapes annually. Since a large number of the smallholders concentrated on growing tobacco, a rudimentary tobacco-processing and cigar-making industry also developed.

Following the occupation of the territory by Union forces in 1915, the smallholders at the various schemes continued their activities, and continued to make a living from them, but actual progress came to an abrupt end. The Union administration imposed levies which had not applied prior to 1915 and, as a result, the Dampfbrennerie Osona was first converted into a canning factory, and then liquidated in 1926. Furthermore the levies, combined with a world-wide depression and competition from subsidised Union producers, were largely responsible for the fact that the smallholders, instead of accumulating savings as had initially been intended, became indebted.

It emerged very soon that the Union administration did not consider the idea of small settlements feasible, despite the fact that especially Osona, Klein Windhoek and the Waterberg orchards had already proved at an early stage that smallholdings were appropriate in Namibian conditions and were productive and profitable undertakings. Such schemes therefore received little support or encouragement from the authorities. In fact, the administration in 1926 promulgated the Small Settlements Commonages Subdivision Proclamation (No. 13 of 1926), which provided for the allocation and sale of various sections of the commonage to the individual smallholders, so as to create small farms and allow them to turn to stock-farming.

Despite the lack of support from the authorities, several small settlement schemes prospered. The former smallholding Okosongomingo at the Waterberg had already developed into a large-scale citrus producer and exporter. Klein Windhoek was known for its vegetables and its wine industry. Osona and Goanikotes, together with the smallholdings at Klein Windhoek, established themselves as leading vegetable producers in the territory.

During the RSA period this self-sufficiency came to an end. Despite the general claims that the rapid decline of the various small settlement schemes as from the mid-1960s should be ascribed to market factors and climatic conditions, the sources available indicate otherwise. Although the records pertaining to the various small settlement schemes do in fact contain numerous complaints regarding lack of expertise and support by the administration; marketing and transport problems; competition from the Union; etc., it appears that as Namibia was being incorporated into the RSA as a 'fifth province', a new policy of urbanisation with regard to Windhoek on the one hand, and a new commitment to the country's transnational mining concerns on the other, were eventually responsible for the cessation of crop cultivation at the small settlements and, in many cases, their disappearance.

By the late-1960s a policy shift in the management of water resources was becoming apparent: the provision of permanent storage structures for food-producing communities was replaced by the concept of bulk water supplies for domestic [read: urban and

38 For harvest figures for 1913, see Ch. 4.
39 DOK O.V.e.5; HRW IX (HRB 20)
40 DOK L.S.e.5
41 For detailed figures and references, see Ch. 4, under 'Tobacco'.
42 LAN 2697
43 SCW 5/1/38
44 LAN 2660, 2669, 2685
45 LAN 2659; see also Ch. 2 and the harvest statistics in Ch. 4. For some details of Klein Windhoek, see for instance the Führer durch Stadt und Land Windhoek.
46 The only small settlement scheme envisaged for the territory by the Union administration was a project planned in 1929 for the Angola Boers at Omatjena. (It should be noted that Omatjena adjoins Otjimba, a small settlement scheme during the German period.) The objectives of this scheme were very similar to those set out by Rebhöök - a dam was to be built, and a number of Angola Boers was to cultivate winter crops under irrigation. Although the dam was completed in 1934, settlement did not proceed, and Omatjena was converted into an experimental farm in the late 1930s. (PWD 786 series, LAN 1811/2)
47 It is interesting to note, though, that most Osona smallholders nevertheless continued to manage their properties as smallholdings. The proclamation also entitled the Administrator to, "prior to subdivision, exclude from any commonage such portions thereof as are required for public purposes". This provision was applied in the case of Osona, where a part of the commonage was added to the Ovitoto Reserve.
48 See Ch. 2.
49 Okosongomingo farm records; copied and preserved at the NA. See also Ch. 4, under 'Vegetables'
50 For more detailed discussions of these factors, see the various segments.
mining purposes" in Namibia. This policy shift affected especially Osona. The smallholders were informed that they would not, as originally intended, receive water for irrigation purposes from the planned S. von Bach Dam, since all the water would be required for Windhoek. Furthermore, the Department of Water Affairs indicated that it intended pumping water from the confluence of the Swakop and Okahandja Rivers, situated in the heart of the Osona settlement. The smallholders feared that the construction of the dam and the large-scale withdrawal of water would result in a lowering of the water-table, thus increasing the cost of raising water to such an extent as to render their horticultural activities unprofitable. For this reason, all but two accepted the State's offer to purchase either their entire properties or merely their water rights. Those smallholders who sold only their water rights were entitled to withdraw 150 cubic metres per month, but this was not to be used for irrigation purposes. Without an adequate supply of water for irrigation purposes, vegetable cultivation was no longer possible. The orchards at the Waterberg were sold to the State in the mid-1960s after an admittedly disproportionately high offer was made, because the water yielded by the springs was required for the development of nearby Okakarara, situated in one of the new homelands proposed by the Odendaal Plan, but have since been destroyed to make way for a select nature reserve and tourist resort. Klein Windhoek became the victim of the rapid expansion of Windhoek and the ever-increasing demand for residential erven, and was assimilated into the capital as an elite residential suburb. The demise of Goanikontes and other smallholdings has not been investigated.

C. From Farming to Ranching

As suggested above in the German colonial era two new types of land use came to constitute the framework for agricultural visions and experiments: settler farming and smallholdings. Closely related to both were the ten forest and government agricultural stations which inter alia experimented specifically with the economics of land use.

No in-depth analysis of farming in Namibia has been attempted here. A brief survey of the so-called Farm Registers suggests that farms emerged as highly diversified self-sufficient units trying to break even financially. Self-sufficiency was an essential aspect of farming not only during the German era but for most of the Union era also.

Thus farming as a rule came to entail the breeding of cattle and small stock breeding, dairying, horticulture with vegetables, orchards and vineyards, and a certain number of hectares under tobacco and staple crops, mainly for household consumption. In good rainy seasons, surpluses as well as some crops grown for cash were marketed. Throughout this booklet we have demonstrated how financially feasible and productive this type of farming activity really was. The apparently very significant albeit unresearched colonial financial surpluses which were accumulated during the Depression and especially during World War II, when the mining industry almost came to a standstill, were indeed derived from the export of butter, karakul and merino wool produced by many small-scale concerns, including the black farmers in the reserves. For example, white farmers owned 10 853 pigs in 1928; also, Namibia exported more than 1,5 million lbs of wool generated by 246 479 merino sheep, as well as produced close to 7 000 tons of maize - about the same as was commercially produced in the early 1980s.

The same principles operated both on the smaller and also the very largest farms of the country, such as Voigtsgrund. Albert Voigts began farming at Tsubgaris, renamed Voigtsgrond, in 1907. In 1908 he organised and arranged for the import of a core herd of Persian karakul sheep in order to start a new industry in Namibia on his farm; the idea soon found the support of other farmers in the area. By 1914 he had

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51 For a more detailed exploration of this policy shift and its disadvantageous consequences for Namibian water management, see Stern & Lau: Namibian Water Resources and Their Management, 62.
52 See ibid., 56, 62, and WW 76, Vol. 2.
53 WW 30/8/9
54 WW 30/8/12. Some of the properties purchased by the State were later resold without water rights, after improvements on them had been razed. (Ibid.)
55 Ibid.
56 Info. Schneider-Waterberg
57 National Archives; unlisted
58 Ibid.
59 See for instance the figures given in Ch. 3.
60 AR 1928, 43-44
61 See Ch. 4.
62 Other examples, not discussed here, are Otjitambi of Carl Schlettwein, the Rietfontein farmers, and Okezongingo of R.H. Schneider.
63 See ZBU U.V.v.2
established a sizeable infrastructure which comprised milking and dairying rooms; workshops; stables for horses, stables for cows and other stock; chicken runs; "several huge pigsties" and storerooms. He had about two hectares under cultivation from which he harvested 2 000 kg lucerne and all vegetable/crop requirements for the farm and its employees. Voigt, the owner of almost 45 000 ha within a few years, also ran a well-established training component, accepting a number of both male and female trainee farm employees for one or two years.

This pattern of farming changed drastically in the RSA period, following the Afrikaner nationalist party's victory in 1948 and the preparation for Namibia's recolonisation as a 'fifth province' of South Africa under the Broederbond-led NP. The introduction of a new structure of subsidies for cattle post infrastructure such as fencing, boreholes, stock-removal schemes, heavily reduced export-levies for live cattle and stock feed in the 1950s led to a pattern of farming characterised by karakul or meat monocultures - heavily capitalised industrial ranches - by the 1960s.

Compared to the previously dominant pattern of small-scale and surplus-creating autonomous farms, ranching is a comparatively unproductive form of land use, a heavily capitalised, mortgaged, technologically specialised and dependent industrial concern which, however, creates massive profits for a few.

The financial situation accompanying this pattern of diversified and surplus-creating peasant farming between circa 1900 and the 1950s, and the monocultural industries which became the dominant form of farming since then, should briefly be demonstrated. While the country as a whole shifted from positive trade balances and national surpluses to a plunge into increasing debt and dependency, farmers became as wealthy as never before. The above table shows that the capital actually at the disposal of farmers for decades was very low. Farmers in fact had no money. However, in Namibia's most recent colonial history, i.e. since the 1960s, farmers amassed very sizeable savings accounts. At the same time sizeable debts seem to have become the general practice: total agri-

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64 The Windhoek Observer, 9.3.1987
65 Farmregister, Bezirk Gibeon, Bd. 1
66 For further detail on this farm and its 1986 sale to the then Administration for Coloureds, see for instance The Windhoek Observer, 9.5.1987.
67 See for instance Watt: 'Oorsig oor Landbou', 50. See also the more detailed analysis of this change in Ch. 3
68 The change was demonstrably not linked to South African white settlement policies, or securing a maximum amount of agricultural benefit for a maximum number of white farmers. As was outlined above, South African settlement priorities changed from placing white South Africans on land to creating an ever-growing well-padded civil service on the one hand, and to controlling blacks by implementing apartheid objectives on the other. The number of rural whites decreased by more than 10% between 1950 and 1960 (see the Population Censuses 1951 and 1961), and between 1960 and 1970 more than 400 farms were alienated to create homelands (see the Odendaal Plan, 91-105). The 1970 Census, on the other hand, shows an increase in rural white population - an increase probably reflecting a growing number of white officials in controlling positions, and their families in the new 'homelands'.
69 See for instance George on detailed, global figures of the comparatively unproductive nature of ranching businesses throughout the world, in How The Other Half Dies.
70 Moorson asked himself why such heavily subsidised and capitalised forms of farming seem to have been encouraged, and reasoned that South African agricultural colonial policy focused on maximising the settlement of whites - and since land was becoming scarce, thus the subsidy policies (see Moorson: Transforming a Wasted Land, 37). However, as has been noted above, this argument is anachronistic because white rural settlement as a policy belongs to the Union period. As was shown, hand-outs of new land to whites no longer appeared on the colonial agenda since the mid-1950s. Yet it was precisely the mid-1950s which saw the shift to the capitalised meat monocultures described above.
71 See for instance the constant record of positive balances of trade between 1920 and the 1950s as recorded in the Administrator's Reports, and the SWA Annual.
72 See for instance the astonishing multiplication of national debt, from 28 million to several hundred million, between 1978 and 1982 - a time period coinciding with the first full-scale operations of Rössing - as recorded by research done by Lang and made public in a speech before the IG Congress on 11.5.1982 (see NA, T.L. Erikson collection; also detailed reporting in The Windhoek Observer).
73 Source: Standard Bank Johannesburg Archives, March 1993. Figures are given per district, not per occupational group. The figures for 1945, provided in £ thousands, have been converted into Rand, and rounded to the nearest million. No figures for the reserves or 'homelands' seem to be available.
cultural credit stood at R162 205 000 in 1982, and at R430 517 000 in 1989.74

Last but not least it needs to be mentioned that monocultural ranching which became dominant in the 1960s, did not initially encompass a number of farmers at places in Namibia such as Stampriet, Hardap, and the Otavi-Grootfontein-Tsumeb triangle who continued diversified operations with stock farming as well as wheat and maize production, marketing their surpluses along similar lines as during previous decades.75 This picture changed only as recently as the mid-1980s when these farms also became monocultural businesses.76 The mechanism of this change was a scheme called ‘production loans’,77 which was pioneered by the Administration for Whites after ENOK had introduced the concept of industrial cash-crop monocultures in Namibia in the late 1970s.

**Game Ranching:** During the same years in which the shift from diversified, self-sufficient forms of farming to meat monocultures was implemented to the detriment of Namibia’s thousands of direct producers and processors, as well as to the country’s balance of trade, an entirely new form of farming emerged: today called game ranching, at the time called ‘trophy hunting’. As cows and oxen became ‘livestock’, Namibia’s wild animals were transformed into live targets for tourists. Namibia’s wildlife became private property in 1967 when trophy hunting was legalised.78

This form of ranching was praised by Dr Joubert, the Director of Nature Conservation, as follows: ‘The main advantages to the farmer are that he earns an income with minimal outlay, has little responsibility and normally gets the meat of the killed animal.’79 Parallel to the privatisation of Namibia’s wild animals was the emergence of the game dealer who became authorised exporter of live game with the public assistance of the Department of Nature Conservation.80

By the 1980s game dealing and trophy hunting as a form of ranching bore strange fruits which clearly merit the attention of researchers. A 1987 newspaper report on the Erindi Cattle and Game Ranch in one of Namibia’s most productive and fertile areas listed two brothers as owners of almost 110 000 ha of land recently purchased at close to R3 million, most of it from the SWA Cold Storage and Stock Farmers Ltd. The report queried the capture and export of 500 live gemsbok from these lands, which had been authorised by the Department of Nature Conservation; it also questioned the whole nature of transactions underlying money-making on such scale.81 It remains to be noted that to the best of these researchers’ knowledge not a single survey or analysis of the development of game ranching is on public record.

**D. Research Stations/Experimental Farms**

As was traced above,82 the layout and functioning of the agricultural plantations during the German colonial period followed ideas which today reappear in the most progressive and up-to-date Third World policy recommendations. The stations were run with a view to -
- soil preservation and soil creation;
- minimum use of non-renewable resources;
- maximum use of local materials;
- labour-intensive, simple technologies;
- agricultural extension such as the dissipation of skills (especially by publication).

Moreover, they were run intensively on small scales: all their experiments which yielded harvests either directly supported the stations themselves, making them as self-sufficient as possible, or reached the Namibian market for consumption and use by the public, both black and white.

For example, the stations at Neudamm and Grootfontein operated various principles of crop rotation. They also utilised water, shade and the fact that some plants like to grow in close proximity. Thus at Grootfontein layers of plants would emerge: a row of fruit trees was separated by rows of beans for consumption, a row of tobacco and, closer to the ground, a row of beans for natural ‘green’ fertiliser, rows of

74 Info. Mouton
75 Info. Mouton
76 It seems that some farms and farmers did not go along with these changes. Stampriet ceased to be the country’s wheat basket; cash-crop producing but diversified farms such as Voigtsgrund ceased to be private farms. This requires further investigation.
77 Again closer investigation is required. For substantiating evidence and some additional detail, see Ch. 2
79 Ibid. It is interesting to note that the phrase ‘trophy hunting’ with its connotations of colonial exploitation, destructiveness and domination has been edited out of the language of the relevant literature entirely; see especially the handful of articles on the topic in the Administration for White’s agricultural journal Agricola.
80 Ibid. Inconceivably Dr Joubert claims that this new form of private ownership of Namibia’s wildlife, transferred with the explicit aim of legalising the killing of this wildlife, has uplifted the standards of conservation in Namibia; see ibid.
81 The Windhoek Observer, 9.5.1987; 23.5.1987
82 This has also been noted with the management of water resources in Namibian Water Resources and Their Management; see especially p.2
peas and fodder melons. Ideas such as growing certain plants for green fertiliser (i.e. allowing the plant to grow to a certain height and then ploughing it under), using tobacco for a natural pesticide, growing hedges which functioned both as windbreaks and fence, etc., were very popular. The illustration section contains a sketch of the Grootfontein plantation which shows the extremely diversified integrative nature of operations. The equipment was utterly simple and the staff small, as was noted above. In the case of Gobabis there was one European gardener and six native assistants, and the results were mind-boggling. Irrigation canals were constructed from the stones found on the site or in the area. By 1914 the stations were expanding because the idea of combining research, production and a supply centre for farmers and other interested parties was proving very successful.

Neudamm was perhaps the most active station in terms of experimentation and research, linked to a lesser extent than the other stations to the public through sales of produce and providing seeds, saplings and trees. Established either in 1911 or 1912, its experimental lands only comprised about 20 ha by 1914. It was established particularly to experiment with maize, sorghum and vegetable cultivation without irrigation according to the concept of dryland farming. Dryland farming incorporated a complex theory about the processes and patterns by which humidity in the soil evaporates and/or is retained; its main proponent was a US American called Campbell whose methods and machinery were being used with varying but significant successes to cultivate North America’s ‘wild west’ savannas.

In 1912/13 the station experimented with altogether 40 cultivars of maize, sorghum, beans, wheat, barley, grass, lucerne and peas. The experiments included plots with natural and artificial fertiliser, crop rotation according to soil, fertiliser and season.

In the Union period after 1930 this model of agricultural development was not continued. With most of the stations established by the previous regime being closed down, burnt down, or relegated to the status of municipal nurseries, two additional government farms were purchased in the 1930s: Omatjenné and GeIlap-Ost. It appears that Neudamm was the only German government agricultural station that survived the takeover of the Union administration for longer than 10 years. Its character changed, however, from the moment of the military transitional administration was installed in 1915. While some cultivation of crops was continued - especially lucerne and rye - dryland farming experimentation ceased.

Rather, the first stud herds of woolled sheep and cattle were installed at Neudamm by 1915; by 1918 the core thoroughbred herd amounted to 80 head. By 1925 pig as well as karakul breeding had been added to the work at the station. GeIlap-Ost, purchased by the administration in 1939, was primarily designed to support karakul sheep farming in the country; Omatjenné eventually was established as a work relief scheme for Depression-hit poor-whites, after it was bought twice by the Administration.

All three farms appeal to have been run on principles prevalent all over the country: with cattle and woolled-sheep farming an important aspect of operations, the farms were self-sufficient for fodder as well as subsistence needs - in the case of Neudamm also catering for students as the German-era agricultural training institute at Gammans was transferred to Neudamm. They also marketed or stored their surpluses from good rain years. Thus the third silo was being constructed at Neudamm in 1936, as were an irrigation dam and irrigation canals, in 1937 a new

83 See for instance ZBU L.VIII.d.4.
84 See, for instance, some figures given in the Historical Overview. See also Appendix B for an example of an annual report.
85 By the time Neudamm was established, dryland farming had also excited considerable interest in the Union of South Africa where congresses were being held, exploring the relevance of the concept for the Union.
86 See Annual Reports of 1912/13, and 1914, published in the Landwirtschaftliche Beilage to the Amtsblatt.
87 Claims that the other government farm, Tijgerquelle, was ‘founded’ in the early 1920s are incorrect. The 200-ha Tijgerquelle is identical with the German Agricultural Station at Groofontein, established by viticulture department director Pfennig in 1912 and described above; see ZBU U.V.I.34; L.VIII.d.4.
88 AR 1918, 13
89 Ibid.
90 AR 1925, 40
91 AR 1939, 70
92 Purchased in 1929, Omatjenné was intended for the Angola Farmers Settlement Scheme. (LAN 1181) However, in May 1930 it was decided to abandon the scheme because the Legislative Assembly rejected the draft ordinance providing for the protection of the Omatjenné dam catchment area. On 1 July 1930 the farm Omatjenné and the oven there were taken over by the Director Angola Boer Settlement. The materials purchased for the construction of the dam were sold, and the monies realised were paid into the Angola Fund. (P.W.D. 786) In December 1931 the construction of a dam at Omatjenné was investigated anew, and the new scheme commenced in early 1932. Around the same time the Administration, which had initially paid £1 per hectare for the farm of 12 306 ha and then made it over to the Angola Boer Settlement Scheme, again took over the farm for £10 000. (P.W.D. 786)
hostel was under construction; "splendid crops were harvested" and three silos were filled.\textsuperscript{93} Omatjentjie's prolific vegetable and crop production was partly traced in the previous chapter. The main crops at the time were wheat and maize.\textsuperscript{95} Maize was cultivated under dry-land conditions on a very limited scale (20 morgen) in 1936, while stock feed (7½ morgen lucerne) was under irrigation. Considerable quantities of surplus wheat, maize and vegetables were supplied to school hostels and Neudamm during the late 1940s and early 1950s.\textsuperscript{96}

In 1952 the first official report on the three farms was published by the Agricultural Branch of the SWA Administration. The report shows that the emphasis of the three farms was on cattle - to some extent including milking capacity of cows - and karakul sheep. Yet the last four pages of the 24-page report deal with agriculture, horticulture and afforestation, and show not only considerable harvest figures but experimentation with six bean cultivars, nine maize cultivars, tobacco, recently-started orchards, and experiments with pod-bearing trees of which those with prosopis were the most promising.\textsuperscript{97}

Neudamm made their stud breeds available to white farmers over the decades by regular auctions, albeit on a small scale; by the early 1950s (perhaps earlier) Gellap-Ost did so, too. Apart from this aspect of actively supporting karakul- and cattle-breeding in the country, however, none of the stations can be said to have been carriers of agricultural policy or pioneers of a model of agricultural development. The above-mentioned initiatives of agricultural and afforestation experiments of the early 1950s came to an abrupt halt when, in the wake of the National Party's victory in South Africa, the pattern of farming in Namibia changed from diversity to industrial monocultures.

By 1957 the picture of the experimental farms had radically changed in that crop cultivation, horticulture and/or afforestation are not mentioned at all on any of the three farms. Thus, here as elsewhere, the mid-1950s saw policy changes which spelt the doom of diversity and small scale in agricultural production which for decades had preserved and, at times, expanded areas of food, fruit and fodder self-sufficiency in Namibia as a whole.\textsuperscript{98} Neudamm was entirely reconstituted in 1956,\textsuperscript{99} the station moved to a new site, reduced by more than half its fields, on which but lucerne for fodder was grown,\textsuperscript{100} retained half a hectare of vegetables for training purposes and hostel consumption, and otherwise concentrated on the breeding of slaughter cattle and karakul sheep.\textsuperscript{101}

In the reports of the mid-1950s and again for 1965, there is no mention at all of any agronomic activities.\textsuperscript{102} The only agronomic activities at Omatjentjie referred to in the annual reports of the Department of Agriculture and Nature Conservation for the period 1981 to 1984 are the planting and harvesting of grass. The fate of Gellap-Ost was not traced.

\textit{In the RSA period}, the economics of land use of most of the farms became exploitative. Between 1957 and 1987, an additional five government experimental farms were purchased or established, three of them only in the 1980s. The available documentation on public record on experimental farms for the last 20 years indicates the following record: only one of the farms, namely Hardap, engages in agronomic or horticultural experimentation, and a total of 50 ha is under cultivation.\textsuperscript{103} Uitkomst in the Grootfontein area, purchased in 1960 apparently with a view to supporting horticulture and crop cultivation, was until 1990, it seems, focused exclusively on slaughter cattle;\textsuperscript{104} a small project on 'semi-intensive milk production' is also on record, as well as two maize research projects started in 1987.\textsuperscript{105} It should be added that when a newspaper reporter visited Uitkomst in 1990 there was apparently no evidence of any activity.\textsuperscript{106} The lack of records and publications suggests that the assistance given to farmers or the wider public, either by extension or the marketing of produce, was minimal or non-existent. The beneficiary seems to have been the RSA and its agricultural development, since the majority of agricultural and horticultural re-

\textsuperscript{93} AR 1936, 23
\textsuperscript{94} AR 1937, 26
\textsuperscript{95} AGR 96/11, Vol. 1
\textsuperscript{96} See discussion under 'Vegetables'.
\textsuperscript{97} Report of Experimental Farms 1952
\textsuperscript{98} In fact, the dairy industry actually led to massive export earnings.
\textsuperscript{99} Watt: 'Oorsig oor Landbou', 20
\textsuperscript{100} In 1979 a new sorghum fodder crop was introduced and has since been cultivated (Info. P. van der Merwe, Principal).
\textsuperscript{101} Ibid.
\textsuperscript{102} Report of Experimental Farms, 1965
\textsuperscript{103} G.M.S. Maritz, 1990; see Stern & Lau: Namibian Water Resources and Their Management, p. 57, footnote 130.
\textsuperscript{104} Van Zyft: 'Uitkomst Proeftuas', \textit{Agricola} 1986; Jacobi: 'Veldbultoets op Uitkomst Navorzingstasie', \textit{Agricola} 1990, 62
\textsuperscript{105} Lepen and Bester: 'Navorsingsprojekte van die Direktoriat Landbou', \textit{Agricola} 1990
\textsuperscript{106} The Windhoek Observer, September 1990
E. Development Corporations

Following the recommendations of the 1954 Tomlinson Commission in South Africa, which investigated the effective implementation of the government’s apartheid policy, the Bantu Investment Corporation of South Africa Limited was established by law in 1959 to establish and control industrial and developmental undertakings in the Bantu homelands. As the Union of South Africa was responsible for native affairs in Namibia, the territory was also included in the Corporation’s field, although it appears to have begun its activities in Namibia only in the late 1960s. A brief survey of the projects in which the Corporation engaged reflects very little emphasis on development as such, since the few sources available contain considerably more references to retail businesses established than to the establishment of undertakings of primary or secondary industry. Rather, these records suggest that the role played by the South African-run Corporation was to replace private enterprise or co-operative initiatives in the homelands by Corporation-controlled activities.

As regards the BIC’s involvement in agriculture in Namibia, only one project could be traced, and consistent with the general agricultural policy for the territory, this pertained to monocultural cattle farming. A large ranching unit was developed in the Kavango, probably in 1972, with a view to supplying slaughter cattle to an abattoir at Otavi. The only readily accessible official files containing information on the Corporation’s activities in Namibia are for Damara-land. Despite this homeland’s agronomic and horticultural potential, which has been referred to repeatedly in this publication, there is not a single reference to fruit or vegetable cultivation on the file, which covers a nine-year period.

In 1978, the First National Development Corporation of South West Africa Limited (ENOK) took over the role of the Bantu Investment Corporation in the homelands. ENOK is a statutory body financed by the State. At its establishment the share capital of the Corporation was determined by the Administrator-General, and only the Administrator-General was permitted to become a shareholder in the Corporation. Management lay in the hands of an all-white board of directors. It was thus closely linked to the Bantu Investment Trust and given the power to acquire or take over the assets, liabilities, rights and obligations of the BIC and related corporations, as well as all development corporations in the territory founded under the Promotion of the Economic Development of Bantu Homelands Act of 1968.

In 1985, projects not actually initiated by ENOK still represented the majority of agricultural ventures in which the corporation was engaged. These were taken over from the second-tier authorities, the former Bantu Administration, or, in the case of farms expropriated under the Odendaal Plan, private individuals during the Union and even the German period. A survey of the limited published sources available indicates that the following agricultural projects were being run by ENOK in 1985: Isize, Katima Farm and the Vegetable Seedling Project (Capriví), Eersbeg (Damara-land), Musese, Shadikongoro, Shitemo and

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107 Lepen and Bester: ‘Navorsingsprojekte van die Direktoraat Landbou’
110 Homelands: The Role of the Corporations, 65
111 For a more detailed discussion of this issue, see Ch. 2.
112 See BDA N1/28/2.
113 Several such income- and surplus-generating ventures during the Union period were referred to in previous chapters.
114 See ibid., and Homelands: The Role of the Corporations. For some of the points made above and in the following, also see UNN: Namibia.
115 Homelands: The Role of the Corporations, 87. A similar project, which included the establishment of an abattoir, was envisaged for Ovamboland (ibid.). The possibility of growing cotton and rice in the Kavango is mentioned, but not elaborated on (ibid., 89).
116 BDA N1/28/2, 1968-1976
117 Proclamation AG 61 of 1978
Vungu Vungu (Kavango), and Vaalgras (Namaland).\textsuperscript{118}

For a majority of its projects, ENOK adopted the approach of 'energy centres' and 'settlement schemes'. On paper, such energy centres were the sites at which the bulk of the agricultural activities initially took place, and around which those participating in the schemes could settle. Eventually, the activities carried out at the energy centre itself would then also spread to the settlement schemes.\textsuperscript{119} However, two such settlement schemes, those at Museses and Shitemo emerge not so much as the smallholdings the ENOK claims them to be,\textsuperscript{120} but as monocultural cash-crop businesses centrally run by ENOK in which the 'smallholders' were paid workers with no responsibility for the scheme.\textsuperscript{121}

The workers at these four large schemes could never become autonomous settlers, as the salaries they were paid by the ENOK amounted to less than R200 per month.\textsuperscript{122} The small number of persons employed at the schemes suggests that the agricultural training and extension services provided, were very limited.\textsuperscript{123} Furthermore, although the technology employed by ENOK has neither been analysed nor documented, this small number of workers suggests that operations were capital- rather than labour-intensive. Yet, ENOK's agricultural schemes have been cost-ineffective, with R1,5-million losses per year being admitted by the Corporation.\textsuperscript{124} Last but not least, although it was ENOK's stated policy that business should be transferred to the persons running them once they had become profitable, there is no evidence of any agronomic or horticultural scheme ever being transferred to the supposed beneficiaries. Rather, ENOK continued to accumulate property.

In short, Namibians were not the beneficiaries of the Corporation's activities. This is true not only as regards the above observations, but also as regards their produce. Although the schemes were purportedly intended to contribute to food-self-sufficiency, there are, with the exception of maize and potatoes, no records of such produce being marketed in the territory itself, while several in-house publications state that produce to the value of several hundreds of thousands of rands was actually exported to the RSA per annum.\textsuperscript{125}

These contradictions between aims and objectives on paper, and actual operations over the years, suggest that ENOK blocked, not furthered, agricultural development, while enriching itself at the expense of the general taxpayer.

\textsuperscript{118} See ENOK's various in-house publications.
\textsuperscript{119} Seven Years of Economic Development in SWA by the FNDC, 18
\textsuperscript{120} Kontak V(39), 5
\textsuperscript{121} See also Ch. 4, under 'Fruit'.
\textsuperscript{122} "Employment has been created for an average of 170 permanent and 920 temporary workers, who together earn an average of R420 000 per year." (Seven Years of Economic Development In SWA by the FNDC, 18)
\textsuperscript{123} Ibid., 21
\textsuperscript{124} Ibid., 19.
\textsuperscript{125} Ibid.; FNDC - Bridge to the Future, vii
1914 Colonial Show Prize Plan

The plan for the 1914 Colonial Show in Windhoek and the proposed prize monies indicate where the developmental emphasis during the German period lay. There were four categories, namely (1) Animal Husbandry, (2) Agricultural Produce, (3) Industry and Manufacture, and (4) Social and Services. Prize monies to the amount of 3,875 marks stood to be won in the class for stud cattle, while the prizes offered in the category for locally-produced animal and horticultural products totalled 2,038 marks. Considerably smaller prizes were awarded for horses, donkeys, woolled sheep, angora goats, karakul sheep, pigs, oxen and slaughter-cattle, and poultry, while no indication is given of the prizes for Category 4. As it is especially Category 2 which has a bearing on the contents of this publication, a translation of the list of products which could be entered in this group is provided below.

Category II: Agricultural Produce

A. Animal Products from the Protectorate

1. Sheep wool - 3 skins or 15 pounds are to be submitted, stating the age of the wool and the quality strived for.
   a) Worsted
   b) Cloth-wool

2. Mohair - 15 pounds, stating date of last shearing

3. Kid hair - 15 pounds

4. Karakul Pels

5. All types of animal skins and hides, ready for export

6. Ostrich feathers (unwashed) - collective exhibition of one cut, unsorted. The feathers must have grown on one bird belonging to the exhibitor within the last 12 months.
   a) Bred ostriches
   b) Wild ostriches

7. Butter
   a) 5 pounds of table butter in pieces of 1 pound each
   b) At least 20 pounds of export butter, packed ready for transport; delivered 4 weeks prior to the exhibition. – An official certificate stating that the butter was produced 4 weeks prior to

the first day of the exhibition is recommended.

8. Cheeses, 5 pounds of each

9. Meat and sausages
   a) Long-life products - 10 pounds of each
   b) Canned meats manufactured for sale - at least 25 tins

10. Honey and wax - 5 pounds each

B. Agronomic and Horticultural Produce Grown in the Country

1. Tobacco - 10 pounds
   a) Dried leaves
   b) Roll tobacco
   c) Cut tobacco
   d) Plate tobacco
   e) At least 500 cigarettes or cigars

2. Wine - 10 bottles of each sort

3. Fruit
   a) Fresh fruit (oranges, lemons, bananas, etc.) - 5 pounds of each
   b) Dried fruit (raisins, etc.) - 5 pounds each
   c) Tinned fruit - 25 tins produced for sale

4. Fruit trees, grafted - 10 trees of each sort

5. Other trees and ornamental shrubs, pot plants, etc. - 10 of each sort

6. Lucerne and other hay - 200 pounds of each sort

7. Potatoes and other tuber, bulbs, roots, etc. - 100 pounds of each
   a) Grown without irrigation
   b) Under irrigation

8. Maize, kaffir corn and beans - 100 pounds of each
   a) Grown without irrigation
   b) Under irrigation

9. Wheat, barley, rye, oats - 50 pounds of each
   a) Grown without irrigation
   b) Under irrigation

10. Variety of agronomic crops grown without irrigation

11. Cabbages, pumpkins, melons, cucumbers, radishes, onions, tomatoes, kitchen herbs and other vegetables - 5 pounds of each

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1 The manufacturing industry will form the focus of the third book in this series on Namibian resources in history.
2 The cattle plan for the 1914 exhibition is very differentiated and distinguishes between imported and locally-bred animals; for more details, see ZBU L.III.14, Bd. 1.
3 Interestingly, the plans for the first show in 1899 - at a time when there were but a few hundreds of settlers in Namibia - shows exactly the same pattern, albeit undifferentiated: the same prizes were set for the same kind of categories: 3,000 marks for cattle, and 2,500 marks for crops, vegetables and dairy products (Leutwein to district offices Gibeon and Keetmanshoop, 24.2.1899, ZBU L.III.12).
4 ZBU L.III.14, Bd. 1.
Annual Report of the Agricultural Experimental Station Grootfontein 1913/14

A. General

1. Cultivation
Clearing of land continued during the year under review, and a further 2½ ha have been made arable at Tigerquell. Furthermore, 22 ha were cleared and ploughed at the Grootfontein site; they are intended for more extensive experiments in both dryland and rainfall cultivation. Thus, the total area under cultivation at the station currently stands at 48 ha. As it is intended to work only one half of the land at any one time and to let the other lie fallow, clearing will have to be continued next year. This further extension is necessary, if only to accommodate the great demand by farmers for impeccable, pure and acclimatised seeds.

2. Development of Water Resources
Owing to the extension of the orchard and vineyard at Tigerquell, the water supply needed to be improved. Therefore, the existing pipeline was extended by a further 100 m, and a new pipeline, 400 m long, was laid. The lower dam was deepened by about 1 m on average; this has increased its storage capacity by an additional 200 cbm. A well had to be drilled in order to water the draught animals on the site intended for cultivation experiments. At a depth of 47 m deep and a water-level of 17 m, this well now yields 2 cbm per hour.

3. Structures, Buildings, etc.
As regards other works, the following have been performed:
   a) Construction of a house for the head of the station.
   b) Stable for two horses.
   c) Fencing of the 9-ha irrigation area with mesh wire.
   d) Construction of a shade roof for the citrus seedling nursery.
   e) Construction of an earth dyke to protect site against flooding during the rainy season.
   f) Preparation of extensive seedbeds for the raising of plants.

4. Implements
The following implements were acquired:
One two-furrow plough Z 14 N from the firm Rud. Sack - Leipzig. This plough is extremely well suited for conditions in South West Africa. It is of solid build and simple construction, and has a special levelling board which excellently turns the clayey soil at the site.

The same firm also supplied a spike-harrow with flexible spikes. This implement was purchased for experimental purposes. It was found to be adequate in that it can be used for weeding young lucerne and wheat seedlings without fear of uprooting them. The implement is drawn by a mule.

In order to reduce the cost of clearing land and to speed up the work, the station purchased a clearing-machinery from the firm Roggatz - Charlottenburg. The machine is operated by 2 to 3 labourers; two oxen are sufficient to draw it. With this machine, up to 30 trees, some of them with a diameter of 30-40 cm, could be uprooted daily. Even the deep-rooted sweet-thorn trees (Acacia horrida [= Acacia karroo]) could be pulled out without breaking off the roots, and it was thus at times possible for the plough to follow immediately upon the clearing-machine.

5. Draught Animals
Three mules died of horse-sickness during the rainy season 1912/13; they were replaced by three new animals.

6. Visits
It is gratifying to note that the general interest in the activities of the experimental station increased during the year under review, with 204 persons visiting the station.

7. Meteorological Observations
Owing to the favourable distribution of the rains, the rainy season 1913/14 can be considered to have been a very good one. Good rains occurred especially during the main vegetation months, January and February, whereas these months received the least rain during the previous year.

The meteorological station recorded:

<table>
<thead>
<tr>
<th>Month</th>
<th>561.3 mm in 95 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>5.5 mm in 1 day(s)</td>
</tr>
<tr>
<td>October</td>
<td>3.0 mm in 2 days</td>
</tr>
<tr>
<td>November</td>
<td>83.3 mm in 11 days</td>
</tr>
<tr>
<td>December</td>
<td>77.2 mm in 15 days</td>
</tr>
<tr>
<td>January</td>
<td>156.8 mm in 23 days</td>
</tr>
<tr>
<td>February</td>
<td>105.3 mm in 19 days</td>
</tr>
<tr>
<td>March</td>
<td>66.7 mm in 14 days</td>
</tr>
<tr>
<td>April</td>
<td>63.7 mm in 10 days</td>
</tr>
</tbody>
</table>

B. Technical Operations and Experiments

1. Viticulture
Work in the field of viticulture commenced with the pruning of the older vines in the Grootfontein forest station in July. The largest part of the cut-

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1 Published in the 'Landwirtschaftliche Beilage des Amtsblatts für das Schutzgebiet Deutsch-Südwestafrika', 4. Jahrgang, Nummer 9, 1. Juli 1914
tings was replanted immediately. As part of an experiment, some of the vines were placed in vapour pits, while others were placed in water for 4-5 days. Yet other cuttings were placed in water until they began to sprout. In the case of the first two methods, no differences could be observed as regards the manner in which the cuttings took root, or their budding. It is remarkable, though, that a large number of the vines which had been kept in water for only 5 days took root and sprouted well, while most of the cuttings which had sprouted in the water failed altogether. This could possibly be ascribed to the fact that the cells of plants shrink so much during the dry months of May, June, July - during which the humidity recorded here stands at 10% and below - that they can hardly take up water from the soil after the unrooted slips have been planted. It would appear that this absorption of water is facilitated if the slips are placed in water for a relatively short period; the plant cells can then absorb water readily. On the other hand, the failure of vines which have been in the water for so long could be explained in that they lose water through evaporation through their new little leaves before they have grown roots, especially in our dry climate.

30 000 slips were planted in the vine nursery, and these will be distributed to farmers as soon as they have formed roots.

Due to the co-operation of owners of vineyards, it was possible for the station to procure an assortment of all cultivars currently grown in South West Africa; there is, however, only a limited selection of red grapes. For this reason, it was absolutely necessary to import new vines from Germany. (Imports from other countries are prohibited under the Phylloxera Ordinance of 1 October 1902.) The station succeeded in obtaining 7 000 healthy vines of 80 different cultivars. Some of these should be suited for export as table grapes and wine grapes for red wines of a Bordeaux and Burgundy character. The selection was furthermore aimed at obtaining types which are suited for the making of port, Madeira and sherry.

The vines are propagated at the experimental station and eventually supplied to farmers. During the year under review, 3/4 ha could be planted with 4 500 vines which are intended for the production of wine grapes in particular. In order to prepare for the plantations intended for 1914, a further 2½ ha have been levelled and partly covered with earth; a rocky outcrop on the site was removed by blasting, and the ground levelled.

The vines planted in August 1913 looked healthy throughout and some grew shoots 2 m long; the vines planted during the previous year began to bear fruit.

2. Fruit-culture

The condition of the trees planted as yet is rather good; the apple and peach trees thrive especially well. Some lemon trees have developed their first fruit.

The high number of orders for fruit trees received from farmers, namely for 6 000 citrus trees, 3 000 deciduous fruit trees and 30 000 vines, places a heavy burden on the nursery. However, it will be possible for this station to already supply part of the trees ordered. The foregoing figures bear witness of the trust the farmers here in the north have in these crops.

The ground required for the tree nursery was trench-ploughed 1 m deep in May. The grafted tree saplings now growing on it thrive, which is especially true of the trees grafted by means of copulation in August. Within half a year, they have grown higher than a man is tall.

Thanks to the friendly co-operation of the farmer Sobolewski from Urupupa who supplied the station with fresh citrus pips, 4 000 saplings could be planted out; these still have to be grafted. The seeds obtained from the Cape and Germany did not germinate; the germination capability of citrus seeds suffers from long storage and incorrect treatment during drying.

The wild shoots drawn from peach-stones obtained from Urupupa are especially gratifying; they are used as the base for all stone fruit here. Our holdings stand at 3 000, some of which are grafted.

An experiment to grow genuinely rooted plants from apple and citrus slips failed, with the exception of a few meagre specimens. It was entirely impossible to draw a sufficient number of plants from apple and pear pips (German seed). Therefore 10 000 wild kernel-fruit shoots were ordered and received from Germany; the strongest of those could be grafted. All graftings have shown that the bases do not tolerate a strong cut-back of shoots after the inoculation and died right down to their roots. Now, however, the shoots drawing sap are cut away only gradually, and losses no longer occur. This phenomenon, which does not occur in Germany remotely as often, can be explained in that the flow of sap is interrupted when the base is cut back severely. The cells of the base's cut surface dry out incredibly quickly in the hot sun, a process which goes right down to the roots. If, however, several live shoots are left near the cut surface, the evaporation of the leaves maintains a strong flow of sap.

In August, 367 trees, mainly citrus, were received from the Cape Colony for virgin planting. The number of these trees now stands at 805. In the selection, care has been taken to ensure that the trees for which there is the greatest demand are now available at the station.
there is the greatest demand are now available at the station.

Particular care was taken with the digging of the holes for the trees. For experimental purposes, some rows were treated with dynamite. There can be no doubt that blasting the hard subsoil is of value if it is intended to allow roots and water to penetrate impermeable layers. It remains to be seen, however, whether the ground can be successfully loosened by means of blasting. No effect could be observed in pure soil - the blasts just seemed to vanish into the air - and in stony detritus the break-ups remained superficial. Vines which were planted on soil loosened in this manner have so far not thrived any better than the plants on non-treated soil.

In contrast, the so-called 'farmer's dynamite' achieved excellent results in clearing works, provided that the dynamite was correctly placed between the roots at the bottom of the tree.

At the beginning of the rainy season a large-scale experiment was initiated to examine the possibility of raising vines and fruit trees without irrigation. The saplings to be used for this purpose were planted on a special plot during the rains in December, and have so far developed reasonably well.

3. Agriculture

As already mentioned earlier, 22 ha were cleared for agricultural experiments. The area's soil composition and quality is similar to that on the farms in the northern parts of the Protectorate. The experiments conducted during the year under review have not led to conclusive results. However, it is clear even at this early stage that the selection of the correct cultivars is the most important factor when it comes to growing grain in South West Africa. Even today, the dominant opinion is that it is impossible to grow wheat, barley and oats on rainfall alone; I believe that the relevant experiments did not make use of the correct cultivars. Secondly, apart from the working of the soil, there is the quantity of seeds sown. Wheat sown in May and irrigated did not bear half as much as the same wheat grown on rainfall. The third important point is the time of sowing and the growth period. Irrigated wheat which took five months to ripen in the dry season, was ripe in 108 days when grown on rainfall alone. Other points of importance are the susceptibility of individual brands to disease (blight, rust); as well as some cultivar's inherent protection against birds (beards, drooping panicles). All these issues will be investigated during numerous further experiments. The size of the experimental plots was 1/4 ha.

Dry-land Cultivation Experiments

One half of the plot selected for this experiment comprises 1-m-deep alluvial soil containing humus, while the soil assumes a looser, sandy quality in the other half. The subsoil comprises tough calcareous soil and limestone.

In April the land was cleared towards the end of 1912 and ploughed twice at the beginning of December, first 15 cm deep and then 30 cm. After that it was harrowed with a disc- and a spike-harrow to ensure that it was in the best possible mechanical condition. The prepared soil then received 421.8 mm rainfall, which was readily absorbed by the soil and preserved by constant harrowing. On 3 April, in rainy weather, 18-cm-deep seed-furrows were drawn, harrowed immediately and compacted with the subsoil-compiler. On 5 April the land was harrowed again and the seed was sown 6-8 cm deep with the aid of a winkle supplied by the firm Mayfarth - Frankfurt, with discs. Distance between furrows 25 cm. Seed quantity 25 pounds per morgen (¼ ha). The following were sown:
- 710 square metres Durum wheat
- 710 square metres Syrian wheat
- 710 square metres Chevalier barley

The seeds germinated well and evenly on 10 April. On 24 April the fields were weeded manually with small hoes. The barley was of a fresh green and thrived; the Durum wheat also developed well. Towards the middle of May, the barley was severely infested with aphids, but these disappeared after treatment with a 1% solution of tobacco and soft soap. At the end of May the barley began to put on a stem, while both wheat cultivars hardly progressed. End of July: isolated barley plants began to shoot, but only feeble stalks. The wheat looks very poor, and has stopped growing entirely. Moreover, much of the grain was eaten by doves and guinea-fowl. Towards the end of August, the plants turned yellow and looked miserable; empty spots appeared in the field. The remaining plants also stopped growing in September. The soil was still moist at a depth of 50 cm, but the upper layers were dry. The last traces of green vanished from the field in October.

Similar observations were made with the second plot, sown in May. In the soil, there was a mulch layer some 8-10 cm thick; below that, the ground was still moist. The size of the plot, seed quantity and distance between furrows were the same as those for the April experiment. The seed germinated on 21 May, rather evenly. Growth ceased towards the end of July and did not continue in August. In October there was not a green blade to be seen.

An experiment with lucerne and cockshead proved more promising. These two fodder plants were sown during the rainy season, in February, and survived the dry season. The plants emerged too close to each other initially, but the weaker ones perished during the dry season; this would suggest that a seed quantity of 10 pounds per morgen is sufficient. The cultivars selected were Provence Lucerne and German Sand Lucerne. As yet, no difference in growth has been
perceived. For the time being the field is grazed because it is not yet worth the effort to cut it. The cockshead has survived the dry season equally well, but does not grow. As yet, it is too early to evaluate these two fodder plants.

**Winter Cultivation under Irrigation**

20 pounds of Cape Ghyas Wheat was sown on a 1/4-ha plot with the aid of a winnole on 25 April, in furrows 25 cm apart. The seeds germinated well and evenly, and the field was irrigated 3-4 times per week. The wheat developed well, began to shoot in the beginning of June and blossomed at the end of July. It was ripe by 10 September; the yield was 8,87 hundredweight per 1/4 ha.

Turkestan and Provence Lucerne, 1912. There was no difference in growth. The lucerne was cut five times during the first year.

**Summer Cultivation with Rainfall**

Due to the favourable 1913/14 rainy season, the condition of all cultures, without exception, was good; an average maize yield of 35 hundredweight per ha may be expected. The precise yields will be added to the Annual Report as an appendix; the time between harvest and compiling this report was too short.

Maize: In order to determine the growth cycles of various maize cultivars, a series of experimental furrows were drawn:

Germination of maize in differing depths

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Sown</th>
<th>Blossom</th>
<th>Ripe</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-weeks maize</td>
<td>28.10</td>
<td>7.12</td>
<td>16.1</td>
<td>79</td>
</tr>
<tr>
<td>12-weeks maize Nosib</td>
<td>28.10</td>
<td>20.12</td>
<td>4.2</td>
<td>95</td>
</tr>
<tr>
<td>Kango White</td>
<td>28.10</td>
<td>27.12</td>
<td>15.2</td>
<td>106</td>
</tr>
<tr>
<td>Java Silver Pearl</td>
<td>28.10</td>
<td>27.12</td>
<td>16.2</td>
<td>107</td>
</tr>
<tr>
<td>Champion White Pearl</td>
<td>28.10</td>
<td>27.12</td>
<td>21.2</td>
<td>110</td>
</tr>
<tr>
<td>Chester County Mammoth</td>
<td>28.10</td>
<td>30.12</td>
<td>25.2</td>
<td>119</td>
</tr>
<tr>
<td>Eureka</td>
<td>28.10</td>
<td>30.12</td>
<td>1.3</td>
<td>125</td>
</tr>
<tr>
<td>Learning</td>
<td>28.10</td>
<td>30.12</td>
<td>22.2</td>
<td>116</td>
</tr>
<tr>
<td>Hickory King</td>
<td>28.10</td>
<td>31.12</td>
<td>2.3</td>
<td>126</td>
</tr>
<tr>
<td>Laguna</td>
<td>28.10</td>
<td>10.1</td>
<td>13.3</td>
<td>137</td>
</tr>
</tbody>
</table>

In my opinion, the most appropriate seed depth for maize is 10 cm. The grains germinated evenly at the same time, as did those sown at a depth of 5 cm. However, in the event of a longer absence of precipitation, it is quite possible that the ground will dry out to a depth of 5 cm. Sowing at depths greater than 15 cm, which happens often enough when the maize is sown immediately after the plough, should be avoided at all costs. Eureka Maize proved to be the cultivar with the best yield at the station, followed by Champion White Pearl and Wisconsin as 12-weeks maize. Another brand which should not be disregarded is the Laguna maize; this brand does, however, require a older and well-worked fields and has to be sown early on account of its long growth cycle.

**Wheat: Ghyas Summer Wheat. Ist Cultivation. Experimental plot**: The wheat was sown with the aid of a winnole on 18 December in furrows 20 cm apart; the quantity was 20 pounds per morgen. Soil: calcareous sand containing humus. The seeds germinated on 25 September but did not develop well; for this reason, a larger quantity of seed is deemed necessary. The ears developed well. The height of stalks was 1 m. The wheat was ripe after 123 days, i.e. on 22 April. The yield of this brand was good, the grains full and heavy and of a light colour. The wheat looked excellent until it was harvested; it perfectly resembled a wheat field in Germany.

**Bearded Cape Wheat**: This cultivar was planted at the same time and in the same manner as that above. Despite the fact that this wheat is actually a winter wheat with a longer growth cycle and was planted in summer for experimental purposes only, it ripened 15 days earlier than the actual summer wheat. The stalks only reached a height of 60 cm. Both the yield and the quality of the grain compared favourably with the Ghyas Wheat. The Deutsche Landwirtschafts-Gesellschaft sent several samples of German wheat cultivars to the station. Of these, Strubes Bearded Summer Wheat proved good as regards both the shortness of the growth cycle and the yield. A Syrian wheat cultivar proved unsatisfactory, despite the fact that seed material obtained in South West was used. The ears bore signs of blight, the grains were small.

Apart from the fields cultivated in December, another two were cultivated in January and February. These will be followed by parallel experiments under irrigation in May.

As to the question of the best time of planting, 12 people will proffer 13 different answers. Perhaps these experiments will resolve the issue.

**Oats**: The following oat cultivars, sent by the Deutsche Landwirtschafts-Gesellschaft, were sown:
- Von Lochow yellow oats
- Wischenblatter early ripe
- Svalöfs Ligowo oats
- Leutewitzer yellow oats
- Stimmels early August oats

The oats ripened after 114 to 130 days. In so far as the small experimental plots allow a conclusion, the first four brands appear rather suited for further cultivation. As yet, the grains are light; improvement and acclimatisation could, however, possibly be achieved through further cultivation.

A German cultivar of Columbus oats developed abundant leaves, but had not yet grown any ears after 131 days. The results achieved with the Algerian oats are favourable. We hope for a rather good yield as far as both straw and corn are concerned. This cultivar, however, has the disadvantage that it does not ripen evenly. It will be attempted to obtain a field which ripens evenly by selecting seed material from early plants. The growth cycle came to 125 days on average.

Barley: Barley could become an especially important crop in South West, both as horse fodder and for brewing purposes. Unfortunately, the experimental station had only three cultivars at its disposal. Of these, a two-row cultivar from Brandenburg yielded good straw, but very little grain. On the other hand, a small four-row barley and an unnamed Chevalier barley did well. The barley ripened after 107-114 days.

As to rye, only Johannis Rye was tested during the year under review. It failed entirely, though, and did not even form stalks.

Sorghum: Sorghum includes all millet, kaffir corn, durra, sugar millet, Kauliemy, etc. The various types of sorghum merit widest distribution in our colony, as they require little water and nevertheless yield rich harvests. This station will give greater attention to growing them. In all, 12 types were sown this year; the different ripening periods are shown in the table below.

The hybrid Kaffir corn did magnificently with a sure yield of 30 hundredweight, while the seed obtained from experimental station 1006 yielded 28 hundredweight after threshing. The latter cultivar stood out on account of its large grains. The sugar millet produced beautifully shiny grains which are hardly inferior to those of the two aforementioned cultivars.

Kauliyan and red kaffir corn only produced a moderate yield. The durra was severely ravaged by birds, and it is thus not possible to provide an evaluation for this year.

The German millet is remarkable; although its grains remain small, it yielded 33 hundredweight per ha despite its short ripening period of 60 days. The Ovambo corn cannot be recommended; it is a small millet cultivar which yields too little. Early-Pearl millet is better, but the grains are too attached to the cobs, which makes threshing rather difficult. Italian millet and *Panicum miliaceum* var. *affusum* remained too small, possibly due to late planting. They only grew a foot high, and the experiments will be repeated next year.

The plant with the longest growth cycle was Teosint; this plant should be grown not for its grain but for fodder. Its yield of green feed is enormous, and there can be no doubt that it should be recommended for the production of silage. It was impossible to remove oxen from the field once they had tasted it.

Green Fertilisers: Bechuanan Bean: Owing to its hardiness, the Bechuanan bean is used to fill every little unused piece of land at this station. In our opinion, there is no green fertiliser which can compete with the Bechuanan bean. It grows abundantly, yields excellent harvests, takes to almost all soils and is drought-resistant. The pods ripen irregularly, but this should rather be considered to constitute an advantage since one can first harvest the seeds for next year and then plough under the green mass. Also, harvesting can wait until all pods are fully ripe, as they do not burst open; this is important in cases where the beans are to be processed as food for natives. The full ripening takes 123 days.

The Malagasy bean proved less favourable. Although it extends over up to 10 square metres and grows abundant leaves, it requires a lot of rain and takes a full eight months to ripen.

*Phaseolus radiatus* is another promising green fertiliser. Its leaves are more abundant than those of the Bechuanan bean, but it is nevertheless drought-resistant. The seeds are small, and they arc thus not suited for fodder or food for natives.

A further experiment was made with an indigenous legume called "Sesbania", but no evaluation is possible as yet.

Mustard and turnips, which are also relevant in this regard, grew densely, about 1 m high. They were not ploughed under this year, as their seed was harvested.
It is not at this stage possible to come to any conclusions regarding *Phacelia tanacetifolia*, which is also suited as a green fertiliser.

**Grasses:** The constant increase of cattle on farms places an ever-increasing burden on grazing. For this reason, it is deemed appropriate to start thinking of a rational grazing improvement even now. The most suitable sites will be the camps. Feed reserves and better grazing grounds will have to be created for the emerging ostrich industry in particular.

Obviously, the best indigenous grasses should be used for such improvements. For this reason, the station began planting indigenous grasses during the year under review in order to examine their value. Most grass seeds are so fine that special days had to be selected for sowing. In spite of the fact that utmost care was taken, success was achieved with only one species. The seeds were sown three times, and on all occasions the rains failed just as the little plants were about to break the earth. Due to a shortage of seeds, the experiment will have to be repeated next year.

The plot with teff grass developed very nicely. The grass, however, is an annual and must be sown anew every year, but both mules and horses like its hay.

Other plants grown on rainfall were potatoes, fodder melons, pumpkins and peanuts. Their value can be determined only after the harvest, which has not yet occurred.

*Other Summer Cultivation with Rainfall*

The plots between the rows of trees have been planted with tobacco and soya beans. The tobacco developed well but the soya beans failed; it appears that they did not tolerate the slightly calcareous soil of the plot. It is intended to plant them in sandy soil next year. Some experimental beds were planted with Comfrey, which developed satisfactorily. However, it remains to be seen which effect the dry season will have on the further growth.

Sweet-potatoes, propagated partly by slips and partly by tubers, have sprouted very well. Next year, they are to be tested under irrigation.

Finally, an experiment with mountain rice from Siam should be mentioned. The seeds were sent to the station by Director Goetz from Usakos. Although it must be admitted that the rice did not exactly grow magnificently, sufficient seed was harvested to allow for a larger-scale experiment next year with locally-obtained seed. What is remarkable, though, is that the rice on the parallel plot, which was not irrigated, also produced grains and did well.

**Pest Control:** This year the farmers' maize fields were ravaged by a caterpillar which has never before been noted to appear in such masses. The caterpillar is about 21/2 to 3 cm long, dark-green to black in colour, with two yellow stripes along its body. The butterfly is a 2-cm moth with shiny golden wings and a golden spot on each of the upper wing-tips. As yet, I have not been able to determine its name. This caterpillar is said to have appeared for the first time 10-12 years ago, but it did not do any major damage then. This was certainly due to the fact that the areas under cultivation then were by no means as large as they are today.

The caterpillar appeared in December, when the maize stood 30 to 40 cm high. Within a single night, several hectares of maize had disappeared. It is estimated that about 120 ha was lost in the Grootfontein district. However, the favourable rainy season allowed a renewed planting of the fields, and serious losses by farmers could thus be avoided.

The vines at the station did not show any signs of disease. Some other vineyards in the district, however, and particularly the vineyards of the settlers at Omaruru, were found to be infested with the fungus *Oidium*. It was possible prevent large-scale spreading of the fungus in Grootfontein by means of immediate treatment with sulphur, but at Omaruru the farmers did not know what to do, reported the infestation of their vines to the station too late, and suffered extensive losses.

The station conducted experiments in the combating of aphids, beetles and plant-bugs with tobacco solutions, sulphur-lime dye and arsenic solutions, as well as the combating of termites with carbon disulphide. The results are to be discussed in a special report.

4. **Forestry**

During the year under review, the Grootfontein forest station was placed under the experimental station. A further 4 ha were cleared; they are to be planted with beefwoods. The beefwoods planted in 1912 without irrigation have developed rather satisfactorily. One may assume that now that the trees have reached a height of 2 m, some even of 3 m, they will not die back, especially since they have survived the poor rainy season of 1912/13. Cape seringa (*Melia*) and *Grevillea robusta*, planted at the same time, grew very well this year. The results indicate to me that more attention should be given to a systematic afforestation with beefwoods without irrigation, only on rainfall.

In December this year, 4 ha of the Grootfontein plain was stocked with 18 000 beefwoods. A distance of 1.5 square metres between the trees was decided on, so that the trees can be thinned out to a distance of 3 m at a later stage. Unfortunately, a quarter of these trees was destroyed by termites; this means that the area will have to be rid of termites before trees are planted. The costs of this comes to 200 marks per hectare; this expenditure is considered to be justified in view of the valuable timber that will be obtained. Experiments at various spots to exterminate termites with carbon disulphide showed good results.
scale applications of carbon disulphide are planned for next year.

A further 3 ha was planted with seeds of the more valuable indigenous timber trees (Ordinance of 24 April 1913 J. No. 9059), namely -
- Camel-thorn
- Omupalala
- Umbrella-thorn
- Omuhoho (dolf wood)
- Wild olive
- Sweet-thorn
- Marula
- Manghetti

However, before the seeds sprouted - which took three weeks - and before one could recognise the rows, the area was grown over with weeds to such an extent that one could no longer see the seedlings. Therefore, it appears advisable to, at least in the north, select a field for such plantings which has been worked before and on which there will thus not be so many weeds. The experiment will be repeated next year.

As regards the cork oaks, there has been little change since last year. The trees which have been planted out endure the dryness without dying off, but there is no significant growth. The experiment, however, should not yet be considered to have been concluded.

The holdings of the nursery, e.g. beefwoods, gum trees, pepper trees, cypress trees, etc. were increased during the year. The total number of saplings disposed of - partly for use by the station itself, partly to farmers - came to 23 181 trees.

[signed] Pfennig
Proposed Dairy Scheme, Okombahe Native Reserve

Main Principles
1. To enable the Damaras to build up their own dairy industry.
2. That it may be managed by the Natives themselves as far as possible.
3. Standard of cleanliness and hygiene to meet the approval of Dairy Officers.
4. Maintenance of suitable statistical records.
5. Complete control of dairy products.

Reserve Organisation
6. Coolers to be erected at suitable permanent water points.
7. Coolers under charge of responsible Native where there is no Board member.
8. Each family group or individual may run a dairy provided the locality is approved by the Welfare Officer.
9. Groupings will be arranged by the Natives themselves, no Native will be forced into any group or group of producers, he must be accepted freely.
10. Each producer or group of producers will be responsible for supplying his (or their) equipment such as separators, cream cans, strainers, etc.
11. Each dairy must be registered, given a number and approved by the Welfare Officer.
12. No separators may be purchased without the written authority from the Welfare Officer.
13. All cream will pass through the reception cooler at Okombahe headquarters.
14. Every producer must belong to a registered dairy.
15. The Welfare Officer will pay out each individual and will not deal with dairy heads as far as money matters are concerned.
16. The Welfare Officer will receive a cheque for the whole proceeds of the cream from Okombahe Native Reserve. No individual cheques will be given by the creamery after a fixed date.

Dairy Organisation
17. Groups will be limited at the discretion of the Welfare Officer.
18. Strict cleanliness to be observed, failure to do so will render the dairy concerned liable to be struck off the register.
19. The Welfare Officer will manage the financial adjustment of each individual.
20. The creamery will keep an account for each individual supplier.
21. The creamery will pay the transport account for each supplier.
22. The monthly cheque to be made out by the creamery to the Welfare Officer, Okombahe Native Reserve, Omaruru.
23. Every producer will pay 1/- per month for the use of this privilege and thus reimbursing the amount expended for coolers.

Creamery
24. Will furnish the Welfare Officer in respect of each supplier with a statement reflecting cream delivered, grade, price, etc. and transport charges deducted.
25. Will not deal with individuals after a fixed date.
26. Will address all cheques to the Welfare Officer, Okombahe Native Reserve, Omaruru.
27. Will address all complaints to the Welfare Officer.

Welfare Officer
28. To have final authority in all questions of produce, rules, supply, cleanliness, registration and finance.
29. To maintain suitable records.
30. No deductions of any kind to be made except 1/- per month from each producer.
**Otjiwarongo Creamery and Northern Storage Company**

**OTJIWARONGO,**

April 1962.

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<th>Lbs. Butterfat/Buttervett/Butterfett</th>
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<th>Table/Tafel</th>
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**Choice Butterfat**

- 319.4
- 233.0
- 296.0
- 157.2

**Barley, Huls, Bolefat**

- 95.52
- 62.44
- 156.32

**Bahnfracht**

- 1.94

**Cheque**

- R 156.32

**Barclays Bank Omuru**

Statement of your account at date:

- Opgekend van rekening tot datum: Rekeningaanzien

- Balance due as per previous statement
- Balans verduidelijkt vorige vorige Saldi per conto

- Purchases etc. in per previous Balans van vorige, vorige Balans, Rekening Nr.

- Paid on your Agency in Uitbetaling op u Bedinging op Rekening Uitbetaling Diskonto Rekening Nr.

- Less Cash paid to Mit Kontoer Afdracht Barses

- Part Proceeds deducted as above Opgekend van Ophalen eigene over lasto - Afdracht

- Balance due in bars probe
- Saldi terduidelijkt met datum - Per saldo

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Statement sent to individual cream suppliers by the Otjiwarongo Creamery and Northern Storage Company (Photo courtesy of G. von Schumann)
Residents of the Aminus Reserve returning to their huts with empty cream cans, c. 1946 (Photo courtesy of NA, O. Nitzsche-Reiter Collection)

Cream cans being unloaded at the central cooler, Okombahe Reserve, c. 1952 (Photo courtesy of NA)
Creamery Omaruru, 1931 (Photo courtesy of G. von Schumann)

Butter plant in the Omaruru Creamery, c. 1955 (Photo courtesy of G. von Schumann)
Butter wrappers, c. 1945 (Source: NA AGV 202)

Butter plant in the Omaruru Creamery, c. 1955 (Photo courtesy of G. von Schumann)
Corn fields in the Omaruru River, 1876 (Photo courtesy of NA, Palgrave Album)

Maize field on the farm Neu-Heusis, c. 1912 (Photo courtesy of NA)
Wheat field at the Waterberg, no date (Photo courtesy of NA)

Maize harvest at Siesckap, farmhouse, 1940s (Photo courtesy of NA)
Gardens at Otavifontein, site of Otavi (Photo courtesy of NA)

Vegetable stall at the Windhoek Show, c. 1910 (Photo courtesy of NA)
Vineyards in Klein Windhoek, c. 1912 (Photo courtesy of NA)

Citrus orchards at the Waterberg, 1939 (Photo courtesy of H. Schneider-Waterberg)
Tobacco plantation at the Waterberg (seedlings are covered by paper bags to protect them against the sun), c. 1911 (Photo courtesy of NA)

The first tobacco at Osorni, c. 1908 (Photo courtesy of NA)
Tobacco plantation at Grootfontein, no date (Photo courtesy of NA)

Mission farm Gaub near Tsumeb with date grove at centre left, 1920s (Photo courtesy of NA)
Small settlement in the course of the Swakop River, prior to 1925 (Photo courtesy of NA)

Keltering equipment of the brewery (Dampfbrennerei) Osona, c. 1910
Vineyards of the Roman Catholic Mission in Klein Windhoek, c. 1948 (Source: SWA Annual 1948)

Citrus plantations and dairy plant at Rietfontein, c. 1945 (Source: SWA Annual 1945)
A I - Papaws
A II - Vineyard
A III - Oranges, Dates, Apricots
A IV - Oranges, Lemons, Dates, Peaches
B - Bananas, Grapefruit
C I - Grapefruit, Peaches
C II - Grapefruit, Oranges, Lemons, Papaws, Peaches, Apricots
C III - Grapefruit, Peaches, Apricots
C IV - Grapefruit, Oranges, Lemons
C V - Oranges, Quinces
C VI - Grapefruit, Apples, Pears, Peaches, Apricots, Plums
C VII - Grapefruit, Lemons, Dates, Quinces, Apples, Peaches
D I - Oranges, Vineyard
D II - Vineyard
D III - Grapefruit, Oranges, Lemons
D IV - Grapefruit, Oranges, Lemons, Naartjies
D V - Oranges, Lemons, Figs, Peaches
E I - Grapefruit, Oranges, Lemons
E II - Grapefruit, Lemons
E III - Grapefruit, Oranges
F - Grapefruit, Naartjies

Orchard on the farm Okosongomingo, Waterberg, c. 1932
Grapefruit plantation on the farm Okosongomo, Waterberg, 1939 (Photo courtesy of H. Schneider-Waterberg)

Spring with irrigation canal on the farm Okosongomo, Waterberg, no date (Photo courtesy of NA)
Layout of the Forest Station Grootfontein (Tigerquelle, established 1912), in 1914. Source: NA ZBU L.VIII.d.5
Okahandja Forest Station, c. 1906 (Photo courtesy of NA)

Young trees being prepared for transport at the Windhoek Forest Station, c. 1913 (Photo courtesy of NA)
Mopane forest in northern Namibia, c. 1911 (Photo courtesy of NA)

Caterpillar removing tree trunks during road-building, 1959 (Photo courtesy of NA)
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LAN 1387 Pa. No. 44, Ovitjo
LAN 1811 Omatjena
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SWAA A.84 Customs and Excise
SWAA A.138 Agriculture
SWAA A.158 Native Reserves
SWAA A.174 Dairy Industry
SWAA A.201 Fibre Plants, Tobacco, Rubber, Sugar Cane, Industries
SWAA A.468 Neudamm Agricultural School, Omatjena Experimental Farm
SWAA A.552 Kuokoveld
WAT W.W.64 Executive Committee
WAT W.W.76 Irrigation possibilities
WWA 30/6 Swakop Dam
ZBU L Besiedlungssachen, Farm- und Landwirtschaft
ZBU L.II Besiedlungssachen
ZBU L.III Farmwirtschaft, Farmssachen
ZBU L.IV Landwirtschaft, Ackerbau (Allgemeines)
ZBU L.V Spezielle Landwirtschaft
ZBU L.VI Tabakkbau
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List of Abbreviations
AGR   SWA Administration: Director of Agriculture
AGV   SWA Administration: Agriculture and Veterinary Services Branch
AR    Report of the Administrator to the League of Nations
BDA   Bantu Affairs Commissioner/Damara Commissioner
DICB  Dairy Industry Control Board Annual Report
DOK   Kaiserlichen Distriktsamt Okahandja
HRW   Handelsregister des Bezirksgerichts Windhoek
LAN   SWA Administration: Lands Branch
MTCB  SWA Meat Trade Control Board Annual Report
NA    National Archives of Namibia
NP    National Party
PWD   SWA Administration: Works Branch
RDC   Dairy Control Board
RSA   Republic of South Africa
SCW   Supreme Court Windhoek
SWAA  SWA Administration: Secretariat
UNIN  United Nations Institute for Namibia
WAT   SWA Administration: Water Affairs Branch
WWA   RSA Department of Water Affairs, SWA Regional Office
ZBU   Zentralbureau des kaiserlichen Gouvernements