The history of veterinary medicine in Namibia

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Dates:
Received: Dec. 2011
Accepted: Jan. 2012
Published: 16 May 2012

How to cite this article:
Schneider HP. The history of veterinary medicine in Namibia. J S Afr Vet Assoc. 2012;83(1), Art. #4, 11 pages. http://dx.doi.org/10.4102/jsava.v83i1.4

Note:
A version of this paper was presented at the 30th World Veterinary Congress held in Cape Town, South Africa on 10–14 October 2011.

Until the middle of the 19th century, very few references exist regarding the occurrence of animal diseases in Namibia. With the introduction of contagious bovine pleuropneumonia (CBPP) in 1859, this picture changed completely and livestock owners implemented various forms of disease control in an effort to contain the spread of this disease and minimise its devastating effects. After the establishment of the colonial administration in 1884, the first animal disease legislation was introduced in 1887 and the first veterinarian, Dr Wilhelm Rickmann, arrived in 1894. CBPP and the outbreak of rinderpest in 1897 necessitated a greatly expanded veterinary infrastructure and the first veterinary laboratory was erected at Gammams near Windhoek in 1897. To prevent the spread of rinderpest, a veterinary cordon line was established, which was the very beginning of the Veterinary Cordon Fence as it is known today. After the First World War, a small but dedicated corps of veterinarians again built up an efficient animal health service in the following decades, with veterinary private practice developing from the mid–1950s. The veterinary profession organised itself in 1947 in the form of a veterinary association and, in 1984, legislation was passed to regulate the veterinary profession by the establishment of the Veterinary Council of Namibia. The outbreak of foot and mouth disease in 1961 was instrumental in the creation of an effective veterinary service, meeting international veterinary standards of quality and performance which are still maintained today.

Animal health in pre-colonial times

The known history of European discovery dates back to 1486, when Diego Cão reached the Namibian coast at Cape Cross. The first inland expedition from the Cape crossed the Orange River in 1739. European hunters, traders, missionaries and scientists penetrated the interior of Namibia in increasing numbers at the beginning of the 19th century. The pre-colonial period of Namibia ended in 1884, when the German Imperial government proclaimed Namibia as the Protectorate of German South-West Africa. The primary mode of transport at this time was by riding oxen and ox-wagons (Figure 1), whilst horses were only used to a limited extent because of the presence of African horse sickness (AHS). However, as the establishment of mission stations, mining operations and trading centres progressed, more horses were introduced, with the first horses reaching central Namibia in 1820.[1] The first reported animal disease was anthrax in 1842, followed by AHS in the same year and contagious bovine pleuropneumonia (CBPP) in 1856. The biggest impact, with heavy losses, was caused by CBPP and later rinderpest (1897).

Pre-colonial forms of disease control

Even though the causative agents of animal diseases were unknown, efforts to control their spread were undertaken successfully in pre-colonial times in Namibia. Measures employed were the quarantine of diseased livestock, prohibition on the movement of infected animals or the transit of potentially infected animals, vaccination against CBPP, isolation of animals in disease-free areas during the dangerous season (e.g. in the case of AHS), disinfection of gear and utensils used for possibly infected animals and the levying of fines where such issued orders were ignored. The very first outbreak of CBPP in Namibia in 1856 was successfully eradicated, without any spread from the originally infected herd, by the application of sound control principles. This has been described as follows:

> January 1856 one of the oxen was reported to be diseased. I caused it to be destroyed at once and, to my dismay, a post mortem left no doubt that the fatal lungsickness had commenced its ravages. Precautions were immediately taken to prevent its spread among the few cattle belonging to the natives, but too late to be of any avail ... A panic seized the people and all who were able to do so fled ... I took stock (May 1856, with no further deaths) and found that of upwards of 100 head of cattle belonging to the mission, myself and the Damara's, only 14 survived ... Sanitary regulations forbade us to visit each other's stations with the ox-wagons which were our only means of conveyance (January 1857). We therefore pitched upon a point midway, from which our cattle could be sent off in opposite directions, so as to avoid the risk of contagion.[2]

Source: Baines T. Explorations in South-West-Africa**.** London: Longman & Green, 1864; p. 10

FIGURE 1: Riding oxen in 19th century Namibia.

To minimise the number of animals infected or dying should a disease occur amongst a herd, the total herd owned by a family would never be kept at a single place, but would be distributed to various outposts. Here the cattle were kept under the care of servants or dependants. Limiting herd sizes to small numbers also had the advantage of making the best use of the available scarce water or grazing resources. The risk of losing too many animals during raids was also considerably reduced.[3]

During the greater part of the 19th century, cattle trade was the mainstay of economic activity in southern Namibia. These animals were exchanged for arms, ammunition, horses, fabrics, clothes, et cetera, with traders from the Cape. Large numbers were exported and the profits could be very substantial.[3,a]

However, the chiefs of Namaland realised the danger of CBPP for their clean herds and only uninfected cattle were allowed to pass through their areas en route to the Cape. Immunisation of cattle, using the method developed by Willems in Holland, was introduced to the livestock owners of Namibia very soon after the introduction of the disease in 1859. The preparation of the vaccine, its application and reactions to the vaccine have been well documented by explorers such as Chapman and Baines[4,b]. By the extensive use of such a virulent CBPP exudate, applied to the tail-tip of cattle, the disease was eradicated successfully from the commercial farming area by 1919. At the beginning of the 20th century, this vaccine was prepared at the Imperial Institute Gammams.

a.Lau quotes an anonymous writer in the *Cape Monthly Magazine* (1850s): '"Indeed it is a common saying among the Boers that there is a hole in Great Namaqualand through which the oxen come out of the ground, otherwise the country could not produce or provide sustenance for the immense herds which have been brought up for so many years to the Colony." Anderson noted in 1851/52 that "the cattle trade with Great Namaqualand alone, has latterly yielded 8 000 to 10 000 head of horned cattle, and a host of sheep and goats annually". For example, in 1853 a number of treks of cattle, one of 700, one of 1 400, and others of between 200 and 400 were recorded. In 1861 Anderson's herd of cattle sent to the Cape consisted of 1 400 animals. An ox costing £1.6 to £2 in Namaland in the period 1855–1859 could be sold for £14 to £16 in the Cape or for shipment to St. Helena.'

b.Baines writes: 'I was further informed that it was usual to inoculate healthy cattle by passing a needle and a thread, previously steeped in the virus of the diseased lung, through the skin of their tails … and this saturated wick tied to prevent it drawing out … This caused a painful swelling, which, if the needle touched the bone in it's [*sic*] passage, extended to the whole hindquarters and occasioned the loss of the tail or the animal.'

The method of spread of infection by diseased, infected or vaccinated cattle was well known by local pastoralists. European traders, however, often bullied their way through areas not yet infected, knowing all too well that their oxen carried the disease, for example:

> When Special Commissioner W.C. Palgrave held his first major meeting with Herero chief Kamaherero at Okahandja during his first commission in 1876, he was informed about a trader Bruce, who came into the country with cattle infected with CBPP and, when confronted by local cattle owners, threatened to complain about the harassment to the Cape Government and even shoot his servants. In order to settle the dispute and to pacify Bruce, Kamaherero gave him 6 head of cattle.[5]

When William Coates Palgrave, the Special Commissioner to Hereroland and Namaland of the Cape Colonial Government, arrived on his second mission, he indicated to a meeting of chiefs at Okahandja in 1877 that he had had lungsickness regulations drawn up which would soon be in force. Yet, as a result of Palgrave's unsuccessful attempts to establish British authority and a Regional Magistrate, such regulations were never put into practice.[5,c]

The most important animal diseases and their influence on the development of veterinary medicine in Namibia

The history of veterinary medicine in Namibia is intimately (inextricably) linked to the following major animal diseases: CBPP, rinderpest, and foot and mouth disease, with each one having a profound influence on the economic development of the country.

Contagious bovine pleuropneumonia

This disease was introduced unknowingly into southern Africa by means of an infected Friesland bull imported from Holland, which landed at Mossel Bay in South Africa in 1854. With over 100 000 cattle dying from CBPP during the next two years,[6] this disease had extremely severe economic consequences for the whole southern African sub-continent, only to be matched by the rinderpest epidemic at the end of the 1890s. The disease caused high mortalities amongst the large cattle herds of central Namibia and impoverished a large part of the population.

c.In describing Palgrave's commissions, Stals notes that: 'William Coates Palgrave visited Namibia on five consecutive commissions between the years 1876 and 1885 on behalf of the Cape Government. His main objective was the establishment of British influence in the country, but this endeavour was not backed by the Imperial Government in London. He tried, however, to establish some form of local administration and maintain law and order. For this purpose he proposed the levying of taxes and issued "licences" to traders. This caused some ill-feelings, as such traders used this licence as a *carte blanche* to do whatever they wanted to do. In a meeting with the Herero Chief at Okahandja, on 13 November 1877, such a case was brought under his attention by a certain cattle owner Mekambe, who reported that a certain Albert Koopman had brought his riding ox to his father's place [at] Okanjuse where lungsickness prevailed. When challenged: "Why do you bring an ox here? Horses don't matter. Don't you know we have lungsickness?", he replied: "I don't care", because he had a "paper" which he had paid for from the Sp. Commissioner and which allowed him to do what he liked and to water his animals where he deemed fit. The ox was vaccinated by Mekambe's father and kept at his settlement. At a later stage, this Koopman brought more oxen and wanted them sent to another post. This was refused and Koopman was informed that his cattle had to stay because of being in contact with lungsick cattle. Palgrave ruled, that this decision was correct and a letter was written to Koopman that, should he feel an injustice had been done and incorrect information given, he should come to Okahandja to discuss the matter with Palgrave.'

The first ever outbreak in Namibia, although very localised, occurred in 1856 at the mission station of Nesbith's Bath (today Warmbad). Only 14 of the station's 100 cattle survived; yet, as a result of the people in the surrounding settlements fleeing in the face of the disease, as well as the ban imposed by the missionaries on mutual visits by ox-wagon, the outbreak was contained and the disease eradicated by mid–1856.[2] In 1859, the explorer Chapman travelled from Walvis Bay to Lake Ngami. On his return to Otjimbingwe during January 1860, he was informed that CBPP had broken out at Gross Barmen. The year 1860 was named '*Otjipunga*' by the Herero people, meaning 'the year of the lung'[1] and very high cattle losses were recorded. This led, for example, to the closure of the Matchless Copper Mine near Windhoek, as all draught oxen had died of CBPP.[7] In an effort to curb the high losses and to prevent the further spread of the disease, the first disease control regulations were promulgated. In the laws of the Vilander Basters of Rietfontein (near Aroab), provision was made in 1885 for the control of CBPP and the first ordinance by the Imperial Government dealing with an animal disease was issued in 1887 in respect of CBPP. Nevertheless, the rapidly increasing amount of freight traffic by ox-wagon within the country resulted in the further spreading of CBPP (Figure 2).

In 1894, a retired navy staff medical officer, Dr Sander, was sent by the Deutsche Kolonialgesellschaft to the colony to assist with CBPP control, whilst the first veterinarian, Dr Wilhelm Rickmann, also arrived in the same year.

Effective control measures such as vaccination, movement control and extension work amongst cattle owners resulted in the near eradication of CBPP by 1904. By this time, all transport oxen from Ovamboland had to undergo an 8-week quarantine period at Okaukuejo. All these measures, combined with extensively used vaccination of cattle, led to the eradication of the disease in the commercial farming area by 1913,[8] but it still occurred endemically in Ovamboland. With the South African military administration take-over in 1915, the control of cattle movements from the northern communal to the southern commercial farming areas was relaxed and new outbreaks of CBPP occurred. The last outbreak of CBPP in the commercial farming area occurred during September 1919 – that is 92 years ago – at Okevi, near Namutoni. All further outbreaks were, and are, confined to the northern communal areas, where CBPP today still occurs in the Ovambo and Okavango regions.

Control measures and prophylactic immunisation

After the introduction of CBPP into central Namibia in 1859, local tribesmen very soon instituted control measures such as quarantine, disinfection and vaccination to curb the spread of the disease. Chief Jonker Afrikaner from Windhoek established a quarantine station near Otjihorongo, halfway between Windhoek and Gross Barmen. From this camp, all oxen had to be sent back to the west, all gear disinfected and new oxen had to be bought from the chief to be able to continue the journey through his territory and further eastwards:

Source: German Federal Archives: Photo No. 105-DSWA062

FIGURE 2: Ox-wagon.

> ... and (we had to) go on without the wagon to purchase or hire such cattle as we needed to complete the new and uninfected span. In the meantime let the trek-touw, the yokes and whatever else might have received the saliva of the cattle, be thoroughly washed and then go in upon the werft (Windhoek) with a clean bill of health.[5]

This was probably the first quarantine station for animal disease control purposes in Namibia. A ban was placed on the movement of all cattle en route to the Cape through the territories of the chiefs of Namaland. As a result of the increasing incidence of CBPP and its negative effects on the country's development, the Imperial administration passed the first animal disease control legislation in 1887, aimed at the control of CBPP. These measures included the compulsory reporting of outbreaks and isolation of infected animals, a commission to examine suspect animals and place them under quarantine and the burning or burying of animals that died of CBPP. In addition, a decree was issued in 1888 to prohibit the establishment or maintenance of cattle posts along the Swakop River, which was the main transport route from the coast, and along the route to Omaruru. The main reasons for these measures were the provision of enough grazing and water for the draught animals and prevention of contact with local, possibly CBPP-infected, cattle.[9]

Rinderpest

When reports of the occurrence of the epidemic in the Transvaal were received in 1896, Governor Leutwein took immediate steps in June of the same year to prevent the introduction of the disease into Namibia. The eastern border and the southern boundary of Ovamboland were patrolled and control posts established, manned by military personnel. Any movement across the borders with ruminants, ox wagons and their gear was strictly prohibited. The same measures applied to the importation of hides, skins and horns of all kinds of ruminants.[10] Control posts were set up along the cordon line, reaching from Epukiro in the east, via Waterberg, Otjituuo, Tsintsabis, Namutoni, Rietfontein, Okaukuejo, Cauas-Okawa and Huab, to Tsawisis in the west. Contact between the various control posts was established by way of foot patrols and neither livestock nor people were allowed to cross this line, nor were any livestock or humans allowed to settle in a radius of 30 km of the cordon. Depending on the particular workload, each post was manned by between five and six men. The total length of the cordon line exceeded 500 km.[11] Thus, this was the very beginning of the creation of the Veterinary Cordon Line, or VC fence as it is known today.

Despite all these preventative measures, the disease spread across the eastern border via traders at the beginning of 1897, with the first reports of a suspected outbreak amongst the livestock along the Schaf River reaching Windhoek on 06 April of that year.[12] Immediate steps, such as cordons, disinfection and experimental vaccination, were instituted to combat the outbreak; however, these measures were unsuccessful and the help of Prof. R. Koch was called upon. He advised the colonial government that his assistant, Dr Kohlstock, who was in South Africa at this time, should return to German South-West Africa at the earliest possible date. The disease was spread all along the ox-wagon trail from Windhoek to Walvis Bay by an infected team of draught oxen and the disease had reached Tsaobis by the end of May 1897.[13] Coming from Cape Town, Dr Kohlstock arrived in Swakopmund during May 1897.

Control measures were now implemented systematically and the whole country was sub-divided into vaccination areas, with officers, civil servants, soldiers and settlers receiving training in vaccination procedures.[12] The vaccination of cattle was exceptionally difficult, especially where the large cattle herds of the Herero and other local tribesmen were concerned, with the owners being very wary of the whole vaccination procedure. Hence, a great number of the cattle population died, including up to 60% of all the Herero's cattle.[14,15]

A direct result of the rinderpest epidemic was the establishment of a research laboratory for animal diseases (especially rinderpest, lung sickness and horse sickness) in 1897 at Gammams near Windhoek (Figure 3). This Imperial Bacteriological Institute, founded by Dr Rickmann, who later became the Director of Veterinary Services of German South-West Africa, rendered excellent services in the fields of research and disease diagnostics.[16] Although the development of the country was seriously retarded by the rinderpest epidemic, the loss of draught oxen and the resultant danger of the hinterland becoming cut off from the coast necessitated the building of the railway from the coast to Windhoek.

Foot and mouth disease

No areas in Namibia (past or present) are infected endemically with foot and mouth disease (FMD) and all outbreaks have been caused by the sporadic introduction of the disease into the country. The first outbreak occurred 1934 in the Gobabis district. This outbreak and the major epidemic of 1961, with the last cases in 1964, were the only outbreaks to ever occur within the commercial farming area. All other outbreaks to date have been limited to the northern communal areas, including the Caprivi.

Outbreak in central Namibia, 1961

The biggest and most costly animal disease outbreak ever experienced in Namibia started on 12 July 1961, with FMD being diagnosed on the farm 'Esperance' in the eastern Windhoek district. This outbreak caused immeasurable economic losses to Namibia as a whole and resulted in a major restructuring of the veterinary department and the resultant creation of an exemplary veterinary infrastructure.

To prevent the further migration of game and thus the spread of the disease, it was decided during August 1961 to start with the erection of game-proof fences (Figure 4). This system prevented the spread of the disease to the southern districts and provided the basis for the creation of four distinct, fenced, disease control areas, which made the lifting of some control measures and the subsequent resumption of exports from Namibia much easier.

Present (2011) situation

The World Organisation for Animal Health (OIE) recognises Namibia as an FMD-free zone without vaccination, which is the area south of the veterinary cordon fence. The most recent outbreak of FMD in the surveillance and infected zones was during 2010, in the area between the Okavango River and the Mukwe district of the Kavango region. As has been mentioned above, Namibia has never been infected endemically with FMD and all outbreaks could be traced to infection originating from the neighbouring countries of Angola, Zambia or Botswana. Botswana has had FMD outbreaks in the past two years (2010 – eastern area; 2011 – Ngamiland) and the FMD threat to the livestock population of the Caprivi region is always omnipresent as a result of the large herds of free roaming African buffalo between Botswana and the Caprivi.

The rendering of veterinary services in Namibia

Organisational structure of state veterinary services over the last century

During the past 100 years the organisational structure of the state veterinary service underwent many changes. Services were rendered under a variety of political structures. At all times, the only objective of the veterinary division was, and still is, to serve the country's best interests and only through the dedicated work of veterinarians and their assistants, specifically the large corps of stock and animal-health inspectors, often under very trying and difficult conditions, was it possible to reach the present, internationally highly acclaimed standard of veterinary service and effective animal disease control.

German colonial era until 1919

The foundation of the civil veterinary administration in this country was laid by Dr Rickmann in 1894. He established the Imperial Bacteriological Institute at Gammams near Windhoek and, although a military officer, he became the first Chief Veterinary Officer of German South-West Africa (Figure 5).

Dr Wilhelm Rickmann was born on 11 August 1869 at Pollum, West Prussia. He finished his studies at the Military

Source: Schneider HP. Animal Health and Veterinary Medicine in Namibia**.** Windhoek: AGRIVET, ISBN 99916-30-39-2; p. 249

FIGURE 3: The Imperial Bacteriological Institute at Gammams (Windhoek) in 1897.

Source: Schneider HP: Own photo 1985

FIGURE 4: Foot and mouth disease control fence on the border with Botswana.

Veterinary Academy, Berlin in 1894 and proceeded as military veterinary officer to German South-West Africa in June of the same year. In 1907, he returned to Germany and became Director of the serum department of the chemical company Lucius and Brüning at Hoechst, near Frankfurt. Here he completed his publication *Tierzucht und Tierkrankheiten in Deutsch-Südwestafrika* [Livestock and animal diseases in German South-West Africa], which was published in 1908. This book remained the only specific reference to animal health and veterinary medicine in Namibia for 75 years, until the publication of a doctoral thesis on aspects of animal health in Namibia in 1977.[17] On 13 January 1916, Dr Rickmann died of influenza at the age of 47, leaving behind a wife (whom he had married at Swakopmund) and two sons.[18] He will always be remembered as the founding father of veterinary medicine in Namibia.

The *Schutztruppe* employed a large number of veterinarians at the beginning of the 20th century and several lost their lives in active service. One of the few known cases is that of Dr Rogge, who perished in the Namib Desert near Lüderitzbucht

Source: Schneider HP. Animal Health and Veterinary Medicine in Namibia**.** Windhoek: AGRIVET, ISBN 99916-30-39-2; p. 241

FIGURE 5: Dr Wilhelm Rickmann, the first veterinarian in German South-West Africa.

in 1905.[18,d] Generally speaking, though, veterinarians always had, and still have, a very good relationship with the indigenous people of the country. Such an example is the 'military passport for free passage' given by the leader of the

d.Neitz and Curzon describe how: 'In 1905 (Dr) Rogge came from Bethanie on horseback to Lüderitz, accompanied by trooper Fiebicke, to fetch mail and money for wages. They started from Lüderitz on their return journey and were last seen at Kubub. They never reached their next stop at Ukamas and only in 1912 a police patrol found the mummified body of Rogge. All letters and the money was found on the body, the letters being delivered to their destination after 7 years.'

Bondelswarts, Morenga, in 1905 at Heirachabis (Ariamsvlei) to the military veterinarian Tuche, based at Ukamas.[19,e]

At the beginning of 1904, three veterinarians were employed by the military command, but this figure had risen to four military staff veterinarians and 75 military veterinary officers by the beginning of 1906.[19] In 1906, the veterinary organisation was divided into two sections: the military branch under Staff Veterinary Officer Rackette and the civil branch at first under Dr Rickmann, who, in 1908, became the 'Referent' (today's Permanent Secretary) for Veterinary Services and Animal Husbandry. Dr O. Henning, who was previously the Chief Veterinary Officer of Basutoland (now Lesotho) took over from Rickmann. In 1911, the civil branch was again divided into three sections: a field branch under Prof. Dr Walter Gmelin, a research section under Dr Hans Sieber and the animal husbandry division under Dr Henning. During the years 1910–1914, many young veterinarians joined the government service and, by 1914, every district had its own veterinary officer. Each veterinarian had his own small laboratory and, for transport purposes, a saddle horse, six mules and a Cape cart with two drivers were supplied by the government.[20] Official accommodation for the veterinarian was available at all duty stations. Veterinarians of the civil administration were based at Aroab, Gammams Laboratory (two veterinarians), Gibeon, Gobabis, Grootfontein, Karibib, Keetmanshoop, Lüderitzbucht, Maltahöhe, Omaruru, Otjiwarongo, Outjo, Rehoboth, Swakopmund, Warmbad and Windhoek (two veterinarians). In addition, there were also about 10–12 military veterinary officers, one officer attached to each mounted company, as well as a veterinary officer stationed at Aus and one at Okanjande.[21]

During the First World War, the whole veterinary organisation came to a standstill and most veterinarians were called up for military service. After the surrender at Khorab (near Otavi) in July 1915, most previous government veterinarians returned to their stations and assisted only in emergencies when called upon by the military magistrates. Col. Lee of the South African Veterinary Corps became the Chief Veterinary Officer, with the rank of Assistant-director, during the time of the military administration. Col. Lee was assisted by three military veterinarians, who were now trying to fill the gap left by the former 15 government officers based in various parts of the country, and had access to a well-equipped and well-staffed veterinary laboratory. After the end of the War in 1918, all German government officials were repatriated and had to leave the country. However, strong representations were made by the farming community that not all government officers should leave and an offer was made by the newly founded 'Farmwirtschaftsgesellschaft' (1917) to employ three veterinarians.

Under South African administration, 1920–1977

The first Chief Veterinary Officer (rank: Senior Veterinary Officer) of the civil administration was Dr A. Goodal, who, when taking office in 1920, was assisted by five veterinarians, stationed at Gammams, Gobabis, Keetmanshoop, Omaruru and Windhoek. Four of these veterinarians were employed previously as government veterinarians, these being Henning (since 1908), Maag (since 1914), Schmid (since 1910) and Sigwart (since 1912). The responsibility for the control of sheep scab was placed in the hands of the South-West African Police, as there was not enough veterinary manpower available. This situation is described very aptly by Senior Veterinary Officer Goodall in his 1922 Annual Report:

> When I took over the Veterinary Division in this country in April, 1920, I thought the German system of having a Government Veterinary Officer stationed in every district, who was constantly going round from farm to farm, was an extravagant one. But the longer I remain in this country the more I become convinced that, under our conditions, some system of periodical inspection by Veterinary Officers is essential ... The great handicap to getting about is the question of transport.[22]

For the first years, the government veterinarians had no transport of their own and had to make use of railway transport, hire transport (horses, carts) or the farmer had to provide the transport facilities. Only the two veterinarians stationed at Windhoek had access to a horse cart, with two horses. Around 1926, all veterinarians received motor vehicles in terms of a government subsidised scheme. The number of veterinary officers showed a steady increase during the next decades, with a State Veterinarian being stationed in most districts.

The area of the Eastern Caprivi Zipfel was under the jurisdiction of the South-West African Administration Veterinary Division from 1929 to 1945 and was then transferred to South Africa, with the State Veterinarian Pretoria also being responsible for this area. With the appointment of the first Administrator-General in 1977, the Eastern Caprivi was returned to the central authorities in Windhoek.

From 1920 to 1945 the Senior Veterinary Officer was also in charge of the Agriculture Division. This changed in 1945, when the designation of 'Senior Veterinary Officer' was changed to that of 'Director of Agriculture', the Veterinary Division being a branch of the Division of Agriculture of the South-West African Administration. The first and only incumbent of the post of Director of Agriculture was the well-known veterinarian Dr J. Watt, who held office from 1945 to 1969, whilst the veterinary branch was headed by an Assistant Director of Veterinary Services. The Agricultural Division of the Administration of South-West Africa was answerable to the Member of the Executive Committee for Agriculture of the Legislative Assembly on the political side (taking the place of a Minister) and to the Secretary of South-West Africa (the highest ranking civil servant and not a political appointee) on the administrative side. On 01 April 1969, the Division of Agriculture was abolished and the agricultural and veterinary functions transferred to the Department of Agricultural Technical Services of the Ministry of Agriculture of South Africa. All former officials

e.From the history of the German military veterinary office (Das Deutsche Heeresveterinärwesen), we read: 'Dat is om te zeeg, dat al wat een Bondel is, die besetter van dezer pampier – doctor Tuche – voor hen moet niet molesteer, as hy bekend maak dat hy de Doctor is.' [*This is to say, that everybody who is a Bondel, shall not molest the owner of this paper – being doctor Tuche – if he indicates that he is the Doctor*]

of the South-West African Administration became officers of the Public Service of South Africa. Thus, for the first time in the country's veterinary history, veterinary autonomy was lost and placed in the hands of a foreign administration, with virtually no political input from the Namibian side.

Namibia now became a region within the Department of Agricultural Technical Services of South Africa and the Namibian division was placed under a Deputy Director of Veterinary Services, based at Windhoek, who reported directly to the Director of Veterinary Services of South Africa. During the late 1960s and the mid–1970s, the South African 'homeland' policy was implemented in Namibia and separate governments, with ministers et cetera, came into being in Ovamboland, Okavango, Damaraland and Rehoboth. One of the functions handed to these partially autonomous bodies was veterinary services. A post of Chief Veterinarian was created for Ovambo and Okavango, whilst the veterinary responsibility for Damaraland and Rehoboth was handled on an agency basis by the State Veterinarian of Outjo and Windhoek, respectively. The Deputy-Director at Windhoek, although responsible for export certification from all areas of Namibia, had no direct jurisdiction in these 'self-governing' areas. The veterinary division of the 'homelands' was controlled through the Office of the Department of Bantu Affairs in Pretoria and the veterinarians employed were seconded officers from the Department of Agricultural Technical Services, also in Pretoria.

During 1977, the whole process of administering the Territory from Pretoria was reversed and an Administrator-General was appointed. All government functions handled since 1969 by South African ministries were now handed to the Office of the Administrator-General. This included veterinary services and, for the first time, a Namibian veterinarian was placed in charge of the veterinary division (Dr Herbert Schneider), with the rank of Director of Veterinary Services.

Interim administration under a South African Administrator-General, 1978–1990

After the elections of 1980, a Government of National Unity took over most of the functions of the Administrator-General and the eight Central Government Departments, headed by a Minister, were established, with a new Public Service of Namibia. Concurrent with this development, a system of 2nd-tier administrations was created (Proclamation AG 8 of 1980) and the veterinary function, which had previously been seated with the abovementioned four 'homelands', was now transferred back to the central veterinary authority of Namibia. Thus the situation existing prior to 1969 was re-established. One of these departments was the Department of Agriculture and Nature Conservation, headed by a Principal Secretary (the highest ranking civil servant and accountable officer for this department and not a political appointee) who reported to the Minister of Agriculture and the Minister of Nature Conservation and Tourism. From 1984 to independence in 1990, a veterinarian (Dr Schneider) was the Principal Secretary. Four directorates existed within the department, one of which was the Directorate of Veterinary Services, headed by a Director of Veterinary Services.

The present situation (since independence in 1990)

On 21 March 1990, Namibia became independent and a new government structure was created. The previous Department of Agriculture and Nature Conservation (which included agriculture, veterinary services, nature conservation and sea fisheries) was dismantled and in its place a Ministry of Agriculture, Water and Rural Development (as of 2011, the Ministry of Agriculture, Water and Forestry) was established, with the Directorate of Veterinary Services becoming part thereof.

Veterinary laboratory services

Imperial Bacteriological Institute Gammams (1897–1915)

The first bacteriological examinations and studies in respect of animal diseases, especially with regard to CBPP and AHS, were undertaken by Dr Sander, a retired naval medical officer with a veterinary background. As mentioned above, he arrived in January 1894 at the request of the Deutsche Kolonialgesellschaft and had to commence with his research with virtually no facilities. A tiny room with a dusty clay floor and a leaking roof functioned as his laboratory, with the glassware and other instruments constantly contaminated by termites.[23] When the first veterinarian, Dr Rickmann, arrived in June 1894, CBPP was, apart from AHS, one of the most serious animal diseases prevalent in the country. Thus, in 1895, Rickmann established a CBPP station at Gammams, some 6 km from Windhoek on the western outskirts, where cattle were kept for CBPP-serum production. Only when rinderpest broke out in April 1897, were the necessary and urgently needed laboratory facilities provided at Gammams.

Governor Leutwein approved the necessary funds for a laboratory building, consisting of an examination room, store-room, kitchen and a room each for the veterinarian and his assistant. In addition, a hospital-pen for 10 bovines and another to hold up to 60 large animals were built. Rickmann was placed in charge and the laboratory, now called the Imperial Bacteriological Institute Gammams, was responsible for the production of vaccines against rinderpest and CBPP, as well as research on the epidemiology of AHS. In addition, the institute was the official residence of the Chief Veterinary Officer. All newly arriving veterinarians had to spend some time at Gammams to get acquainted with local conditions before being stationed in the country. Extensions were built during 1903, but the institute was completely destroyed during the Herero War of 1904. The Gammams Institute was re-opened under Governor Seitz in 1911 and Dr Sieber, who had worked with the world-famous Dr A. Theiler at Onderstepoort, was placed in charge of the Institute. The emphasis was placed on the diagnosis of animal diseases and specific research concerning AHS, *lamsiekte* [botulism] and diseases of smallstock was undertaken. In addition, the institute manufactured and supplied vaccines against AHS, bluetongue, black quarter, CBPP, pasteurellosis and serum

for the treatment of snake bites. For use in humans, a pox vaccine and typhoid antiserum were prepared. A well-equipped library was established; many of the reference books can today still be found at some State Veterinary Offices. However, the First World War was the cause for the closure of the Institute as a veterinary diagnostic and research facility in 1915.

Other veterinary laboratories in German South-West Africa

Apart from the main veterinary laboratory at Gammams, additional regional laboratories were established at Grootfontein, Friedrichsfelde near Karibib and Aurus-Gariganis near Keetmanshoop**.** Initially, these laboratories not only served to assist in the diagnosis of animal diseases, but also served as livestock development centres for their region. Small herds of pure-bred cattle and sheep were kept under veterinary supervision and bulls and rams were sold to farmers. Unfortunately, these laboratories had to be given up after some time, as it was found to be impossible for the few Government Veterinary Officers, their prime responsibility being field and extension services, to also assist with laboratory duties. From 1906 until 1914, the *Schutztruppe* maintained a hospital for horses at the military command at Windhoek and small veterinary laboratories and first-aid stations at Swakopmund, Lüderitz and for the camel stud at Kalkfontein-North (Stampriet).

Central Veterinary Laboratory Windhoek (established 1967)

After the closure of the Gammams Institute in 1915, and until 1967, no diagnostic laboratory existed in Namibia. Elementary diagnostic procedures, such as the examination of blood smears, could be performed at the various State Veterinary Offices. Some State Veterinarians were able to conduct more detailed research, leading, for example, to the discovery of the cause of *gedoelstiasis* and *grootlamsiekte* by Dr P. Basson in the 1960s. Small field laboratories were used at the beginning of the 1960s in Ovambo and Okavango to establish the prevalence and distribution of CBPP. Some research in the field of helminthology was also undertaken.

The need to have laboratory facilities available for bacteriological and serological examinations grew in the mid–1960s, especially as a CBPP survey was to be undertaken in the northern communal farming areas of Kaokoland, Ovambo and Okavango. This led to the establishment of a Veterinary Laboratory at Windhoek on 01 April 1967. This laboratory was first housed in the old Werth home complex at the corner of Mugabe and Lazarett Streets, together with the offices of the State Veterinarian for Windhoek and Rehoboth. All administrative work was handled by the State Veterinary Office. This new start for a dedicated laboratory service in Namibia was the result of the continuous efforts and representations by the then State Veterinarian for Windhoek, Dr Joachim Bergmann. As a specialist in bacteriology and serology, he recognised the urgent need for a diagnostic and research facility in Namibia and was thus instrumental in the founding of the laboratory. By 1969–1970, the bacteriology and serology sections were fully operational, with the parasitology section being expanded and a new toxicology section being added. In 1972, a section for reproduction and artificial insemination was established. However, the biggest handicap to further developments was the lack of adequate infrastructural facilities and experienced technical assistants.

During September 1974, the Office of the Director and State Veterinarian moved to Ausspannplatz and, after extensive alterations, the old High Court building became available to house the Regional Veterinary Laboratory (Figure 6).

With these much improved and spacious facilities, research became feasible and the first postgraduate research student to make use of these facilities arrived from Germany in 1978. In 1980, with the establishment of an autonomous veterinary service for Namibia, the name was changed to Central Veterinary Laboratory. In the following years, facilities for rabies diagnosis and the preparation of CBPP vaccine were added.

Attached to the Central Veterinary Laboratory is the Veterinary Research farm 'Bergvlug'. This 52 000 ha farm is situated some 40 km to the east of Windhoek and was taken over from the agricultural division of the 2nd-tier Administration for Whites in 1982.

Other veterinary laboratories in South-West Africa (later Namibia)

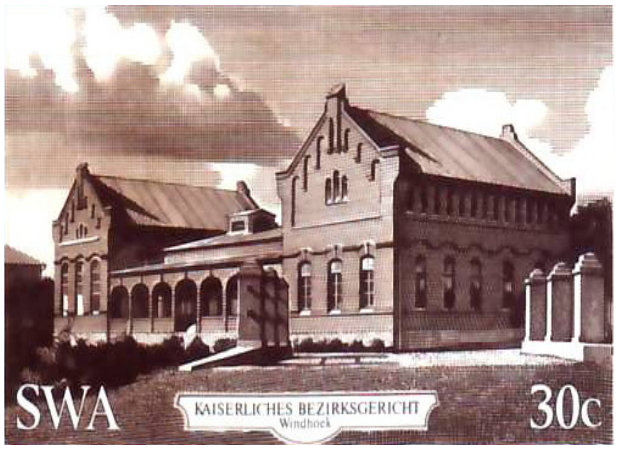
Apart from the Central Veterinary Laboratory, various regional veterinary laboratories were planned, put into use and abandoned during the period from 1920 until today. The following is a brief summary of these developments.

Grootfontein: With the arrival of the specialist pathologist, Dr Basson, as State Veterinarian at Grootfontein in 1972, examination of all Namibia's histopathological specimens at Grootfontein was initiated. All specimens were prepared by the Pathology section of the Veterinary Research Institute Onderstepoort, a service which was used until the end of 1985. No proper facilities, not even a post-mortem room, were available at Grootfontein. Owing to a shortage of funds, the planning and building of urgently required facilities was postponed from year to year. A description of this situation is given by Dr Basson in the 1979 Annual Report:

> A pathologist and his microscope are now being recognised as a laboratory at Grootfontein. It is probably unique in the history of veterinary science, as no other facilities or technicians are available.[24]

However, building did commence during 1984 and, in May 1985, the present veterinary laboratory complex at Grootfontein was inaugurated. This laboratory functions as a regional diagnostic laboratory, specifically for pathology, but also for parasitology, sheath washings for campylobacteriosis, bovine trichomoniasis and routine bacteriology.

Kamanjab: Guided by the recommendations of the Odendaal Report of 1963,[25] especially with regard to the development



Source: Namibia Postal Services - Philately bureau
Special stamp issued by the Namibia Postal Service in 1989 on Windhoek buildings

FIGURE 6: Imperial High Court Windhoek, now the Central Veterinary Laboratory.

of the northern areas, Kamanjab was chosen as the laboratory service centre for the north-western region, with a special emphasis on the control and eradication of CBPP. A large laboratory complex was built in 1966 and put into use as Office of the State Veterinarian for Damaraland and Kaokoland in 1967. However, the envisaged development for Kamanjab never materialised and the laboratory was never put into use for anything other a state veterinary office.

Ondangua: In view of anticipated agricultural development and the control and eradication of CBPP in Ovamboland, a veterinary laboratory complex was erected at Ondangua in 1968. However, as a result of staff shortages, the laboratory was not put into use and, when the veterinary function was transferred to the newly created Government of Ovambo in 1971, the whole complex was handed over to the agricultural department. Only a few rooms were allocated to the state veterinary officer and most equipment mothballed. In 1979 these facilities were handed back to the Division of Veterinary Services. Since then, a limited number of laboratory procedures are carried out at Ondangua.

Gobabis: In 1921, the Senior Veterinary Officer requested the Director of Public Works to erect a small laboratory building near the State Veterinarian's (Dr A. Maag) residence at Gobabis. This request read as follows:

> At present he (Dr. Maag) is using a room in his dwelling house for this purpose (as laboratory), but it can be understood that when he is dealing with such diseases as anthrax, it is neither healthy nor pleasant to have to do such work in a dwelling house.[26]

It cannot be ascertained if this facility was ever built because a diagnostic laboratory was only approved in principle for Gobabis in 1970 and built during 1976–1977. However, this laboratory could not be put into use until the end of the 1980s because of a shortage of qualified personnel. Today, this laboratory handles bacteriological and serological examinations, sheath washings for campylobacteriosis and bovine trichomoniasis and parasite determinations.

Keetmanshoop: As with Gobabis, a regional veterinary laboratory and diagnostic centre was approved in principle in 1970, but this project never reached the planning stage. The planning and subsequent building of a new state veterinary office complex, with laboratory facilities, commenced in 1987 and was officially inaugurated on 19 May 1989.

Okaukuejo (Etosha National Park): On 01 April 1974, an Ecological Institute was opened in the Etosha National Park, at the park headquarters at Okaukuejo. This institute was planned for diagnostics and research on the game animals of Etosha and, today, is used by veterinarians, biologists and zoologists. Modern and well-equipped laboratory and post-mortem facilities are available and veterinary research includes the study of anthrax in game.

Veterinary legislation

The first veterinary legislation promulgated in Namibia was the Proclamation for the Control of CBPP (*Proklanation zur Unterdrueckung der Lungenseuche der Rinder*), issued on 01 March 1887 at Otjimbingue. This was followed by the 'Tierseuchenverordnung' of 1901, the first attempt to codify animal disease control measures. In 1920, this was replaced by the Diseases of Stock Proclamation, which, with a number of Government Notices issued in the following decades, remained in force until 1962, when the Animal Disease and Parasites Ordinance of 1959 came into effect. The transfer of jurisdiction in 1969 to Pretoria resulted in the South African *Animal Diseases and Parasites Act* 1956 (Act No. 13 of 1956) becoming applicable to Namibia in 1972. Even though this legislation has since been repealed in South Africa, it is currently still applicable in Namibia. As such, a new *Animal Health Act* 2011 (Act No. 1 of 2011),[27] has been approved by the Namibian Parliament and awaits its mandate.

Meat inspection services in Namibia

The first meat inspection service was introduced in 1911 at the following municipalities: Grootfontein, Karibib, Keetmanshoop, Lüderitz, Swakopmund, Tsumeb, Usakos and Windhoek. Today, veterinary public health and more specifically meat hygiene services are rendered by two government bodies in Namibia. Services at municipal abattoirs are undertaken by Municipal Health Inspectors, under the authority of municipal by-laws and the Public Health Proclamation of 1920 (Procl. 36 of 1920). Meat inspection and hygiene services at the export abattoirs are under the jurisdiction of the Division of Veterinary Services of the Ministry of Agriculture, Water and Forestry. The legal basis for these services is found in the relevant Acts and Directives of the meat importing countries, more specifically the Directives of the European Economic Community (now European Union) for importation of meat and animal products from third countries (Directive 72/462/EEC)[28] and the *Abattoir Hygiene Act of the Republic of South Africa* 1992 (Act No. 121 of 1992).[29] In Namibia, public health and food hygiene veterinarians are employed only by the Division of Veterinary Services and the vital laboratory services concerning residue control and microbiological diagnoses are the responsibility of the Central Veterinary Laboratory of

the Division of Veterinary Services. A resident veterinarian is stationed at the meat export establishments at all times.

Contrary to the established practice in many countries, no veterinarian is employed by a municipal authority, an abattoir owner or a meat-processing establishment in Namibia. Namibia's beef export market is subject to, and dependent, on the continued approval of its export abattoirs by the importing countries, primarily the European Union and the Republic of South Africa.

Private veterinary practice

After the First World War, most of the German government officials were repatriated. As no veterinarians would be left in the country, the farmers made representations to Col. Lee to be allowed to employ some of the well-known veterinarians in their newly founded 'Farmwirtschaftsgesellschaft'. Only a few days before their ship was to leave, three veterinarians, Drs Maag, Schmid and Sigwart, were given permission to stay in the Territory and practice as private practitioners. All three were re-appointed in 1922 as government veterinary officers. In 1920, the civil administration was established and, because of the critical shortage of veterinarians, it was decided by the Administrator of South-West Africa to allow the employment of German veterinary surgeons by magistrates for the rendering of veterinary services during emergencies. In such cases it was decided:

> that they shall be paid an inclusive allowance of £2.2.0 *per diem* as remuneration for their work and their reports about the matter for which they are employed and shall be granted a railway warrant when that method of travelling is necessary.[30]

For the next few decades, all veterinary services were rendered by government veterinarians and only in the mid–1950s did the first private practitioner (Dr A. Lorenz) settle in Windhoek, practicing from the premises of the SPCA (Society for the Prevention of Cruelty to Animals). In 1936, the rendering of veterinary services to the public by state-employed veterinarians was regulated.[31] In urban areas, where private practitioners were in practice, no services were rendered, except as far as notifiable diseases were concerned. If there were no private practitioners, a veterinary service could be rendered at a fee of 9d. per mile and a minimum of 5 shillings per visit. The same ruling applied to rural areas and, in all cases, the owner of the animals had to supply the necessary drugs or other necessary material. This regulation remained unchanged for the next 20 years. After the successful eradication of FMD in 1963, a local livestock agency offered veterinary services to their clients through the contracting of a large animal practitioner. This opened the way for rural large animal practice and, by the end of the 1960s, a solid foundation had been laid for private veterinary practice in Namibia. This expanded slowly from Windhoek to other centres and, today, permanent private practices, with satellite clinics, have been established at Windhoek, Swakopmund, Walvis Bay, Omaruru, Otjiwarongo, Gobabis, Rosh Pinah, Grootfontein and Mariental.

Veterinary professional institutions

Veterinary Council of Namibia

To regulate the practicing of veterinary medicine in South Africa, an act was promulgated in 1933. This act, the *Veterinary Act* 1933 (Act No. 16 of 1933) remained in force until 1982, when new legislation was passed. During 1938, attempts were made to apply the provisions of the South African act to Namibia, but for various reasons – one of which was the requirement that all veterinarians be South African citizens – this did not materialise. Only in 1972 was the South African *Veterinary Act* made applicable to Namibia. With South Africa enacting new veterinary legislation in 1982 and Namibia's independence on the horizon, it was decided to draw up new legislation, culminating in the Veterinary and Para-veterinary Professions Proclamation 1984 (Proclamation AG 14 of 1984), which came into force on 01 August 1984. For the first time the veterinary profession of Namibia now had its own legislation and regulatory body, the Veterinary Council of Namibia (VCN). The VCN is a statutory body and juristic person, with wide-ranging responsibilities, such as to regulate the practicing of the veterinary profession and the registration of persons wishing to practice.

Veterinary Association of Namibia

In 1947, a South-West African branch of the South African Veterinary Medical Association (SAVA) was established. Regular annual meetings were held and, by the end of the 1960s, these meetings took the form of a scientific congress, with the main aim of providing a forum for continuing education. One of the efforts of the Association to promote veterinary medicine amongst the farming community was the creation of an annual award – the Veterinary Performance Award – during the mid–1970s. Since then, this award has been presented annually to a farmer whose application of veterinary medicine, in close co-operation with his veterinarian, resulted in the improvement of animal health and production on his farm. In 1984, the South-West African branch of the SAVA was dissolved and became the Veterinary Association of Namibia (VAN) (Figure 7). Although a voluntary association, all veterinarians in Namibia are members and the association is recognised as the representative body of the veterinary profession. Hence, the VAN nominates one of its members to represent the association on the Veterinary Council. In 1987, the VAN became a full member of the World Veterinary Association and, in 1990, a full member of the Commonwealth Veterinary Association. Since 2009, VAN is a full member of the World Small Animal Veterinary Association. In 2002, the President of VAN, Dr Schneider, was elected President of the World Veterinary Association for a 3-year period.

In summary, Namibia can look back proudly on 117 years of formal rendering professional animal health services and is well prepared for the future to meet the challenges of animal health and veterinary public health within the concept of 'One World – One Health', as put into practice by the World Health Organisation and the OIE.

Source: Namibia Postal Services - Philately bureau

FIGURE 7: Special stamp issued by the Namibia Postal Service in 1997 to commemorate the 50th anniversary of the Veterinary Association of Namibia.

Acknowledgements

Competing interests

The author declares that he has no financial or personal relationship(s) which may have inappropriately influenced them in writing this paper.

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