Veterinary science, transboundary animal diseases and markets: pathways for policy in Namibia

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Transboundary animal disease and market access: future options for the beef industry in southern Africa

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Transboundary animal disease and market access: future options for the beef industry in southern Africa

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How can southern Africa benefit from the global 'livestock revolution'? What options exist for trade given changes in market demand, entry requirements and trade preferences? What veterinary and food safety standards are required for different trade options? What does this imply for disease control and management of transboundary diseases such as foot and mouth? Who are the winners and losers of different scenarios for the future?

These are just some of the questions that policymakers in southern Africa – and beyond – are dealing with. There are no easy answers. The beef industry in the region has been a stalwart of economic development, but do the new conditions of trade and market access and disease dynamics, particularly of foot and mouth disease, suggest new options must be sought?

This working paper series debates these questions, and explore alternative scenarios in four country settings: Botswana, Namibia, South Africa and Zimbabwe, as well as the wider southern African region. Over the past 18 months – through a combination of detailed research and numerous stakeholder-led dialogues – the research teams have explored different scenarios for tackling the challenge of foot and mouth disease, relating each to different market access and trade options. The core question has been: what option (or combination of options) makes most sense, given the current context? Different criteria are evident, with often clear trade offs. The studies asked: which option results in the greatest returns? Which provides benefits to the broadest group of people? And which will be, in the longer term, the most sustainable?

Disease control scenarios have included:

- Zonation and area based disease freedom strategies
- Accepting and managing endemic foot and mouth disease
- Compartmentalisation
- Commodity based trade

Market access and trade scenarios have included:

- Securing EU export trade, including via private wholesaler/retailers
- Looking east – marketing to Asia and the Middle East
- Regional markets in Africa
- Enhancing the value of domestic markets

Research findings have been debated at an international workshop held in South Africa in April 2008 which has sought ways forward for national, regional and international policy. The study has been supported by the Livestock for Life programme of the Wellcome Trust and coordinated by the STEPS Centre at the Institute of Development Studies at the University of Sussex.

Website:http://www.steps-centre.org/ourresearch/vetscience.html

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Acronyms

ACP	Africa Caribbean and Pacific
APHIS	Animal and Plant Inspection Service
AU-IBAR	African Union-Interafrican Bureau for Animal Resources
BNLS	Botswana, Namibia, Lesotho and Swaziland
CAHWS	Community Animal Health Workers
CBPP	Contagious Bovine Pleuropneumonia
COMESA	Common Market for Eastern And Southern Africa
CU	Customs Union
DRC	Democratic Republic of Congo
DVS	Directorate of Veterinary Services
EAC	East African Community
ECCAS	Economic Community of Central African States
EFTA	European Free Trade Association
EPA	Economic Partnership Agreement
FAO	Food and Agriculture Organisation
FNDC	First National Development Corporation
FSIS	Food Safety Inspection Service
FTA	Free Trade Area
GATT	General Agreement on Trade and Tariffs
HIES	Household Income and Expenditure Survey
IDC	International Development Consultancy
IFAD	International Fund for Agricultural Development
IOC	Indian Ocean Commission
LPO	Livestock Producer Organisation
MAWRD	Ministry of Agriculture Water and Rural Development
MBN	Meat Board of Namibia
NALIDEP	National Livelihoods Development Program
NAMLITS	Namibia Livestock Traceability System
NCA	Northern Communal Areas
NOLIDEP	Northern Regions Livestock Development Project
OIE	World Organisation for Animal Health (Office International des Épizooties)
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAT	Southern African Territories
SWA	South West Africa
TCP	Technical Cooperation Project
TDCA	Trade Development and Cooperation Agreement
UNDP	United Nations Development Program
USDA	United States Department For Agriculture
VCF	Veterinary Cordon Fence

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Summary

Historically, and at present, the livestock sector of Namibia, which is the backbone of the agricultural sector of the country, has a dual character. It is divided between the freehold, large scale, predominantly white-owned commercial farming sector on the one hand and an indigenous, resource-limited, communal and smallholder sector on the other. Although each sector occupies approximately an equal portion of the land mass, the communal sector supports a disproportionately large number of inhabitants compared to the commercial sector. This is a legacy of the pre-independence apartheid policies that provided more resources and opportunities to the white section of the population.

This dualism is made more apparent by the animal disease zoning where the Foot and Mouth Disease (FMD) and Contagious Bovine Pleuropneumonia (CBPP) free zone in the southern areas of the country is predominantly occupied by commercial farms and the regions to the north are inhabited by the communal farmers. Separating the two sectors in an east-west direction is a zoosanitary barrier referred to as the Veterinary Cordon Fence (VCF). Since its erection in the early 1960s the fence has come to symbolise the apartheid past and was indeed used by the South African occupation forces as a mechanism to restrict the movement of people and animals.

With the attainment of independence in 1990, the government has come under increasing pressure to remove this fence or to at least bring the animal health status and production of the areas north of the VCF to be on a par with areas to the south. This is perceived to be one of the ways of bridging the socio-economic divide between the two sectors. For the social and economic benefits of achieving CBPP- and FMD-free status to be realised, the government has committed itself both financially and technically to deal with a host of issues such as the development of infrastructure (e.g. access roads, water, markets) and modernising the production methods to a more commercial, market-orientated system by introducing contemporary animal husbandry technologies for breeding, rangeland management and feeding. This approach envisages land use reorganisation involving decongesting certain areas, setting up commercial farm units in underutilised virgin land in communal areas and resettling people on commercial farms. The main strategic focus of the current policy is to move the VCF to the Angolan border.

Introduction

Overview of the livestock industry

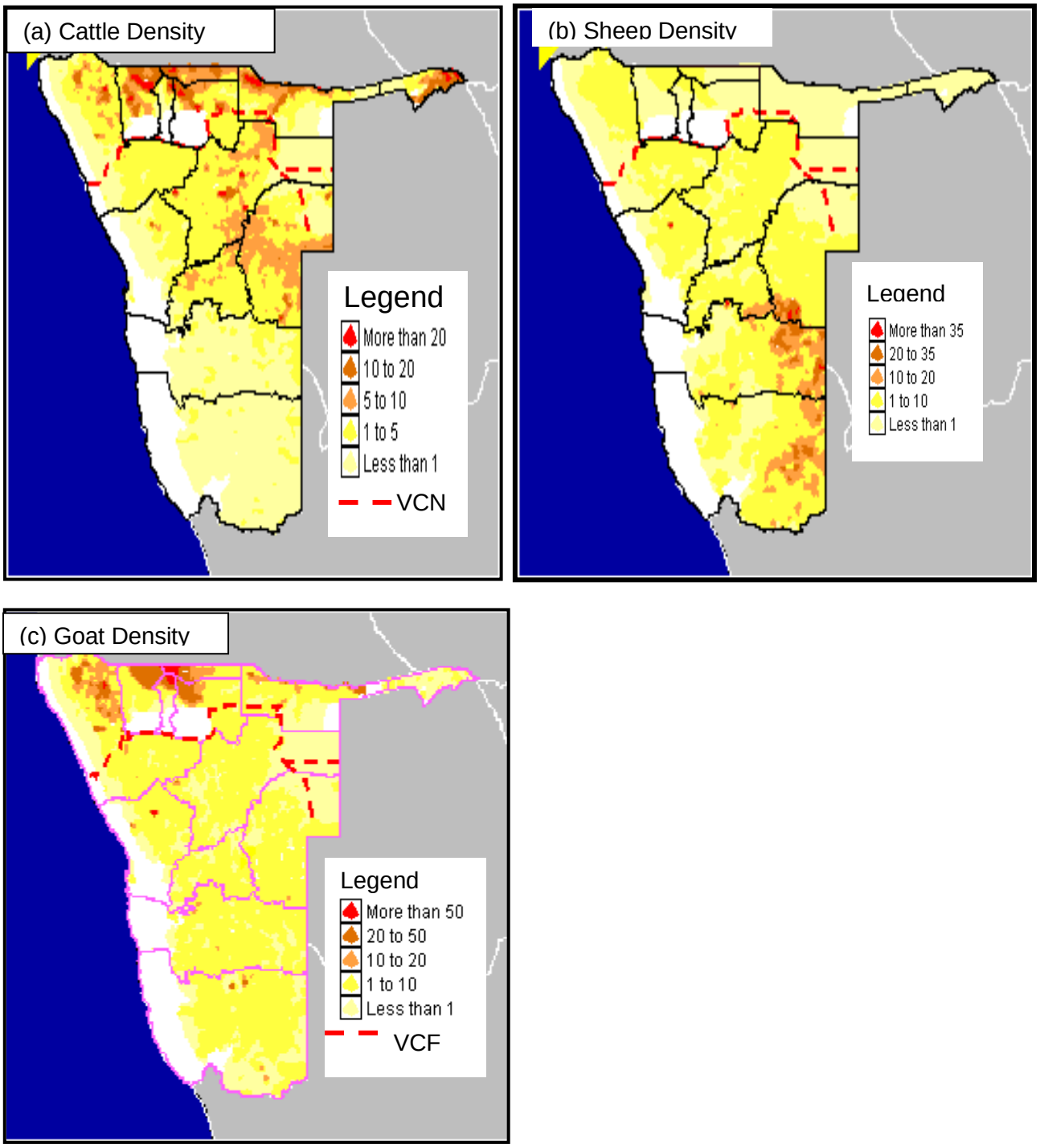
Namibia is located in south-western Africa and shares frontiers with Angola in the North, Zambia in the north-east, Botswana in the east and South Africa in the south. On the western side is the Atlantic Ocean coast. Namibia is a vast country with a land mass of 824,116 km^2. It has a total human population of approximately 1.8 million people of which 70% are engaged in agriculture directly or indirectly. The other main economic activities include mining and fishing.

Namibia is a mainly semi-arid to arid country with low rainfall and has very little surface water except for perennial rivers which all run along its borders, namely the Zambezi, Kavango, and Kunene rivers in the north and the Orange River in the south. To the East is the Namib Desert and in the west the Kalahari. Underground water is also difficult to obtain as it lies very deep underground. The average annual precipitation is only 270 mm ranging from as low as 0.2 mm in the Namib Desert to 350 mm in the capital Windhoek to 700 mm at Katima Mulilo in Eastern Caprivi. Because of the dry climatic conditions, much of Namibia is unsuitable for rain-fed crop agriculture but is suitable for livestock grazing.

Agriculture is practised on 700,000 km^2, which can be divided into two distinct sectors, the capital intensive, relatively well developed and profit and export oriented commercial sector and the subsistence-based, high labour, low technology communal sector. Agriculture accounted for 11% of the Gross Domestic Product in 2004 and earns over 25% of the country's export receipts, amounting to N$ 2 billion (US$ 350 million) (Anon 2004). Ninety percent of marketable animals and meat produced are exported mainly to RSA and EU. The livestock sector accounts for about 90% of agricultural production.

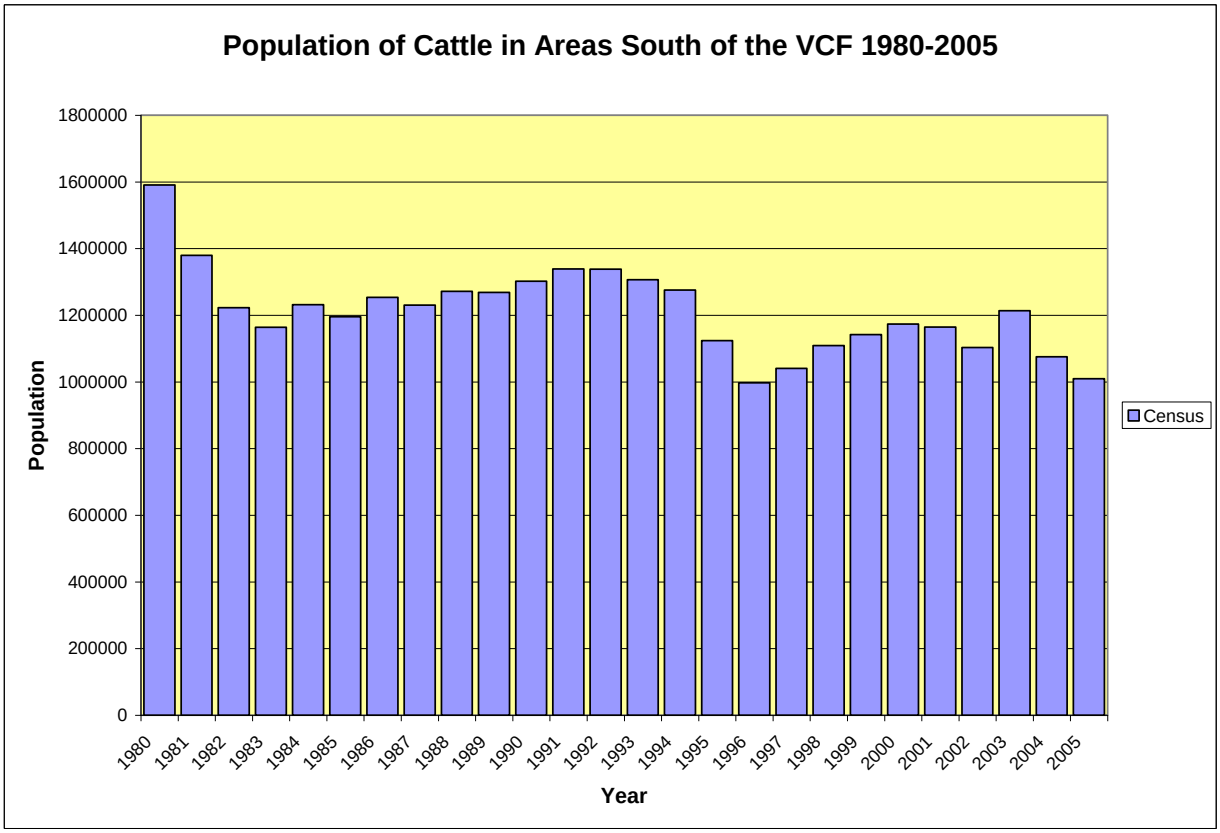
The commercial sector comprises 4,200 farmers on 6,337 holdings with a total area of 28.7m ha and an average area of 6,800 ha per holding. The commercial sector contributes about 80% of agricultural output, but there has been a consistent trend of declining commercial livestock numbers attributed to a combination of decreasing profitability, as evidenced by increasing farm indebtedness, increasing absenteeism, a shift to game farming (Anon, 2004b) and declining environmental conditions due to bush encroachment and land degradation. In the largely white-dominated commercial sector, agriculture consists primarily of livestock ranching. Cattle raising is predominant in the central and northern regions, while sheep, goat, and ostrich farming are concentrated in the more arid southern regions (figure 1).

Figure 1. Density of cattle, sheep and goats in Namibia



The trends in the cattle population in the predominantly commercial area south of the VCF from 1980 to 2005 are shown in figure 2.

Figure 2. Cattle population trends in areas south of the VCF 1980-2005



Similar trends have been noted in the sheep population in commercial farming areas where most sheep farming takes place. For example, in 1990 there were 3.3 million sheep in the country, which dropped to 2.1 million by 1998 but then steadily increased to 2.7 million by 2005. The drop was attributed to a decrease in the Karakul sheep population, which plummeted from about 1.1 million in 1990 to about 0.2 million in 2005.

The communal areas (30.8m ha) are utilised by some 150,000 households with user rights on cropping lands and communal rights to grazing land. The majority (about 120,000) are north of the VCF. Communal agriculture provides a livelihood for 41% of all households in the country. These households also rely extensively on a diversified set of income sources such as remittances and pensions and only the poorest are entirely dependent on agriculture (Anon, 2004b). Agriculture contributed 20% of household income in the North Central Regions, 16% in Kavango and 34% in the Caprivi Region. The agricultural practices in the Northern Communal Areas (NCA) are a mixture of transhumance and sedentary agro-pastoral systems. The transhumance system of farming is generally collapsing in the North Central region because of the increasing human and livestock population. For example, the cattle population has been growing rapidly in communal areas north of the VCF from about 620,000 in 1990 to 1.03 million in 2005 (DVS Reports). The small stock population has remained steady at around 1 million. This dramatic increase in livestock is attributed to improved institutional service delivery such as veterinary and extension services and the low off-take. Most communal farmers own the small-framed but well adapted indigenous Sanga cattle breed (see figure 4). In the communal areas, livestock plays multiple roles in the sustenance of the people through the provision of draught power, manure, milk, meat, household cash income from sales, as a source of storing wealth, socio-cultural support and food security. The strong cultural links to their livestock explains in part the low off-take levels as compared to commercial farms.

Figure 3. Cattle population trends in the NCA of Namibia 1980-2005

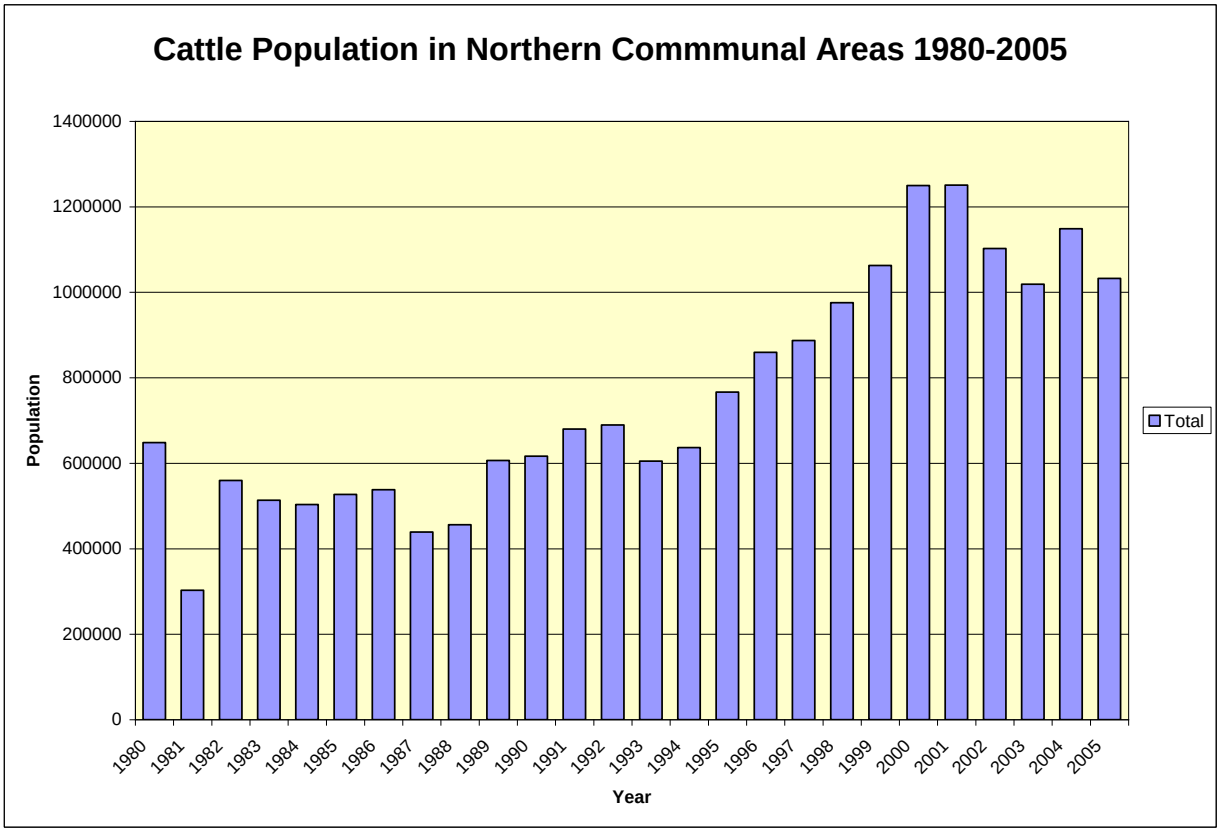


Figure 4. Sanga cattle

The Disease Setting

<u>Foot-and-mouth disease</u>

Most of the historical information in this section was taken from a publication by H.P. Schneider (1994). The first outbreak of FMD occurred in 1934. This and the major outbreak of

1961, with the last cases occurring in 1964, were the last outbreaks to occur in the commercial farming area. All other outbreaks until today have been limited to the NCA. The last outbreak to be recorded in Namibia was in the infected zone of Eastern Caprivi in November 2007, (DVS Quarterly Report 2007). The outbreak, which was due to a SAT 2 virus. Concurrently similar virus type was responsible for an outbreak of FMD on the adjacent side of the Zambian border. Table 1 summarises the occurrence of FMD in Namibia.

Table 1. Summary of outbreaks of FMD in Namibia since 1934
(source: Schneider, 1994 and DVS Report for 2003).

Year	Area/District	Type of FMDV	Probable Source	Georef	Control Measures
1934	Gobabis	?	Botswana		Stamping out and movement control Stock free zones
1945	Kavango	?	Botswana		Artificial Infection Stock free zones
1946	Ovambo-Ombalantu	?	Angola		Disinfection 17 cattle destroyed
1949	Kavango	SAT 1	Angola		Stock free zones Cordons Artificial Infection
1956	Eastern Caprivi	SAT 2	Zambia		Artificial Infection
1958	Ovambo/Kaokoland	Valleé A	Angola		Stock free zones Artificial infection Fencing
1960	Eastern Caprivi	SAT 2	Zambia		Stock free zones Artificial infection
1961	Central Districts	SAT 1	Botswana		Game & stock-proof fencing, Cordons Vaccination Artificial infection
1962	Ovambo	A	Angola		Vaccination Cordons
1964	Kalkfield	SAT1	1961 outbreak: Game		Vaccination Cordons
1967	Ovambo	A	Angola		Vaccination
1968	Kavango	SAT 2	Angola		Vaccination
1969	Ovambo	SAT 2	Angola		Vaccination
1970	Ovambo	SAT 2	Angola		Vaccination
1971	Eastern Caprivi	SAT 2	Zambia		Vaccination
1975	Eastern Caprivi	SAT 2	Zambia		Vaccination
1978	Eastern Caprivi	SAT 2	Botswana		Cordon Vaccination
1980	Eastern Caprivi	SAT 1	Zambia		
1989	Eastern Caprivi	SAT 2	Botswana-Buffalo	25.16ºE 17.76ºS	Movement control, vaccination: bivalent SAT1 & 2
1991	Eastern Caprivi	SAT 2	Botswana-Buffalo	24.06ºE 17.81ºS	Movement control, ring vaccination
1992	Kavango	SAT 2	Undetermined- ?Angola Buffalo	20.64ºE 18.15ºS	Movement control, ring vaccination then mass vaccination of whole of Kavango (103500

Year	Area/District	Type of FMDV	Probable Source	Georef	Control Measures
					cattle)
1994	Eastern Caprivi-Kasika	SAT 3	Buffalo	24.06ºE 17.81ºS	Movement control, ring vaccination SAT 1,2 & 3.
2000	Eastern Caprivi-Kasika	SAT1	Buffalo	24.06ºE 17.81ºS	Ring vaccination, trivalent SAT1,2 & 3.

The outbreak of 1934 was suspected to have originated from Botswana, where artificial infection was being used to control the disease. With the authorities aware of possible spread into the territory, the Botswana border was sealed off and a 30 km stock-free cordon was introduced. Despite these interventions the outbreak occurred at 2 farms in the Gobabis district but was quickly confined and eradicated by stamping out livestock on the farms.

The first outbreak of FMD in the NCA was in 1945 in Kavango and was suspected to have spread from Angola or from Botswana in a similar way to the Gobabis outbreak. This outbreak was controlled by movement control and artificial infection. A series of outbreaks in the NCA followed in 1946, 1949, 1956 and 1958. Before the 1958 outbreak the authorities had realised the threat posed by contact with cattle from Angola. Measures were therefore put in place to mitigate this threat. It was recognised that the market for a considerable number of NCA livestock was in Angola. It is estimated that between August 1957 and May 1958, 12,000 to 15,000 had been exported illegally to Angola from Owambo. However, the cross-border movement could not be controlled easily as there were no fences or roads along the border between the Kavango and Kunene rivers. The 1958 outbreak prompted the authorities to erect a border fence between the Kavango and Kunene rivers patrolled by 72 border guards. A veterinary cordon fence was also erected on the border with Botswana. Figure 5 shows an example of a veterinary cordon fence.

Figure 5. Veterinary cordon fence

Movement from one district to another within the NCA was prohibited. There was a total ban on the movement of animals and animal products to the southern districts. These had been designated a “police zone”, which in essence was also the veterinary disease control area from which exports could be extracted. At that time the objective of disease control in the communal areas was to protect the commercial areas or the so-called “police zone.” Mass artificial infection was used in NCA to shorten the course of the epidemic, induce immunity and prevent endemicity.

The outbreak of 1961, which is rated as having had the greatest impact economically, resulting in some fundamental changes to control strategies, started in the eastern Windhoek District. It was suspected to have come from Botswana. Although movement control mechanisms had been established, the involvement of wildlife such as antelope species in the spread of the virus made it difficult to control, resulting in the decision to use vaccination and artificial infection as opposed to the slaughter-out policy which had been adopted for commercial areas in 1934. The rapid spread of FMD, propagated by game migrations and the failure of human-patrolled and fence cordons and stock free zones, resulted in the decision to introduce vaccination with live attenuated vaccine.

The situation was exacerbated by the drought of 1962, which forced the authorities to allow potentially infected animals to move to the northern districts of the commercial farming areas, causing further outbreaks there. However, some restrictions on movement remained, and a considerable number of livestock may have been lost due to starvation. In previous outbreaks the involvement of game had not occurred, and it is thought that the drought conditions contributed to increased contact between game and livestock at watering and feeding points. A total of 192,000 cattle and 420,000 sheep and goats died due to the drought.

Considerable human and material resources were marshalled to combat the outbreak. The initial strategy was to ban all movements of livestock from Namibia, and to create quarantine areas around the infected properties with an 80 km radius under 3 day interval inspection, a control area of an additional 80 km with weekly inspections and an inspection zone where fortnightly inspections were carried out. Virtually all northern and central districts were within the control areas. The control zones remained in force until 1974.

Human-patrolled cordons were used during the outbreak, with up to 3,000 personnel. In principle, this strategy is still relevant today, as it has been adopted in the National FMD contingency plan. Although high numbers of people were used at a rate of 6-9 people per mile, the spread of the disease by movement of game could not be stopped. By December 1962 over 3,100 km of game-proof fences had been erected at a cost of R574,000. By 1980 a whole host of other fences had been erected ranging from stock-proof to game proof fences as summarised in table 2.

Table 2. Total length of fences in 1980

Fence Type	Length in Kilometers
Game-proof fence 2.6 m, 17 wire strands	3,808
Jackal-proof fence 1.4 m, wire mesh	360
Game-proof fence 2.6 m, 17 wire strands and 2 metre-mesh	451
Stock-proof fence 1.4 m, 6 wire strands	2,015
Stock-proof fence 1.4 m, 8 wire strands	472
Elephant-proof fence 2 m 4 cable	72

A combination of vaccination, human-patrolled cordoning, erection of fences (figure 5), stock-free zones, movement restriction, and a normal rainfall season during 1962/1963 helped to bring about the end of the epidemic by December 1962. The 1964 Kalkfield outbreak was localised. It was eradicated within 6 weeks by the application of measures that had been adopted in the 1961/62 outbreak. No further outbreaks have occurred in the FMD-free zone to date.

Outbreaks continued in the NCA as before at an average frequency of once every three years since 1962. However, there has been a shift in the epidemiology of the disease. No further

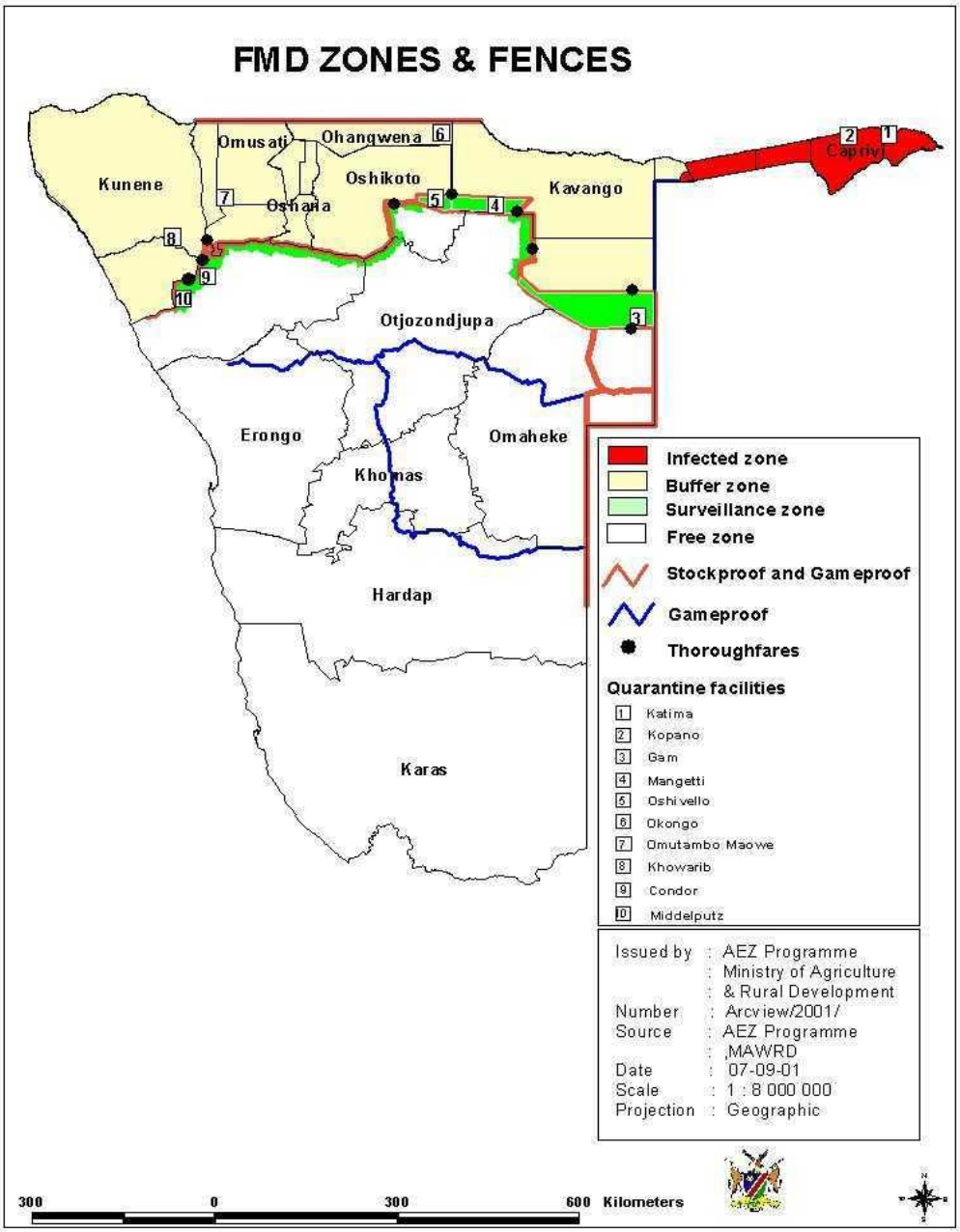
outbreaks of FMD due to the Type A virus occurred after 1967. Thereafter only SAT virus outbreaks have occurred. The disease ceased to occur in Kunene in 1958, Owambo in 1970 and in Kavango in 1992. Since 1971 all outbreaks with the exception of the last one in Kavango have been in the Eastern Caprivi Region and have been associated with African buffalos resident in the region. Angola apparently became less of a problem as a source of FMD than as a source of CBPP. During the period prior to 1972, when routine mass vaccination was introduced in the NCA, vaccination was a tactical measure aimed at containment of outbreaks.

Figure 6. FMD vaccination in Omusati region in 2007

The current FMD control strategy is based on the principles of early detection/early reaction, animal movement control and strategic and mass vaccination in high risk areas (figure 6). Should the disease occur in the FMD-free zone (south of the VCF), the policy is to eradicate the disease in the shortest possible period and regain export markets as quickly as possible.

The early detection/early reaction strategy is underpinned by routine active surveillance activities such as farm inspections, community visits, ante- and post-mortem inspections at abattoirs, supervision of livestock auctions, export certification and inspection of imported animals, disease investigations and structured serological surveys in domestic and wild animals. Animal movement control is administered through a permit system supported by livestock branding, livestock identification and traceability using ear-tags with the information fed into a wide area network-operated database system. The VCF and the network of game-proof fences which are maintained and patrolled constitute physical barriers to movement. The Kunene, Kavango and Zambezi rivers are considered to be natural physical barriers along the northern borders.

Figure 7. FMD control zones of Namibia



The disease control strategy is based on a zoning system primarily linked to FMD status. Disease prevention is through a system of movement controls and preventative vaccination against the major diseases. Livestock movement in all zones is controlled through individual producer identification (by brands), individual animal identification using ear-tags and a permit system. The different zones are described below and their location shown in figure 7, as well as quarantine farms, the VCF, veterinary check points and game-proof fences.

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Infected zone - so called because of the high risk of FMD outbreaks due to the presence of free-roaming buffalo. FMD vaccinations are carried out bi-annually. The boundary with the buffer zone consists of the Okavango River and a game-proof fence bordering the Muhango game reserve. Prophylactic vaccination against FMD is practised. Movement of cloven-hoofed animals to the buffer zone may be allowed in exceptional cases after negative serology and a three-week period of quarantine.

Buffer zone - this zone is free of free-roaming buffalo and borders the infected zone and areas bordering neighbouring countries considered as high risk. The southern boundary of this zone is formed by a game- and stock-proof double-fenced corridor (VCF). Annual prophylactic FMD vaccination is practised in some areas and regular inspections are carried out. Movement of cloven-hoofed animals and their products into the free zone is not permitted. Movement of small stock to the free and surveillance zone is only allowed after a three-week quarantine period followed by negative serology in sentinel cattle running together with them during the period. The animals are quarantined at the farm of destination for a further 90 days before they can move under permit in the free zone.

Surveillance zone - this is a buffalo-free zone in the FMD-free area which is at least 2 farms deep south of the cordon fence. There are intensive livestock inspections and no FMD vaccination is permitted. Movement from this zone is permitted for direct slaughter at quarantine abattoirs or after three weeks' quarantine for movement to the free zone.

Free Zone - this is an area south of the surveillance zone where no FMD vaccination is permitted and which is free of buffalo. Because of the strict controls in other zones, relatively free marketing is allowed. The FMD-free zone is recognised by the World Organisation for Animal Health (OIE).

Contagious Bovine Pleuropneumonia

CBPP, commonly referred to as lung sickness, is confined to the NCA, and, in addition to FMD, is one of the reasons for the presence of the cordon fence. The disease has a long history in Namibia, having entered the country in 1856 due to the movement of transport oxen. Its arrival in the country in those early days resulted in severe losses to the indigenous pastoralists. Control was by quarantining, movement control and vaccination using the method developed by Willems, so that by 1904 the disease had been almost eradicated from the central and southern areas, but it spread again following the Herero war of 1904 and similarly during the takeover by South African military in 1915. CBPP was eradicated in 1919 from commercial farming areas but remains endemic in the NCA despite vaccination campaigns.

Eradication efforts were not successful because the disease continued to spread into Namibia from Angola due to movement of cattle across the border. A fence was erected on the Angolan border in 1958 to help in the control of CBPP. Endemicity was, however, confined to the Owambo region, with sporadic outbreaks being experienced in Kaokoland and Kavango. The Eastern Caprivi Region experienced some outbreaks in 1932 and 1937 that were suspected to have spread from Botswana and Zambia. The Caprivi Region had remained free of CBPP until August 2004, when the disease was introduced by the illegal importation of cattle from Zambia. Outbreaks have continued in Eastern Caprivi, where the disease appears to have become endemic but under control. In Kavango and Kaokoland outbreaks have been successfully controlled each time by vaccination, slaughter of infected or suspected cattle, movement control and quarantine. Annual vaccination campaigns have become the norm in all the NCA.

The eradication of CBPP can only be achieved if there is a cessation of movement from Angola or if control or eradication measures are introduced and effective in the southern areas of Angola and Zambia.

The Animal Health Technical Perspective

From a national perspective, the major challenges affecting the marketing of livestock and livestock products in the NCA of Namibia are perceived to revolve around the presence of the VCF, which divides the country into essentially two FMD control zones. The areas south of the VCF are recognised by the OIE as FMD free and thus are able to access local and international markets. Areas north of the veterinary cordon fence, however, are regarded as

under threat from FMD, with the presence of CBPP further justifying the existence of the fence. The unfavourable transboundary animal disease situation in areas north of the VCF, which results in the imposition of certain restrictions on local and international markets, is considered to emanate from two possible sources. Firstly, the Eastern Caprivi Region is considered an infected zone due to the presence of free-roaming, wild African buffalos (*Syncerus caffer*), which are known to be long-term carriers and reservoirs of FMD virus. The Kavango region, which borders the Caprivi Region, has been designated as a buffer zone for FMD control with vaccination to protect the FMD-free zone to the south. Secondly, the animal health status of the neighbouring countries where disease control measures are not on a par those in Namibia imposes further constraints for establishing disease-free zones in areas north of the VCF west of the Kavango region. The NCA (including the Kavango region) are therefore designated as part of the buffer zone. All cattle in the Kavango region are vaccinated annually using the bivalent (SAT1 and SAT2) FMD vaccine, whilst a 60 km deep strip along the Angolan border (stretching between the Kavango and Kunene rivers) is similarly vaccinated (see Disease Setting). The entire cattle population in the NCA region is also vaccinated annually against CBPP using the Botswana Vaccine Institute T_{144} vaccine. The vaccination campaigns, which are run by the government, cost approximately N$ 6 million annually.

The animal disease situation in southern Angola remains largely unknown after many years of civil strife. This is further compounded by the lack of effective mechanisms for animal movement control within the NCA and from and to Angola. The return of peace and stability to Angola and the possibility of re-establishing disease control measures offer perhaps the best opportunities for the areas north of the VCF to achieve FMD- and CBPP-free status. The lack of progress in eradicating CBPP in the northern areas after many years of prophylactic vaccination is the result of the continued influx of cattle from Angola. CBPP places further constraints on the marketing of livestock from the NCA, and even if FMD-free status were to be achieved in the area, the restriction on the trade in live cattle to areas south of the VCF or external markets would still remain in force.

Over and above the apparent technical animal disease situation are a myriad of problems that emanate from historical, political, economic and social spheres.

This study is an overview mapping report on the key challenges and issues facing the livestock sector of Namibia with particular reference to the NCA and focuses on market access for livestock and livestock commodities and on FMD and CBPP as key constraints to market access.

Contexts and developments

The historical and political perspective[1]

During the periods of German colonial administration, which started in 1884, and the South African military occupation which followed and which lasted from 1915 until independence in 1990, little attention was given to the development of communal areas and to areas north of the VCF in particular. The construction of the VCF in the early 1960s separating the NCA from the predominantly white-owned commercial farms to the south and its use by the South African occupation forces to restrict the movement of people and animals facilitated the South African Government's policy of separate development (apartheid) in pre-independence Namibia.

With the attainment of independence in 1990, the issue of the VCF came to the fore and the apartheid symbolism that the fence had portrayed during the armed struggle for independence

[1] Much of the historical information in this study is derived from a publication by J. Rawlinson, (1994).

became a major issue that immediately placed the first post-independence government under enormous pressure to remove the fence. Movement towards the translocation of the cordon fence to the northern border was, however, made difficult by civil war in Angola during the first ten years of independence. However, among other things, the return of peace and stability to Angola and the current democratic and constitutional dispensation prevailing in Namibia makes it difficult for the government to justify the continued presence of the fence when the technical mechanisms to deal with the issue are apparently available.

Before the German occupation in 1884, the animals marketed from the territory belonged to the indigenous people, mainly the Hereros and the Namas. Documented trade started around 1835, when livestock (cattle, sheep and goats) was bartered for rifles, ammunition, horses and trinkets, as well as a considerable amount of brandy and wine. Many of the traded animals found their way to the Cape Colony, the goldfields of the Transvaal and to ships on the Atlantic Ocean which were involved mainly in the mining of guano on the island of St Helena. Major constraints at the time were the lack of handling facilities at the coast, lack of water on overland tracking routes and taxation on animals traded in the Transvaal.

In 1884 the territory was colonised by Germany, and, although trade conditions remained principally as before, the epidemic diseases (rinderpest and lung sickness), uprisings by the Nama and Herero people and the Anglo-Boer War of 1899-1902 significantly constrained trade with South Africa. At the end of the rinderpest epidemic in 1898 there was some modest recovery in the export trade, but the net effect of the events was that the territory temporarily became an importer of livestock. There was also a shift in livestock ownership from the indigenous people to the white settlers during this period. Attempts to export live cattle and processed meat primarily to Germany were made difficult by high shipping costs, veterinary restrictions, poor product quality and taxation.

German occupation came to an end at the beginning of the First World War in 1914, giving way to the period of occupation by the South African military of 1915-1919. This period coincided with the arrival of the railway at Karasburg, raising hopes for easier transportation to South Africa. However, the use of the railway network to transport animals resulted in them losing considerable weight, as it took many days to get animals to the market. Further development of the railway to cover much of the territory, providing a major step in the marketing chain, was completed in 1930. In 1919 a Governor General was appointed and mandated to govern the territory and in 1921 Namibia became part of Southern African Customs Union (SACU).

During the 1920s the livestock population had grown to over 500,000 cattle but the indigenous farmers only had some 70,000 animals. The increase in livestock numbers prompted the territorial administration to initiate marketing strategies that included the reduction in rail tariffs to the Union, reduced export tax, establishment of corned beef factories and the construction of cold stores at Walvis Bay in 1926. Export abattoirs were established at Windhoek and Okahandja in 1922. The Walvis Bay harbour was also developed extensively to handle frozen beef and live animal exports. The period 1918 to 1933 was therefore characterised by the industrialisation of the livestock sector by the construction of processing plants and the establishment of transport infrastructure with the construction of railway lines and a harbour at Walvis Bay. This resulted in the capacity to export live animals to Europe including the Spanish overseas territory of Tenerife and some African countries such as Angola and Belgian Congo.

Major constraints during this period were due to depressed international prices as a result of the depression in 1933, overdependence on South African markets, droughts, inefficiencies in the railway transport sector and the closure of the Liebigs beef extract factory. It was, however, a period relatively free of major epizootics. A total of 605,576 cattle were marketed of which 480,845 were live whilst nearly 900,000 small stock were also marketed over the 13 year period.

The period 1934 to the end of the Second World War began with an FMD outbreak that occurred in the Gobabis District and resulted in some disruption of trade to South Africa. The outbreak was quickly controlled and exports resumed and assumed their pre-outbreak levels in 1935. The 1930s saw the introduction of regulatory measures with the establishment of the Meat Control Board in South Africa to regulate supply and demand at the Johannesburg livestock market to take care of irregularities that had emerged in the livestock sector such as speculation on the market, oversupply and falling prices. In 1934 the Meat Control Board was superseded by the formation of a more representative board, the Livestock and Meat Industries Board (Meat Board), which was established as a statutory body mandated to regulate the sector. This was followed later by the establishment in 1935 of the Meat Control Board of South West Africa (SWA), which was subordinate to the Meat Board of South Africa. The SWA Meat Control Board's function was to regulate livestock supplies to South Africa. Parallel to the establishment of the regulatory framework was the emergence of livestock agents (auctioneers), who evolved to form the Agra Cooperative Society and Karoo.

The pre-war oversupply was soon wiped out by an increase in demand as a result of the Second World War leading to shortages. On average 91,928 cattle and 130,108 small stock were marketed annually to the Union during the 1934 to 1945 period.

During the post-war decade (1946 -1956), there was an increase in cattle production in the territory that averaged 159,397 per annum for the eleven years. Small stock production was dropping as Karakul production increased. The problem of pricing became topical during this period and numerous attempts were made to manage and rationalise prices through the establishment of committees and commissions. The period of the depression, the war years and the post-war periods were characterised by increased dependence on the Union markets and in essence the territory's livestock suffered due to unfavourable treatment on the market and bore the brunt of price fluctuations. Different marketing regimes were explored as a result, but eventually the principle of auctioning on the hook with guaranteed minimum prices per grade and weight was adopted. However, the other control measures that had been established earlier were retained, i.e. the regulation of supplies by way of permits, the registration of factories and control of the distribution of products.

In the period 1957 to 1969 there was growing concern over the predomination of the South African market, the more so as it was becoming apparent that the growing production in the Territory could not be absorbed in that market. In 1962 the SWA Meat Board was given authority to take initiatives to export livestock, to impose levies on slaughter stock and to control meat trade. Although not entirely autonomous, the SWA Meat Board exported increasing amounts of frozen meat to Congo, UK and Zambia. Marketing and production conditions were generally more favourable during this period despite the outbreaks of FMD in Gobabis district in 1961 and at Kalkfield in 1964. The meat processing industry was also seen as a stabilising factor for the livestock industry.

The 1961 outbreak, together with the last one in the commercial farming area at Kalkfield in 1964, was quickly and efficiently controlled and the impact on trade was minimised. Both outbreaks were suspected to have originated from Botswana. Although outbreaks of FMD had been regular in the NCA prior to 1961, they had apparently not been seen as a threat to the commercial farming sector to the south. However, the 1961 FMD outbreak prompted the authorities to construct the VCF separating the two farming sectors. The objective of the strategy adopted to control outbreaks in the NCA was suppression rather than eradication, as there was no threat to external marketing of livestock and livestock products.

During the period 1970 to 1990 the meat processing industry was increasingly experiencing viability problems and was periodically incurring substantial losses due to reduced throughput (as low as 20% in some cases) as producers continued to divert slaughter stock to the RSA for pen fattening or slaughter. Droughts in the late 1970s and early 1980s also adversely

affected the livestock industry. The local processors were unable to compete with the external market on the basis of price and their processing capacity, although it stood at 190,000 at the time, was constrained by lack of back-up by auxiliary facilities such as cold stores. The RSA market continued to dominate in the 1980s, while beef prices on the international market were depressed. From 1982 onwards, the Meat Producers Association played a more constructive role in mitigating the problems the meat industry continued to face. They for instance introduced meat industry levies to subsidise the meat factories and to discourage export on the hoof. Measures to consolidate the processing industry were also initiated with the establishment in 1985 of Swavleis (Pty) Ltd which took charge of the four existing factories under a shareholding arrangement consisting of Agra, Karoo and FNDC. The destabilising effect of the drought of 1983 and 1984 and the withdrawal of subsidies by the RSA Government led to this development. The preceding events and the lack of working capital immediately hamstrung the operation of Swavleis (Pty) Ltd, which led it to sell its assets to the Territorial Administration, giving rise also in 1985 to the present day Meat Corporation of Namibia (Meatco).

The entry of Meatco onto the scene resulted in a considerable measure of success in stabilising the meat processing industry in Namibia. Meatco, which was formed as a statutory body, was mandated to promote the welfare of the livestock industry, run meat processing plants and market products locally and abroad. To rationalise the industry Meatco closed two abattoirs (at Gobabis and Otavi), and diversified its manufacturing capacity to include bone meal, venison and pet food. Meatco also took over its own marketing in RSA, established a marketing scheme for small stock, entered the EEC beef export market, commissioned a well-equipped tannery in 1993 and in 1992 took over the abattoirs and butcheries in Oshakati, Rundu and Katima Mulilo.

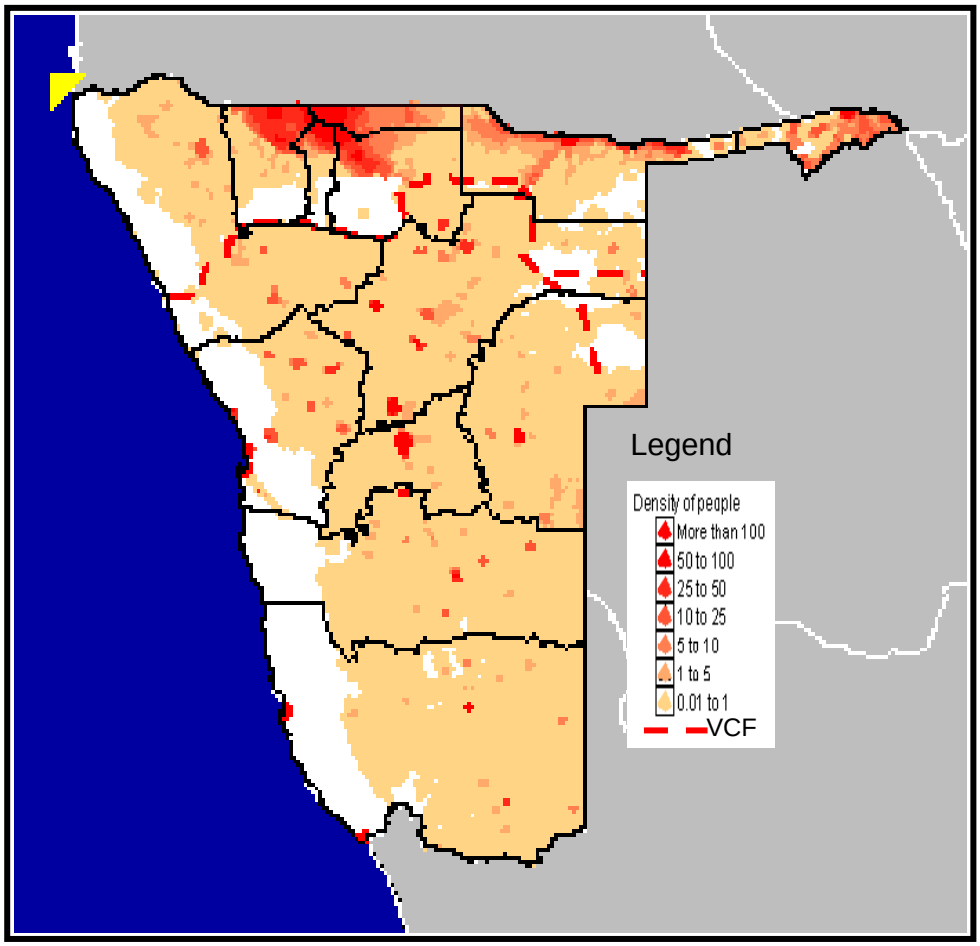
Entry into the EEC market with an initial quota of 10,500 tons in 1991 and 1992 and 13,000 since 1993 marked a turning point in the profitability of Meatco, realising a profit of N$ 10 million during the first year, of which N$ 4.4 million was paid to producers. Meatco, however, was statutorily not obliged to pay tax until 2005, which resulted in a saving of about N$ 169 million since 1993.

The social and developmental perspectives

Prior to independence the NCA remained backward in terms of infrastructural development and in the delivery of social services such as health and education. As a consequence the northern regions lagged behind in socio-economic development, resulting in high levels of poverty. This led to a dual economy with a tiny, predominantly white, minority controlling a major share of the country's economy. Although Namibia has a per-capita income of US$ 2,840, which places the country in the middle income category, the income distribution is highly skewed, with the richest 1% of households earning more than the bottom 50%. It is also estimated that the bottom 50% live below the average income of other sub-Saharan African countries. Namibia has the highest income inequality in the world, with a Gini index of 74.3 (Human Development Report, UNDP 2006). This disparity is also reflected in the distribution of land, where it is estimated that 150,000 communal households occupy 42% (33.5 million hectares) of arable land while 4200 commercial farmers own 43% (36.2 million hectares). In addition to this, the dual colonial agricultural policy availed considerable resources to create a modern commercial farming sector on one hand and an impoverished and neglected communal sector on the other that to all intents and purposes was to provide the white-owned commercial farming and mining sectors with a reserve of cheap labour. The Households Income and Expenditure Survey (HIES) of 1993-1994 indicated that 60% of Namibian households were poor and 85% lived in rural areas, of which 70% resided in the NCA.

According to the National Census of 2001, nearly 60% of the population resided in the NCA. The map in figure 8 illustrates the distribution of the human population in Namibia.

Figure 8. Human population density in Namibia (2001 census)



The NCA had a population of 1.1 million (table 3) and the rest of the country had a population of 0.7 million. Population density was highest in the NCA at 5.7 people per square kilometre as compared to 1.2 for the rest of the country. Areas north of the VCF only constituted less than a quarter of the land mass. Table 3 summarises the population distribution in Namibia according to the different regions.

Table 3. Population distribution in Namibia according to regions

Region	Population	Square Km	Population Density/Km^2
Areas North of the VCF			
Caprivi	79,826	14,528	5.5
Kavango	202,694	48,463	4.2
Ohangwena	228,384	10,703	21.3
Omusati	228,842	26,573	8.6
Oshana	161,916	8,653	18.7
Oshikoto	161,007	38,653	4.2
Kunene North	41,626	46,117	0.9
Areas South of the VCF			
Kunene South	68,735	69,176	1.0
Otjozondjupa	135,384	105,185	1.3
Omaheke	68,039	84,612	0.8
Khomas	250,262	37,007	6.8
Karas	69,329	161,215	0.4
Hardap	68,249	109,651	0.6
Erongo	107,663	63,579	1.7
National	**1,871,956**	**824,115**	**2.3**

Other crucial dimensions to the issue of the poverty equation concern gender, HIV and AIDS. It was estimated by the UNDP (2001) that 33-57% of households in the NCA are headed by women. Such households were found to have less than half the median income for married couples. HIV and AIDS have also taken their toll on the population, further reducing productivity and entrapping the affected population in a vicious cycle of poverty and deprivation.

The lack of infrastructural development such as the provision of water also contributed to environmental degradation, as people and livestock congregate in areas where water amenities are available whilst vast tracts of land in the NCA remain underutilised due to the absence of water. It is estimated that 3.9 million ha of such land is available in eastern Oshikoto, north-western and southern Kavango and western Caprivi.

Transfrontier movements and grazing

At the time of colonisation boundaries were drawn without taking into consideration age-old socio-cultural links that had existed previously. It was inevitable that there would be continued interactions of communities on either side of the border and with it the exchange of livestock and sharing of grazing resources. For example, the Angola-Namibia border divided the biggest Oshiwambo speaking tribe (the Kwanyamas) right through the middle, making it difficult to prevent cross-border animal movements between the two countries. The shortage of grazing in the Ohangwena and Omusati regions has resulted in large numbers of livestock, estimated by the Social Anthropological study of 2005 to be around 70,000 cattle, seeking grazing in Angola (Anon, 2005b). According to that study, without access to grazing in Angola, the grazing capacity in the two regions would be exceeded two-fold. There is a standing arrangement between Namibia and Angola that allows people and livestock to move freely within 30 km on either side of the border. It is inevitable that without the resolution of grazing problems the people of the two countries would resist the erection of a cordon fence on the northern border of Namibia.

Complicating the grazing problem has been the development of an extensive process of private enclosure of grazing in the NCA by local businessmen, officials and other influential and wealthy members of society (mostly absentee farmers). It is speculated that this may be in

response to the anticipated translocation of the VCF. It may therefore be expected that when zoo-sanitary barriers that militate against investment in livestock are removed or reduced, pressure on the commercialisation of land will increase, leading to pressure on grazing (Social Anthropological study, 2005). This is probably inducing unfavourable conditions for the resource-limited farmers in the area. The Control Chief Animal Health Technician of Oshikoto (Shaumbwa 2006, personal communication) estimates that over 50% of communal land in Oshikoto has been fenced off. The Social Anthropological study of 2005 found that there was a direct and intricate relationship between the informal fencing and the relocation of the VCF. It is noted in the study that measures taken for the relocation of the VCF must be addressed in tandem with measures to control fencing in communal areas.

A study conducted in 2000 by the International Development Consultancy (IDC) on behalf of the Ministry of Lands, Resettlement and Rehabilitation, while acknowledging that there were livestock marketing constraints in the NCA, concluded that socio-cultural issues surrounding livestock ownership had a significant bearing on the off-take of livestock into the formal marketing system (Anon 2002). The study also highlighted the issue of the VCF, poor conditions of access roads, marketing facilities that were far from livestock production areas, lack of transport, low prices and lack of marketing information as further curtailing market accessibility and utilisation in NCA.

The IDC study of 2000 pointed out that a combination of the above factors was leading to an increase in livestock numbers in the NCA, which has resulted in the deterioration of the available pasture to 50% of its original potential. This was observed particularly in areas close to watering points and populated areas. The IDC study recommended that under-utilised areas be developed into commercial ranching as part of a strategy to move the VCF progressively to the northern border of Namibia by decongesting the NCA. This notion is supported by the Communal Land Reform Bill, which recognises the need for individual farming units. The establishment of individual farming units in areas north of the VCF has, however, suffered from lack of adequate state funding in comparison to that provided to white commercial farmers to the south of the fence in the past.

The marketing constraints

Areas south of the veterinary cordon fence enjoy relatively unrestricted access to international markets, particularly to the lucrative markets of the EU, Switzerland and Norway (European Free Trade Area countries). Areas north of the VCF only have restricted access to the domestic and RSA markets.

The formal marketing system in the NCA is beset by a number of institutional inadequacies that relate to accessibility as a result of long distances to markets, lack of market information, low prices and inadequate farmer education and training, as well as veterinary restrictions such as pre- and post-slaughter quarantine. At the farm level, off-take constraints were attributed to the farmers' lower reliance on livestock for their livelihoods due to comparatively more diversified off-farm income such as government pensions and remittances from off-farm employment. Farming was more of a social activity for a significant number of livestock owners, and the influence of traditional livestock ownership practices was strong. Farmers only sold animals to cover immediate cash needs such as school fees, grazing and water were free, and most practised mixed crop/livestock farming (Anon 2002; Breytenbach 2006, personal communication). The farm level factors were strongest in the North Central Regions of Oshikoto, Ohangwena, Omusati and Oshana (Breytenbach 2006, personal communication). Off-take from Kunene was, however, higher (8%), because the farmers in Kunene relied more on livestock for their livelihoods on account of the drier conditions there than elsewhere in the NCA. Livestock from Kunene, for instance, contributed over 60% of the cattle slaughtered at Oshakati abattoir, (B. Makodi 2006, Personal communication).

Farmers in NCA incur high transaction costs when marketing their livestock to Meatco abattoirs, mainly due to transport and quarantine. The total costs of quarantining and transport are estimated at about N$ 393, of which 68% was due to the loss of weight suffered by animals trekking to and during quarantine, 26% to transport costs and 6% to labour to look after the animal during quarantine. In 2006 Meatco estimated that N$ 700,000 of interest is lost due to the post-slaughter 21 day quarantine of meat (Breytenbach 2006, personal communication). A similar margin of loss in interest could be assumed to be incurred by farmers during the pre-slaughter 21 day quarantine.

Meatco, as the sole institutional buyer of livestock in the region, has experienced a number of viability problems in its NCA operations due to low throughput, poor quality animals and lack of consistency in the supply of slaughter stock at the two abattoirs it runs on behalf of the government. The quality of animals was poor because of the advanced age at which animals are presented at markets, low nutritional status of the animals and the low carcass weights. The market demands larger, young animals from which large cuts can be obtained. The average carcass weight for the NCA was 160 kg, falling far short of the ideal requirement of 230-280kg. Typical Sanga cattle are shown in figure 4. Carcass weights were better at Oshakati abattoir (180 kg) than at Katima Mulilo abattoir (150 kg). Most carcasses (68%) at the two abattoirs in 2005/6 were grade C, 18% grade B and only 14% were grade A. As a result of this the meat fetched lower prices.

In 2006, 42% of the carcasses from south of the VCF had the ideal carcass weights of 230-280kg and only 24% of carcasses did not yield cuts for the EU market (Meatco Annual Report 2005/6). For example, carcasses from Katima Mulilo abattoir were only suitable as manufacturing beef in RSA. The quantity of offal and the size of the hides were small, but the overheads incurred by the abattoirs in processing the small animals were generally similar to those for large animals. In general, marketable products from smaller animals were less than would be realised from larger animals. The overheads for slaughtering and processing animals at the current throughput were approximately N$ 1,000, whereas the costs would be around N$ 500 at optimal throughput, which is estimated at 63,000 animals per year for both abattoirs. Veterinary restrictions also do not allow for the marketing of offal produced in the NCA abattoirs south of the VCF, forcing Meatco to sell the products at low prices.

Meatco has since 1993 spent N$ 123 million in operational losses, N$ 35 million in infrastructural developments and N$ 15 million in additional producer premiums to support and sustain the meat industry north of the VCF (Anon 2005a).

The overall (formal and informal) off-take from the NCA is approximately 5-8% as compared to 24% south of the VCF. This is despite ongoing institutional support that includes technical support, capacity building and infrastructural development.

On the other hand, a vibrant informal marketing system of livestock exists which is closely linked to Angola. However, there has been limited institutional support for this sector, which is estimated to supply over 50% of the meat consumed in the NCA. It is estimated that 40,000 cattle are slaughtered for own consumption or in the informal markets. Anon, (2000) estimated that overall cattle off-take could therefore be in the region of 7-8% and for small stock to be around 25-30%. The informal market has also had the effect of providing market access to animals from Angola. Anon (2000) estimated that 83% of the livestock traded at Ombalantu livestock market, ranging from 15,000 to 20,000 per annum, were derived from Angola. The state veterinarian for Ohangwena estimated that over 90% of the livestock slaughtered in the informal meat markets in the region were also from Angola (Shoombe 2006, personal communication). This trade was promoted by higher prices offered in Namibia, demand for consumer household goods, human and animal health care and other social amenities that are not readily available in Angola. Indeed, this has been a reversal of fortunes, as Namibians used to flock to Angola before independence to access services (Negumbo 2006, personal communication). The recent opening of two abattoirs at Shangongo and Okahama (where

competitive prices are said to be paid on the spot) in southern Angola may limit the future viability and attractiveness of the cross-border trade, (Negumbo 2006, personal communication).

Marketing chains of Namibian meat products

Namibia has one export approved cold storage facility and seven export approved abattoirs with cutting plants and cold storage facilities, four of which are approved to export frozen or chilled beef, lamb, ratite meat and game meat to the EU and other European countries (Switzerland and Norway). Meatco owns four of the seven export approved abattoirs, one cannery and one tannery. The other export approved abattoirs are owned by Farmer's Meat Market (lamb and game), Natural Namibian Meat Producers (lamb) and Karas Abattoir and Tannery (ratite and lamb and a tannery). The ratite industry has all but collapsed in Namibia owing to viability problems.

The marketing of Namibian meat is firmly embedded in the RSA market. This is due to historical circumstances and the trading arrangements under SACU. Most Namibian meat products find their way to the highly populated areas of RSA such as Gauteng, the Cape peninsula and Kwazulu-Natal province. There is limited value addition on the meat products destined for RSA and Europe. There are only two meat processors, namely Hartlief Continental Meat Products, which exports to RSA, and Windhoek Schlachterei, which supplies the local markets. There are also a number of biltong manufacturing outfits which export significant amounts of products to RSA.

The MBN provides the overall oversight and provides the policy framework for the marketing of animals and animal products and collects levies on behalf of the industry. It is mandated with the promotion of the welfare of the industry and runs a marketing scheme on behalf of the industry called Farm Assured Namibia Meat Scheme. Another important player is the Abattoir Association, which represents the interests of the major abattoir operators and meat processors.

Live animal exports destined mostly for the RSA feedlots are administered mainly by auctioneers such as Agra and Namboer, although middle men (speculators) also play a significant role. Export figures compiled by the MBN for live cattle exports to RSA are summarised in table 4, and those for live small stock exports in table 5.

Table 4. Trends in cattle production and export figures 2002-2005 (Source: Meat Board of Namibia, 2007)

	2002	**2003**	**2004**	**2005**
No. of Live Cattle Exported	251,711	150,222	143,444	209,379
Value Live N$	**290,750,016.52**	**314,203,674.98**	**297,027,343.45**	**543,164,011.01**
Tonnage Equivalent	22,103	27,906	26,226	44,822
% of Total Production	30.67%	39.40%	Not Available	54.88%
EU-Exports (Cuts) N$	**351,897,839.17**	**294,286,774.27**	**262,031,045.64**	**293,536,381.06**
Ton exported	11,655	11,894	10,441	10,658
Price per kg	28.39	Not Available	26.08	N$ 28.17
% of Total Production	16.17%	16.79%	16.11%	11.39%
RSA-Exports	**293,724,078.17**	**222,988,776.67**	**269,330,300.36**	**313,424,556.26**

	2002	2003	2004	2005
N$				
Ton exported	11,739	10,287	12,580	13,112
% of Total Production	16.29%	14.53%	19.41%	14.89%
RSA- Export of cans N$	**10,077,317.87**	**14,180,545.97**	**39,274,321.30**	**56,029,803.30**
Total tons exported	866	1,472	3,906	5,150
% Total Production	1.20%	2.08%	6.03%	7.03%
Total tons exported	46,362	51,558	53,153	73,742
Total tons produced	72,055	70,820	64,815	85,220
% of Total Production	64.34%	72.80%	82.01%	88.18%
Total value of exports N$	**946,449,251.73**	**845,659,771.89**	**867,663,010.75**	**1,206,154,751.62**

Table 5. Trends in small stock production and export figures 2002-2005 (Source: Meat Board of Namibia, 2007)

	2002	2003	2004	2005
Number of Live Sheep	881,422	836,179	493,060	* not available
Number of Live Goats	251,711	278,594	261,402	* not available
Total Number of Small Stock	1,133,133	1,114,773	754,462	* not available
Value N$	279,818,627.14	246,757,758.73	193,018,078.93	167,259,922.25
Tonnage exported	17,141	15,899	12,050	9,863
Value Export of Carcasses N$	75,691,807.57	81,142,887.44	116,202,922.26	240,542,319.91
Total tons exported	4655.63	5215.35	6940.32	14354
Total ton exported	21,797	21,114	18,991	24,216
Total tons produced	22,372	21,347	19,524	24,664
% of Total Production	97.43%	98.91%	97.27%	98.26%
Total value of exports	N$355,510,434.71	N$327,900,646.16	N$309,221,001.19	N$407,802,242.17

The role of auctioneers in the marketing of live sheep has dwindled following the government policy directing that only one live sheep shall be exported for every 6 slaughtered locally. This has resulted in most sheep going directly to abattoirs with only 10% going through auctions. There are no slaughter facilities for goats in the country and therefore goat meat is only available through the informal system. Nearly 90% of all goats traded south of the VCF through the formal system are destined for RSA's markets. According to the MBN, 261,000 goats were exported to RSA in 2004, with most of them destined for Northern Cape province and KwaZulu Natal (Anon 2004).

Most beef is exported by Meatco to RSA and the EU, including meat produced in abattoirs in the NCA. Also coming online after being closed for two years is the Witvlei abattoir, which has been approved for the export of beef in 2007, as well as Aranos abattoir. Namibia Allied Meat Corporation (NAMCo), which is 100% producer owned, is concerned with the export of lamb and controls about 54% of marketed lamb derived from Meatco and Karas Abattoir and Tannery and the rest is shared by other operators, namely Farmers Meat Market in Mariental and Aranos Abattoirs. NAMCo holds a 50% shareholding of the South African lamb marketing enterprise called Just Lamb, enabling producers to benefit from profits generated by value addition of lamb in RSA.

Meat products entering the RSA market are destined for South African-owned or wholly or partially Namibian-owned wholesalers. In turn, the wholesalers direct the products into the major retail chains in RSA such as Woolworths, Shoprite, Checkers and Pick and Pay, or Namibian exporters supply these major chain stores directly. Woolworths pays premiums on Namibian meat products that comply with the FAN Meat Scheme administered by the MBN. The branding of Namibian products on the RSA market has not been efficiently promoted and in one case the branding of Namibian meat on the RSA market in one case is against company policy! The majority in the industry, however, actively endeavour wherever possible to market branded Namibian meat produce on the RSA market.

Policy framework

The overall national objectives, goals and aspirations are epitomised in the national vision document referred to as Vision 2030. Vision 2030 sets the goal of achieving development status for the country by 2030. The vision wishes to bring about equity in access to social services and facilities as well as access to production resources such as land, labour and capital. Vision 2030 recognises the need for the modernisation of the agricultural sector and acknowledges the need for strategies to overcome the limitations that the scarcity of water places on the realisation of this goal. Among the strategies that are highlighted under agriculture is the need to remove the VCF, which may result in the integration of the Namibian livestock market, as well as value addition to animal products.[2]

The foregoing National Agricultural Policy of 1995, whose term ended in 2005, placed emphasis on the development of the livestock sector in communal areas by providing expanded animal health, extension, research, training and advisory services in order to enhance productivity in the sector. The policy aimed to improve the animal health status of the communal areas in order to allow for the eventual marketing of animals and animal products on international markets. This was to be achieved by developing the institutions and physical infrastructure necessary to bring veterinary services to communal areas, including the recruitment of more veterinary professional and technical staff. The government policy on marketing was that of facilitation by developing an efficient market information collection and dissemination system that would provide timely and accurate price information for communal farmers in particular.

[2] The other significant policies are the National Land Policy of 1998, the National Water Policy of 2000 and the National Drought Policy and Strategy of 1998

Among efforts to achieve the goals of Vision 2030, the draft Agricultural Policy document of 2006 places a lot of emphasis on the need for intensification of production, innovation and marketing. This will entail a sector annual growth of 7%. This is against a background of a 3.5% growth in the commercial agricultural sector between 1995 and 2002. There was no growth in the communal sector during the same period despite the increasing cattle population. It is envisaged that the anticipated growth will be driven by the intensification of crop production through irrigation under what has been termed the 'Green Scheme'. The policy document also places great emphasis on the need to deal with poverty by uplifting the subsistence farm households in the communal areas through increased agricultural productivity.

The draft Agricultural Policy of 2006 explicitly recognises the need for the translocation of the veterinary cordon fence to the Angolan-Namibia border by implementing the OIE pathway for disease freedom in areas north of the veterinary cordon fence. The policy acknowledges the role neighbouring countries could play in achieving this objective. It goes further to suggest the establishment of an agency to manage the VCF translocation process. The government wishes to address marketing of livestock in the communal areas by absorbing some of the transaction costs incurred by farmers when marketing their livestock through the formal system by, for example, financing the development of feedlots and subsidising quarantine charges.

The agricultural policy also supports the establishment of conservancies in communal areas. Commercial rights over wildlife were given to freehold land owners since 1967 and in 1996 these were extended to communal areas. This has resulted in the establishment of 46 conservancies by 2005, covering about 35% of communal land, which has increased household income in some areas. How this will co-exist with the expansion of grazing areas in NCA needs to be established.

The agricultural land reform policy has two main objectives, namely to develop underutilised communal land and to decongest the communal areas by moving large scale communal farmers from communal areas to freehold tenure areas in the commercial farming areas located south of the VCF. Farmers, however, will not be able to move immediately with their livestock south of the VCF on account of the animal health situation in the NCA.

It would appear that the national policies to effect change in the socio-economic status of the NCA in terms of animal disease control, land and water utilisation, as well as marketing, are in place. But do they make sense? And can they be implemented?

Strategic studies

Since independence the Government of Namibia has been examining the problems around the VCF with a view to bringing the animal disease status of the NCA of North Central, Kavango and Kunene North to be on a par with areas south of the veterinary cordon fence. In this regard a number of studies have been conducted to look at mechanisms to achieve this.

The first comprehensive post-independence study to address the issues of the VCF was conducted by the International Fund for Agricultural Development (IFAD) in 1993 (Anon 1993). The IFAD study came up with eight possible options on how the veterinary cordon fence could be translocated in a stepwise manner or in one step to the northern border of Namibia. Option 1 dealt with maintaining the status quo with its present implications. Option 2 dealt with the translocation of the VCF to include 140,000 ha north of the Mangetti area. Option 3 dealt with the translocation of the VCF to the border with Angola. Option 4 dealt with the creation of a disease free zone in Northern Kunene. Option 5, which was viewed as the most difficult, dealt with the translocation of the VCF through part of Kavango, around Boesmanland and Caprivi, and option 6 examined the implications of abandoning the VCF. Option 7 was a combination of options 3, 4 and 5, requiring a 10 km deep vaccinated buffer zone along the border with

Angola. Finally, option 8 described what is perceived as the most ideal strategy, where little or no fencing would be required by implementing a regional animal health project covering southern Angola and northern Namibia. Option 8 can now be realistically explored given the return of peace in Angola. At the time of preparing this report, the Directorate of Veterinary Services opted to pursue options 2 and 4 as pilot projects. However, this has been put on ice following a recent Cabinet decision.

The SIAPAC and the Social and Anthropological community consultative studies established that the general opinion of the affected communities was that only a complete relocation of the fence would be a viable proposition because other alternatives would further divide communities, violate traditional boundaries and interfere with the traditional annual patterns of livestock migration.

Since the time of the IFAD report 13 years ago, a *de facto* adoption of option 1 has been the reality. During this time the government has tried to look at mechanisms to improve the marketing of livestock in the affected region by improving animal health and marketing infrastructure and services and the opening up of underutilised land for grazing purposes as part of efforts to broaden opportunities for farmers north of the VCF.

The IFAD study was followed by the formation of a multidisciplinary VCF taskforce consisting of representatives from all the directorates of the Ministry of Agriculture, Water and Rural Development in March 1997. The VCF taskforce, which is chaired by the Under Secretary of the ministry, has been tasked to develop a programme that would improve the animal health status of the NCA, eventually leading to the translocation of the veterinary cordon fence to the northern boundary of Namibia. The task force set out to do its work immediately and in June 1997 approached the FAO for technical assistance, which resulted in the commissioning of the Technical Cooperation Project (TCP/NAM/882- Livestock Improvement in the Northern Communal Area) in September 1998 (Anon 1999).

The project concluded that the translocation of the cordon fence partially or right up to the northern border would bring trade benefits that would stimulate an improvement in livestock production in the region. The FAO study considered IFAD study options 3, 4, and 5 as not feasible because they entailed the construction of a fence within a minimum of 10 km south of the Angolan border that would interfere with transhumance as a way of life and with social interaction across the fence, and would limit access to water in areas where the Kavango and the Kunene river form the northern border. Option 6 was dismissed outright because it would have resulted in the loss of the FMD free status of the whole country and a loss of access to the markets the country currently enjoys, and most investments in livestock development would be lost.

Both studies concluded that option 8 was the most feasible from a veterinary point of view in the event of a return of peace in Angola. The end of civil war in Angola has perhaps opened opportunities for this option to be achievable. The FAO and the Angolan government are currently working on a project to improve the animal health status in southern Angola.

The results of the SIAPAC community consultation study that was part of the FAO study indicated that partial relocation was poorly supported and there was generally support for moving the barrier to the border with Angola. An immediate and perhaps significant trade-off of this arrangement would be the long-standing informal trade in livestock, socio-cultural links as well as the sharing of grazing (which is in favour of Namibians) between the two countries. This would perhaps immediately put pressure on the success of this arrangement if tangible benefits are not realised by farmers. Both the FAO study and the SIAPAC consultancy noted that the success of this strategy would be underpinned by support for communities along the border, availability of government resources, reactivation of disease control in Angola and international acceptance of the proposed rezoning.

In 2005 the Social Anthropological study recommended that the livestock production landscape in the NCA needs to be restructured by implementing a livestock reduction scheme in Omusati and Ohangwena regions, developing small-scale commercial farms, and the establishment of an implementation structure for a five-year period. This was to be done in close cooperation with local traditional leaders and with cooperation from the Angolan government. Like other studies mentioned above, the Social Anthropological study advocated the commercialisation of livestock farming activities, dealing with the issue of absentee farmers and developing underutilised areas of the NCA.

Implementation

As part of a medium term strategy, the VCF task force decided to put forward an effective community animal health strategy, developing a favourable marketing scheme, minimising quarantine costs and improving livestock production extension in the NCA. The proposed strategy was presented to Cabinet on 30 May 2000, who duly approved it and it is cited as Cabinet Decision No. 16th/30.05.00/004.

The task force continued its work to produce a detailed implementation plan and a budget. Four subcommittees were then formed to look at the various strategic components which included animal health, trade and marketing, livestock development and rangeland management, and training. These subcommittees' terms of reference were to determine possible constraints, identify relevant stakeholders and role players and to plan activities and budgets for the implementation of the strategy. This was done and plans were approved by the MAWRD Minister in April 2001 (Anon 2001) and Cabinet subsequently approved a budget of N$ 28.1 million over a ten year period beginning in 2001.

The estimated costs of implementation of the various components of the programme were as shown in table 6.

Table 6. Funding structure of the VCF translocation fund

Component	MAWRD	DONORS	Meat Board	Total
Improvement of animal health status	1,420,000	7,321,000		8,741,000
Livestock Development and rangeland management*	13,400,000	1,750,000		13,150,000
Training	5,280,000		800,000	6,080,000
Marketing and trade	8,000,000		4,000,000	12,000,000
Total	**$28,100,000**	**$9,071,000**	**$4,800,000**	**N$41,971,000**

It was also proposed that additional funds amounting to N$ 1.2 billion were needed for the development of water infrastructure to open up new farm land as a mechanism to reduce dependence on Angolan grazing resources. It was proposed that this amount of money was to be sourced from the donor community.

<u>The animal health component</u>

Two major constraints to the translocation of the VCF identified by the task force under the animal health component were the threat posed by FMD and CBPP and the movement of animals across the Angolan border. To address these issues, activities were delineated with the ultimate objective of eradicating both diseases and stopping altogether the movement of livestock across the frontier in either direction. This was to be carried out with the cooperation of the Angolan government

The strategy was to suppress the incidence of the diseases by vaccination, livestock identification and movement control to a level that would make it possible to eradicate them by adopting a stamping-out and compensation policy on both sides of the border. Collaboration with Angola has already started and the two countries agreed to a common vaccination strategy. It was planned that vaccinations would stop in the fifth year by which time effective disease surveillance mechanisms would be in place and any new outbreaks would be subjected to a stamping out strategy. By the seventh year clinical freedom from FMD and CBPP would be declared to the OIE. By the ninth year the country would be declared FMD- and CBPP-free without vaccination with the exception of the Eastern Caprivi.

Movement control would be applied in a phased approach that would start with a planning and consulting phase in the first two years, including an anthropological assessment. The anthropological assessment was carried out in 2005 and is cited in this study. This was to be followed by a period of extension and community mobilisation, livestock identification, and tightening of control of cross-border movements in the third year. A border fence would be constructed in the fourth and fifth years at a cost of N$ 4 million. The figure is now estimated at N$ 20 million (Huebschle 2006, personal communication). Movement restrictions were then to be increased and subsequently stopped by the ninth year coinciding with the declaration of disease freedom.

The feasibility of the strategies became more promising with the ending of hostilities in Angola in 2002. However, it would appear that no real assessment of Angola's capacity, willingness or commitment to handle the situation in a similar manner to Namibia was made.

The restructuring of the Directorate of Veterinary Services in 2004 resulted in an increase in the establishment of qualified veterinarians in the NCA from six to 14. Three new state veterinary offices are at various stages of construction. A number of students have been sent abroad to train as veterinarians and the remuneration improved to reduce staff resignations. The NOLIDEP project has been instrumental in improving animal disease control and marketing. This has been achieved for example by the decentralisation of service delivery by the construction of 11 Veterinary Rural Extension Centres and 1018 new cattle handling facilities in the NCA.

Livestock development and sustainable rangeland management

The livestock development and rangeland management component focused on a number of very fundamental issues concerning livestock farming in the NCA that perhaps would form the foundation of the exercise. The main focus areas were on improving the genetic potential of the indigenous cattle and providing watering facilities, access roads and animal health facilities. Issues regarding rangeland management would involve reclamation of degraded rangeland, opening up of underutilised land for grazing (5.8 million ha), managing the problem of veld fires and drought and, most difficult, trying to change the traditional outlook on livestock farming.

Training component

The training component's focus would be on the recruitment and training of additional veterinary and extension staff and community mobilisation and farmer training. Under the NOLIDEP project, over 3,074 farmers have been trained, as well as 173 community animal health workers (CAHWs).

Marketing

The marketing component, led by the Meat Board and Meatco, was tasked with addressing issues concerning the fact that that there were insufficient incentives for marketing the right

type and quality of animals, markets for products within the NCA were limited and price information was not accessible to producers. Prices were low due to lack of competition, procurement of finished livestock was problematic because of the absence of speculators and agents, and the quarantine process was a disincentive for selling livestock. To make markets more widely available to farmers, it was planned that new marketing facilities would be constructed, local entrepreneurs and cooperatives would be assisted to establish marketing agencies, and speculators and agencies would be provided with financial and technical support. The issue of quarantine (although it would be an interim measure awaiting the attainment of disease free status) would be alleviated by encouraging self quarantine and the construction of quarantine feedlots. The marketing component was also to consider issues of reviewing international agreements (EU, WTO) and addressing consumer concerns such as animal welfare and food safety.

To address the issues of quality, consistency and throughput, Meatco, the MBN and the Ministry of Agriculture, Water and Rural Development have adopted a multi-pronged approach which includes the following:

- Farmers are trained in grading and pricing of animals as well as financial management and discipline. The training, which is carried out in conjunction with the Ministry of Agriculture, Water and Forestry staff, also includes livestock production, rangeland management, market needs, marketing channels and options. N$ 2.5 million was spent on these activities in 2005/6.
- Meatco assists speculators by allowing them to use its auction facilities free. of charge. Speculators in turn assist small-scale farmers who cannot raise the minimum 3 animals required by Meatco for each sale.
- Nurturing the concept of self quarantine and establishing more sale pens in the region and establishment of feedlots (e.g. at Etunda Irrigation Scheme) as part of the broader irrigation initiative called “The Green Scheme.” This initiative is designed to capture young stock for finishing through a feedlot system. A study undertaken by the Desert Research Foundation (Kruger, 2006) indicated that the “feedlot quarantine” model was a viable alternative to the current “grazing quarantine” model.
- Payment of premiums and offering shareholding of abattoirs under the Marketing Incentive Scheme. Meatco pays a “support bonus” of N$ 0.50/kg. The Ministry of Agriculture, Water and Forestry pays another N$ 1.00/kg administered through the MBN. Producer prices have also been increased this year in response to the marketing environment, which is offering higher prices. Farmers are paid 50% of the estimated value of the animal at the auction and 50% at slaughter.
- Advocating improved breeding strategies in NCA where animals are smaller due to inbreeding, persistent nutritional stress and low genetic potential for the large frame. The Sanga/Brahman cross gave a well-adapted large-sized animal with better returns to the farmer. Consideration must be given to the use of artificial insemination.

It was understood that the interventions in improving off-take and quality and hence throughput in the NCA were long-term in nature and that it would take many years to achieve the desired results in terms of the response by the farmers to the marketing information and other incentives. It was also recognised that these efforts and policies are in keeping with the current socio-political agenda aimed at achieving equitable opportunities for all sectors of the population.

Despite these interventions, the off-take through the formal marketing system remains low at about 2%. The two abattoirs of Katima Mulilo and Oshakati operate at less than 45% (17,000 units per year) of capacity, whilst those south of the VCF operate above 80% of capacity. This void could not be filled by slaughtering small stock as there was no market for frozen or chilled goat meat locally or abroad. The number of sheep in the NCA regions is negligible (60,000),

whereas the goat population is in the region of 0.9 million. The MBN estimates that only about 1,500 farmers in the NCA participated in the formal market annually.

Thus, from the Cabinet Decision of 2000 to the drawing up of the implementation strategy in 2001 and the return of peace in Angola in 2002, there has not been substantial progress in attaining the stated goals. The programme of implementation seems to have lost momentum. A project coordinator was eventually appointed in 2005 but no implementation or coordination agency has yet been formed as recommended by the draft agricultural policy document of 2006. The Social Anthropological Study of 2005 also recommended the establishment of an agency. The complex nature of implementing the programme may be stalling progress.

The International context

Namibia's external trade is governed by a number of international and regional agreements. With a few exceptions, all countries engaged in international trade are expected to abide by the World Trade Organisation (WTO) rules. In principle all bilateral and multilateral trade arrangements must comply with WTO negotiated rules of engagement. Of significance for Namibia are trade arrangements under the EU-Africa Caribbean and Pacific (EU-ACP) agreements, the Southern African Customs Union-European Free Trade Area (SACU-EFTA), the Generalised System of Preferences (GSP) and the RSA-EU negotiated Trade Development and Cooperation Agreement (TDCA). Within the southern African Sub-region, agreements of concern to Namibia include trade protocols under SACU and SADC. Within southern Africa are also a multitude of other regional arrangements that include COMESA, EAC, IOC and ECCAS (Tekere 2005).

With the attainment of independence in 1990, Namibia became eligible to become part of the EU-ACP Lomé IV Agreement, which it joined in 1992. The first Lomé Agreement and its successor agreements, which date back to 1975, were set up with the benefit of the General Agreement on Tariffs and Trade (GATT) waiver, particularly with regard to the Most-Favoured-Nation Clause. The Lomé Agreements grant a system of non-reciprocal (unilateral) trade preferences that allows access for certain ACP products into the EU at lowered customs tariffs. This gave Namibia preferential access for its beef, lamb and table grapes to the EU markets. In the follow-up Cotonou Agreement, this market access was captured under protocol 4, the beef protocol, giving Namibia market access with a quota of 13,000 tons of deboned beef or lamb.

In 2005 Namibia exported 9250 tons of beef and lamb. Under another provision, Namibia was granted an annual tariff-free market access for seedless table grapes of 700 tons. In tariff terms it meant that Namibia is only required to pay 8% of the required special duty for the chilled and frozen beef exported to the EU and was exempted from paying a 12.8% *ad valorem* import tax. The special duty for chilled lamb or beef is €303.40 per 100kg and €221.10 per 100kg of frozen product. The preferences do not extend to processed products.

Namibian animals and animal products are mainly exported to three markets, namely the EU, RSA and to countries that fall under EFTA. Namibia is also currently trying to access the US market and successfully underwent an inspection by the US Animal and Plant Inspection Service (APHIS) in 2003. As a follow-up to the APHIS inspection, the Food Safety Inspection Service (FSIS) of the US conducted a preliminary assessment of the competency of veterinary services of Namibia and the application of hygiene measures in the slaughter of livestock at export establishments in October 2006. This will be followed by an audit in a few years' time and if successful will culminate in the admission of Namibian meat products to the US market.

The latest Lomé successor agreement, referred to as the Cotonou Agreement of 2000, marked the start of negotiations between the EU and ACP countries to establish a new trade regime laid out in Economic Partnership Agreements (EPAs) between the EU and regional

groupings of ACP countries. According to the Cotonou Agreement, EPAs would have to be WTO compatible with the progressive removal of barriers to trade between EU and ACP countries aiming to build on integration initiatives of ACP states (CONCORD Cotonou Working Group, 2004). The EPAs are also expected to have a developmental component. The negotiations are to be concluded by the end of 2007 and then gradually implemented between 2008 and 2020. However, a number of challenges have arisen or can be foreseen in the negotiation of the EPAs. Firstly, it is doubtful whether the negotiations will be concluded by the deadline of 31 December 2007. Secondly, there is a threat to regional integration that has taken place or is taking place within the sub-region, mainly owing to the multiple memberships of SADC countries in various trade group configurations. Thirdly, the exposure of ACP economies to the trade liberalisation agenda of the WTO, which seeks the establishment of Free Trade Areas and the elimination of duties and other restrictive regulations of commerce is expected to result in their exposure to unfavourable competition from EU and non-ACP countries. For example, this will arise from the elimination of the non-reciprocal arrangement under the Lomé Agreements. Fourthly, the escalating sanitary and phyto-sanitary measures of the EU make it difficult for a number of countries, including Namibia, to meet EU requirements. Lastly, there is a lack of adequate capacity to negotiate effectively with the EU or WTO from financial and technical points of view.

Currently SADC is implementing a FTA that is expected to be achieved by 2008 and a Customs Union by 2010. This, together with a number of other configurations as mentioned above, including the existing CU (SACU and EAC), is resulting in some confusion as to the future of the integration process in the region. So far SADC has split into 3 groups for the purpose of negotiating EPAs, one of which is the RSA-EU TDCA, which effectively means the BNLS countries (Botswana, Namibia, Lesotho and Swaziland) have to accede to this agreement by virtue of their membership of SACU. The countries of DRC, Malawi, Madagascar, Mauritius, Zambia and Zimbabwe are negotiating an EPA as part of the bigger and wider Eastern and Southern African (ESA) group. The other group includes Angola, BNLS, Mozambique and Tanzania negotiating as SADC-EPA group.

Of particular relevance to the NCA is the expectation under the original Lomé beef protocol that benefiting countries should use monetary differences between the normal tariff and the preferential tariff for development of their beef sectors. In pursuance of this objective there has been a system of subsidisation or price adjustments of the NCA beef sector by Meatco. Articles 6 and 7 of the Lomé IV Convention specifically refer to the promotion of rural development, food security, rational management and preservation of natural resources and the strengthening of agricultural production.

Namibia became a member of the SACU in 1990, after having been a de facto member when the country was under South African rule. In terms of this agreement there is free movement of goods among the member countries (BNLS and RSA). The agreement prevents members from imposing duties or quantitative restrictions on goods produced in the customs area. Duties are only levied on goods once they enter the customs area. The revenue generated through duties is then shared among the member countries according to an agreed formula. Namibia as well as other smaller member countries benefit a great deal from this arrangement in terms of accessing the bigger RSA market and generation of revenue. Forty percent of Namibia's revenue, for instance, is sourced from shared SACU revenue.

The European Free Trade Association, comprising Iceland, Liechtenstein, Norway and Switzerland, also allows preferential markets to Namibia and Botswana. Namibia has gained access to the Norwegian and Swiss market through a 2700 ton shared quota with Botswana.

Whatever the outcome of the above trade negotiations, Namibia together with Botswana will have no preferential market access to the EU market after the expiry of the Cotonou agreement on 31 December 2007.

The wildlife industry

Namibia has a vast potential to exploit its wildlife resources. The country is endowed with vast tracts of wilderness coupled with a very low human population density. The aridity prevalent in most parts of the country makes it virtually impossible to practise rain-fed crop agriculture. As a result, most of the agricultural land is used for extensive livestock rearing. However, livestock farming has been declining steadily in the commercial farming sector because of a number of factors outlined elsewhere in this paper, one of them being the steady growth in game farming. This has been the case despite the fact that livestock farming continues to be favoured by policies that permit a large proportion of the costs to be borne by society as a whole (Bojo, 1996).

Under the 1967 Nature Conservation Ordinance promulgated under South African rule, commercial farmers (virtually all white) effectively gained full ownership of the wildlife on their farms. In contrast, hunting was officially prohibited within the designated communal areas (Bojo, 1996). It was noted by Bojo that Namibia had more than 90% of its wildlife, particularly larger mammals, located outside formally proclaimed conservation areas, mainly on agricultural land. About 80% of the larger game species were found on privately-owned commercial farms. In contrast, the communal areas supported around 9% of the larger game species. Statistics indicated a general increase in wildlife numbers in the commercial areas and a decline in the communal areas.

The pioneering in game farming started in the 1970s following the 1967 Nature Conservation Ordinance. The number of wildlife animals has increased dramatically since then (Lambrecht, 2006). Whereas in the past game animals were viewed as a threat to livestock ranching, there has been over the past decades a steady shift from the latter to the former. Lambrecht (2006) estimated that the game ranching industry in Namibia is currently growing at an average of 10% per annum. Lambrecht also reports that game ranching and trophy hunting contributed N$ 250 million in 2005 and that this amount could be doubled if airfares, accommodation, game park fees and car rentals are included. The Ministry of Environment and Tourism estimates that the tourism sector has a value of N$ 5.2 billion with much of it wildlife based.

Citing papers from Kenya, Zimbabwe and RSA, Lambrecht also provided some insights into the higher profitability of game farming as compared to livestock farming. It furthermore has a better ecological appeal than the other livestock farming systems. Much of the farm level profitability was driven by trophy fees. For example, one oryx could yield a farm level income of N$ 7,200. Of this amount 58% came from trophy fees, 29% from hunting fees and 13% from the value of meat. Barnes (1998) also found that wildlife utilisation has high economic efficiency in specific areas within the southern African setting and that it is emerging as a complementary component of the rural development process, but went on to conclude that commercial wildlife use will only replace livestock to a limited extent.

In general, the wildlife sector on commercial farms has become a viable alternative farming system to livestock rearing without major policy impediments since the 1970s except for the prohibition of stocking of FMD-free buffalo, which is undoubtedly the most sought-after trophy on the African continent. The lobby to have this species on game farms has not been very strong. Although lobbyists seem to have very strong lobby points on the table, DVS appears to have maintained the upper hand. The wildlife lobby, which is supported by the Ministry of Environment and Tourism, argues that there is a need to diversify Namibia's agricultural economic sector that could be realised through expansion of tourism on privately owned land and that the presence FMD-free buffalo could help accelerate that growth. The proponents further argue that they are prepared to fund any regulatory measures that would be necessary to prevent illegal introduction of potentially infected buffalos into farming areas.

DVS, on the other hand, has adopted a risk-averse stance on the issue and views this as a major risk to the livestock industry that currently sustains the majority of the population and

besides argues that income from FMD-free buffalo trophies would only benefit a few elite individuals. Namibia at present has a population of 560 buffalo in state-owned conservancies (Tsumkwe with 110 animals and Waterberg with 450), but will not at present release these to private ownership.

What has also failed to develop sufficiently is the exploitation of venison. This has been impeded by limited processing capacity and a shortage of expertise in the implementation of hygiene measures at the processing plant level as demanded by trading partners such as the EU (Müseler 2007, personal communication). Müseler adds that processed game meat (especially smoked) has a ready market in Europe but the industry has failed to get it there because of limited processing capacity.

A voluntary wildlife working group to look at mechanisms whereby venison can be exploited particularly for the export market is in place but perhaps lacks a suitable champion to drive their cause. At present only one privately owned abattoir at Mariental (Farmers' Meat Market) is accredited for the exportation of deboned springbok venison to Europe and bone-in meat to RSA. Owing to this limited capacity Namibia has been in certain instances forced to export partially processed game carcasses (decapitated and eviscerated but with skins on) in chilled trucks to RSA. Private sector initiatives have also been constrained by the seasonality of game culling and the current moratorium on the construction of new abattoirs by the Ministry of Industry and Trade. These hindrances are also reported to be worse for communal conservancies where farmers are failing to find suitable outlets for game meat produced there.

Emerging policy challenges

The opening of the NCA to wider marketing opportunities will involve the attainment FMD and CBPP freedom acceptable to the OIE, EU, EFTA countries, RSA and any possible future markets such as the US and the Far East. This will also involve the eradication of CBPP for live exports to take place and the demonstration of the absence of circulating FMD virus within some parts of the NCA, particularly west of the Kavango region.

However, in trying to access the wider marketing opportunities for livestock and livestock products from the NCA, issues concerning access to water and to grazing in Angola and within the underdeveloped parts of the NCA, coupled with the need to decongest parts of the NCA, will have to be resolved. This will involve substantial investment on the part of the government or the donor community and may result in major resettlement initiatives. This has to be done with the understanding that the benefits will be slow in coming given the general marketing environment in NCA.

Farmers in the NCA will have to adopt and accept animal movement control and livestock identification and in particular the need for a moratorium on accessing animals from Angola for the informal market. Farmers will therefore have to give up the centuries old transhumance system of livestock rearing that they are used to, particularly across the border to Angola and also within the NCA region to some extent.

For the animals to access the EU market, the farmers will have to abandon the traditional animal husbandry practices for high input high output market-orientated production systems that require the application of contemporary technologies such as suitable breeds, feeding, veld management, animal health care, etc.

The big question: is this acceptable, given the wider priorities of the nation, and will it work? The main policy of the Government of Namibia on the issue of the VCF and market access for livestock and livestock products from the NCA remains to attain OIE-recognised FMD and CBPP freedom. If this were to be achieved, it is expected that this would open market access

for NCA farmers to Europe and beyond. Whether this will bring the intended benefits is debatable.

The FAO study of 1999 was of the opinion that this would bring tangible benefits to the economy in the long run. This idea is also supported by the fact that nearly 50% of the country's cattle population is found in the NCA and is growing, whilst the livestock population in the commercial sector is declining. It can therefore be argued that the future growth potential of the beef sector in Namibia is in the NCA. Lessons from communal areas south of the veterinary cordon fence, where marketing conditions are ideal, indicate that communal farmers are capable of responding positively. An example of this is in the Otjinene communal area of the Omaheke region where off-take is in the region of 15-20%. However, drawing parallels and comparisons may not be well founded on account of different traditional practices between the areas concerned. The Herero farmers of the Omaheke have a long tradition of farming and marketing livestock as a business. The same could be said of the Ovahimba in the Kunene region, who are for example supplying over 60% of the livestock processed at Oshakati abattoir. It may only therefore be hoped that with continued farmer education, training, incentives, and easier market accessibility (as is presently being done) that NCA farmers will also respond in the long run.

The issue of the VCF, animal diseases and marketing constraints of livestock and livestock products can be considered from social, political and economic view points. The government feels that it is its social responsibility to correct the pre-independence apartheid policies that resulted in low levels of development and high levels of poverty in the NCA to achieve the same levels of development as areas to the south. On the other hand there is political pressure on the government to remove the veterinary cordon fence because of the past military and apartheid symbolism that are attached to it.

Pressure to translocate the VCF can also be understood in the context of the resettlement and land reform programme. As land is opened up for resettlement south of the VCF, NCA farmers will want to move to the new farms with their animals. This has resulted in some resettled farmers maintaining farming operations on both sides of the fence with the expectation that one day they will be allowed to move their livestock to the south.

The issue of benefits and costs to individual farmers of the translocation of the VCF was also raised by the farmers during the SIAPAC study. The farmers would expect tangible economic benefits in the short to medium term should the relocation of the VCF be achieved. This expectation will need to be addressed in the context of the many above-mentioned constraints.

What needs to be explored further is whether the various marketing players are really interested in pursuing other marketing opportunities or whether they are satisfied with the current marketing arrangements. It does not appear that few serious efforts are being made to pursue marketing opportunities elsewhere and that there are no tangible contingency plans being pursued even in the face of the impending expiry of the Lomé benefits at the end of 2007.

The current objectives of the ten-year strategy are to achieve FMD and CBPP freedom without vaccination. So far the strategies have been based on the premise that fences will be constructed to create physical barriers such as the present VCF. The strategy is to create, in stages, fenced-off portions of disease free areas, for example in Western Mangetti and Kunene as currently proposed. This, however, seems to be at variance with past community consultations, where farmers were in favour of moving the fence to the Angolan border.

Fences constructed in the past have not been spared from vandalism with the exception of the VCF itself. The first fence constructed along the Angolan border in the late 1950s was vandalised during the liberation war. Two years after independence another fence was

constructed on the border to replace the old fence but was vandalised soon afterwards. Will this strategy succeed this time around? It can be argued that the failures in the past were due to insufficient community consultations and participation. The VCF probably survives because it has perhaps not come under as much pressure as the fences that were constructed on the Angolan border and because it forms the boundary between land masses under different farming and land use systems. Besides, there are no or very few socio-cultural links that exist across the VCF. The VCF is thus a neat demarcation of the NCA from game parks such as Etosha and commercial farms to the south. This scenario may change as more resettlement takes place south of the VCF. The resettlement policy aims to achieve land ownership in Namibia that is reflective of the racial composition in the country and when fully implemented may result in fundamental changes in land ownership patterns in the country.

A number of questions arise. One question would be whether it is strategically viable or profitable to aim for the European markets at this stage and if this is achieved would there be benefits given the expiry of the preferential arrangements under the Cotonou agreement and the need to adhere to WTO rules thereafter? If the need for quarantine for the RSA market was removed would it partly solve the problem? Is the programme to decongest parts of the communal areas to alleviate grazing shortages in NCA likely to succeed? Will the farmers cooperate and are they willing to move with or without their livestock? How will the cross-border socio-cultural links be broken, in particular those which are based on livestock, or how will cross-border livestock movements be managed? How soon will the Angolan government implement similar control measures in areas adjacent to Namibia and are they within their priorities to do so? Will the farmers respond positively by marketing more livestock and adopt modern farming practices given the age-old cultural practices of livestock rearing?

The ten-year programme of action approved by Cabinet aimed at achieving disease free status for all NCA areas outside the Caprivi region starting from 2001 and ending around 2010 was stillborn. Because of delays another programme of action has been drawn up and was earmarked to start in 2005 when a project manager was appointed and the VCF task force was reconvened. The main strategic focus of the reconvened taskforce is to achieve FMD and CBPP freedom of the NCA's by 2015 much in the same way as was originally planned. Whether the inertia that seems to have dogged the programme since its inception in 2001 will be overcome remains to be seen. The focus on this one strategic option without a thorough search for other market opportunities and reflecting on possible failure or possible other threats to the proposed programme does not seem to be under review. To help extend the debate, the following section presents some alternative scenarios.

Scenarios

Table 7. Summary of scenarios

Scenario	Production/marketing	Veterinary/animal health	Development and poverty impacts	Political and social
1. Status quo – maintain the VCF	Maintain disease freedom and export opportunities in the south – both EU (meat) and SA (meat and live). NCA areas continue constrained – high costs, limited market options, low prices, and loss of condition due to quarantine requirements. Low throughput in NCA based abattoirs, and consequent losses	High cost veterinary requirements – fence maintenance, surveillance and quarantine	Unequal market access, lack of development opportunity in NCA for livestock based livelihoods.	Politically controversial VCF maintained; land reform opportunities constrained
2. VCF to Angolan border	NCA herd productivity due to reduced grazing will suffer. May require destocking in NCA. High input/high output option throughout country may not be viable given	Even higher costs, and inevitability of a porous border fence. Risks of outbreaks higher, jeopardising complete disease freedom status	Access to Angolan grazing/water prevented, high pressure on NCA herds	Social ties across Angolan border disrupted; destocking highly resented/resisted; Angola-Namibia

	production systems in NCA.			cooperation undermined.
3. Abandon VCF, aim for disease freedom in NCA and southern Angola	Potential for integrated cross-border production system, with marketing to north (Luanda) and south (SA and exports).	High cost, cross-border initiative with challenges of coordination between veterinary services	Potentially high developmental benefits – maintaining existing production systems, while allowing for commercialisation in NCA	Cross-border political agreements required. Challenging given that Namibia and Angola belong to different regional agreements (SACU, xxx etc)
4. As above, but freedom with vaccination	As above, but potential limits on markets which remain concerned about vaccination option, despite OIE recommendations	High costs of vaccination, and questions about efficacy of available vaccine. Requires cross-border coordination. But less emphasis on quarantine/movement control	Opening up options for a wider range of producers, both north and south. Allows for land reform across the VCF divide.	Politically a desirable option, given demands for development in NCA areas.
5. As above, combined with emphasis on commodity based trade	As above, but increasing options for trade if appropriate food safety issues dealt with at designated abbatoirs, even when outbreaks occur. Requires agreement with trading partners who may remain sceptical, as with continued requirement by SA for deboning.	Focus on food safety and risk assessment procedures. Veterinary control and surveillance as back-up and oversight.	As above, allowing more options for different producers, including value addition and employment benefits through product processing.	As above
6. As above, combined with emphasis on beef export compartments	Allows for compartments (farms or groups of farms) to be created to comply with stringent export requirements to high value markets (e.g. EU, US).	As above, but requires intensive investment in compartments (fencing, quarantine arrangements, traceability etc.).	Compartment option probably only feasible for ranchers with large properties and with high capital investment. However the veterinary and marketing regime would not undermine options for NCA livestock producers.	As above, but would allow options for private investment by wealthier livestock keepers (in areas such as Mangetti), and so assuage this lobby.

There are various options that can potentially be pursued. The following scenarios (see also table 7) or their combinations can be considered as alternatives in dealing with the intricacies of the livestock marketing of livestock in the NCA:

- The status quo
- OIE freedom with vaccination
- South African market access
- Commodity-based trade
- New regional markets – domestic, Angola, DRC
- New international markets, Middle East, Far East

Status quo

This scenario entails maintaining the status quo, i.e. maintaining access to the EU export and RSA markets for areas south of the VCF with the NCA continuing to access only the local and RSA. The plight of the NCA farmers could be improved by improving the marketing arrangements in the region by establishing favourable institutional buying arrangements that would take away the burden of quarantine from the farmer. The Meat Corporation has tried to meet the farmers halfway by paying 50% of the estimated price of animals on the day of sale. The institutional livestock buyer could be the Meat Corporation itself or the MBN or an entirely new entity.

The ultimate goal and efforts to achieve FMD and CBPP freedom would remain in force. Demonstration of an OIE-certified disease free export zone would be a good marketing chip for negotiating with new markets – for example the US and Japan. As an interim measure perhaps the physical separation by the VCF fence should remain until such time as all the stakeholders are satisfied that there would be no danger of reintroducing the two diseases into areas that have enjoyed disease freedom for decades. The reintroduction of CBPP into areas south of the cordon fence would jeopardise the weaner export market to RSA.

The status quo, however, suffers from the long-term political stigma that has come to be associated with the VCF. However, farmers and other industry players in areas south of the cordon fence would prefer a conservative approach to the issue because of their exclusive market access.

The OIE freedom with vaccination scenario

FMD freedom in a zone of the country where vaccination is practised is recognised by the OIE. Brazil and Argentina have used freedom with vaccination to access international markets. The key elements in this form of freedom require that susceptible animals in the FMD free zone where vaccination is practised should be separated from the rest of the country, if infected and from neighbouring infected countries by a vaccinated buffer zone, or by physical or geographical barriers.

It is therefore possible to build on the current strategies, which are to a great extent compliant with the OIE option of “freedom with vaccination”. For example, the 60 km strip of vaccinated Namibian territory running along the Angolan border between the Kavango and Kunene rivers could be designated as the vaccinated buffer zone without the need to construct a fence. This, however, has to be coupled with effective movement control and an acceptable system of clinical and serological surveillance and prompt disease reporting. Movement control could then be enhanced with branding and the use of the tamperproof, alpha-numeric, bar coded ear-tags which are now used in areas south of the cordon fence as part of the Namibia Livestock Traceability System (NAMLITS). The Kunene river to the west would then form the physical geographic barrier up to the Atlantic Ocean. Thus areas west of the Kavango region (and perhaps including some parts of Kavango) would assume OIE freedom with vaccination status.

This option will only be viable once the issues of grazing and transhumance are addressed. There would be no need for quarantine but it would be necessary to keep the existing veterinary cordon fence and movement controls in place. Northern farmers would then benefit directly from the export market. Higher throughput through NCA abattoirs would reduce operating costs and increase premiums to farmers.

However, DVS intends to go for full freedom (without vaccination) or rather retain the status quo. On the other hand, local politicians and northern farmers would argue that the NCA would still be discriminated against because of existence of the fence. They would not be able to move livestock south of the fence for breeding fattening/finishing. The only benefit would be the ability to send animals directly to an export abattoir in the NCA because of CBPP risk and lower FMD status.

This scenario is not really on the agenda and not being discussed – reluctance to think about this is because the livestock industry and DVS are focused on the freedom without vaccination narrative.

The South African market access scenario

RSA has been the longest and largest standing market for Namibian animals and animal products. Since 1992 deboned frozen beef from the two abattoirs in the NCA has been

exported to RSA under an arrangement modelled on quarantining of cattle 21 days before slaughter and the meat quarantined for a further 21 days. The total 42-day quarantine has been cited as one of the major constraints suffered by NCA farmers and Meat Corporation of Namibia in the marketing of NCA livestock into the formal market system. DVS could negotiate with RSA mechanisms by which this requirement could be waived at least for NCA areas outside the Eastern Caprivi by giving alternative but similar guarantees that are provided for in the OIE Terrestrial Animal Health Code. This could be achieved by increasing the frequency of clinical and serological surveillance providing evidence of the absence of circulating FMD virus; increasing the frequency of FMD vaccination in currently vaccinated areas of the NCA outside the Eastern Caprivi from once to twice a year; and enhancing livestock movement control and identification by implementing the NAMLITS.

DVS could also cooperate with Angola to regulate cross border movements from that country, including coordinating vaccination programmes for animals along the border as outlined above in the ten-year strategy.

It would appear that this at least could be achievable owing to the fact that DVS recently restructured, increasing the number of veterinarians and para-veterinary staff in the NCA, improved the decentralisation of services by constructing more veterinary rural extension centres and is in the process of upgrading the regional laboratory. Surveillance could be enhanced by involving Agricultural Extension Officers to carry out some veterinary functions. The training and equipping of CAHWs as well as the rural drug retailers and the collection of information from local slaughter slabs and butcheries could be further enhanced. The use of FMD penside testing technology could also be explored.

In this case the chilled or frozen meat would not be able to access the EU market because of the higher SPS requirements. This would not matter much because the payment of incentives and premiums is applied to all farmers who market to the Meat Corporation anyway. Furthermore it would provide opportunities for marketing of offal which at the moment is restricted to the NCA. There is a vibrant live goat market in the KwaZulu Natal Province of RSA to which goats, particularly from the Kunene region, could gain access. Currently the three months quarantine requirement for goats south of the VCF prior to export makes this market unattractive.

Advocacy could be another strategy. The picture that has been painted of the situation in the NCA has been that of a homeland wasteland created under the apartheid era with low veterinary coverage and beset by a plethora of problems. Yet a lot has happened or is happening to change the livestock sector in the NCA.

This scenario could face potential resistance from RSA livestock keepers and also from those who want no diversion from the push for the disease freedom without vaccination scenario in NCA.

Processing (commodity-based trade) and local marketing scenario

According to Meatco, much of the beef produced in the NCA is fit for manufacturing purposes only. In order to remove the restrictions associated with the marketing of fresh meat, rendering the meat safe by processing it to the stage of ready-to-eat products could be pursued. This could also remove the requirement for pre- and post slaughter quarantine at both NCA abattoirs. Markets for these types of products are also available in Namibia, which imports considerable amounts of them. Investment in the establishment of processing plants would, however, be required. This will increase opportunities for local employment and benefits could be derived from value addition. Oshakati Abattoir had capacity to can 120 carcasses per day, which could be resuscitated. Canning is said to be suitable for meat trimmings, which have to be imported from South America for processing at Windhoek Abattoir. Besides canning, other

meat processing technologies should be explored. However, the marketing of these products in the EU would be problematic in that the preferential access is only accorded to fresh meat.

Veterinary Services impose strict rules especially concerning the use of meat from NCA abattoirs to be used in the manufacture of biltong for the export market in RSA. In addition, DVS does not allow NCA bone-in meat and offal into the rest of the country, further compounding the losses suffered by the meat industry.

If an analysis of the risks of allowing these products into areas south of the VCF was undertaken it could perhaps show that the risks were indeed minimal, or at least manageable. A commodity-based approach could open up substantial market opportunities for poorer producers in the NCA. If combined with effective HACCP-based risk assessment and independent certification, this scenario could offer real opportunities although it remains rejected by key players for unclear reasons.

New regional markets

The idea here is to change marketing policy to not focus exclusively on RSA and EU. Meatco may then have to establish regional marketing agencies in Angola, DRC etc. (as currently exist in Europe and RSA) to market Namibian beef and establish reliable supply chains there. This could be viewed again as an interim stage towards achieving disease freedom. The strategy could be focused on building on current informal market links and/or establishing new ones, especially in Angola and the DRC.

Angola offers itself as a potentially strong market. Luanda's population alone is four million (twice the size of Namibia's population); the vast oil revenue may offer the possibility of a wealthy upper class market. Currently Argentina and Brazil export to Angola, which may prove to be stiff competition to Namibian exporters. However, this strategy may open up opportunities not only for Meatco but also for informal speculators and NCA farmers. For example, the two abattoirs established in southern Angola could be utilised for the slaughter of NCA livestock destined for the Angolan market.

DRC on the other hand has a large population (over 60 million), a huge natural resource base and probably a large market for beef. South American poultry products are currently imported into DRC via Namibia and Zambia. Opportunities for exports of beef and lamb using this route could also be explored.

New international markets

Japan, South Korea, Taiwan and Hong Kong, as well as mainland China, are huge beef markets that Namibia could actively investigate. The effort under way to access the US market where considerable progress has been made is commendable. Namibia now awaits an audit by the Food Safety Inspection Service of the USDA after successfully completing the initial equivalence questionnaire. Namibia could also explore the possibility of accessing Middle Eastern markets for small stock. The 50 year track record in successfully controlling FMD and other animal diseases would be a good bargaining point in the negotiation of new international deals.

Conclusion

The issue of the VCF is complex. There are seemingly intractable historical, technical, developmental, social, economic, and political issues that are at the centre of it all. Whilst the political and financial side of the issue appears to have been dealt with and some progress registered in the marketing and social development, it would seem that there have been bureaucratic obstacles in the implementation of the agreed programmes. The strategic and

technical programmes have also been explored and detailed; the country has strong institutions such as Meatco, the MBN, veterinary and agricultural extension services, farmers' representative bodies (NNFU and NAU) and traditional authorities etc. There are opportunities that have been opened up by the prevailing peace and stability in Angola; the possibility of pursuing other markets with less stringent requirements than those required in Europe; commodity-based trade and processing of products and above all the supportive policy window which the Government of Namibia has opened up.

Lack of progress in resolving the issue may be as a result of fear that disrupting the status quo may result in disease outbreaks in areas south of the VCF leading to the loss of established markets, or simply because of bureaucratic inertia. The fears may be well founded, as the disease situation in southern Angola has not been resolved. Economic benefits of the interventions to improve the animal health status of the NCA may not be guaranteed, as farmers may not necessarily respond positively to marketing opportunities, especially if the commercialisation and modernisation of production methods such as grazing and water issues are not addressed.

The whole programme may, however, be overtaken by events, especially with the expiry of the Lomé benefits at the end of 2007 and the liberalisation of the global markets under the WTO, opening up the country to world-wide competition. The increasingly stringent SPS requirements on the global scene and lack of negotiating capacity at local and regional levels may make it unattractive for Namibia to invest further in expensive zoosanitary measures.

These changing contexts require a step-change in policy thinking and a thorough-going construction of effective scenarios. While the economic and technical issues are important, the underlying agenda is the need to resolve the political and historical issues surrounding the VCF of Namibia. Unless this is done the long-term future of the beef industry in Namibia will remain in doubt.

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Appendix: understanding the policy processes involved in the possible expansion of the foot and mouth disease zone of Namibia to include the northern communal areas

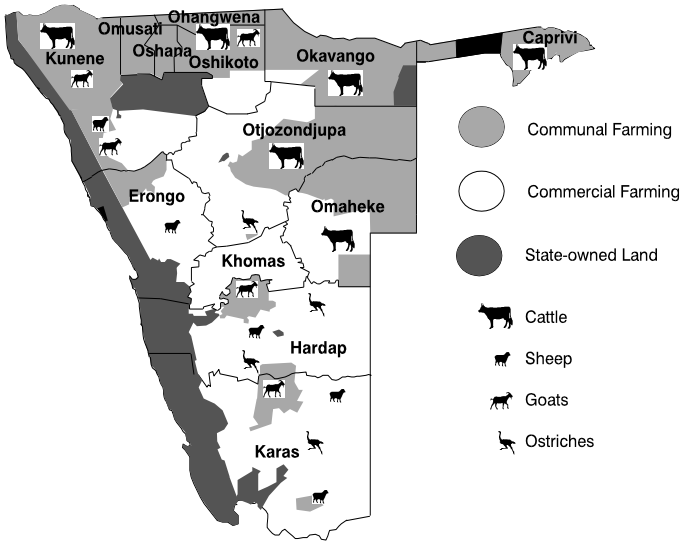
Background

Namibia is located in the South West of Africa and shares its frontier with Angola in the North, Zambia to the north-east, Botswana to the east and RSA to the south. On the western side is the Atlantic Ocean coast. Namibia is a vast country with a land mass of 824,116 km^2. It has a total human population of approximately 2 million people of which 70% are engaged in agriculture directly or indirectly. The other main economic activities include mining and fishing. Agriculture is practised on 700,000 km^2, which is divided almost equally between two farming systems- namely Commercial and the communal, smallholder sectors. The commercial sector comprises 4200 farms with a total area of 28.7m ha and average 6,800 Ha. The communal areas (30.8m ha) are utilised by some 120,000 farmers.

Namibia is mostly semi-arid to arid country with low rainfall and has very little surface water except for perennial rivers which all run along its borders namely, the Zambezi, Kavango, Kunene in the north and the Orange River in the south. To the east is the Namib desert and in the west the Kalahari. Underground water is also difficult to obtain as it lies very deep underground. The average annual precipitation is only 270 mm ranging from as low as 0.2 mm in the Namib Desert to 350 mm in the capital Windhoek to 700 mm at Katima Mulilo in Eastern Caprivi. Cattle farming tends to be concentrated in northern areas and small stock (sheep and goats) in the south.

Because of the dry climatic conditions, much of Namibia is unsuitable for rain-fed crop agriculture. As a result much of the country is only suitable for livestock grazing (figure 9). It is estimated that the livestock sub-sector produces 10% of the country's GDP and earns over 25% of the country's export receipts amounting to N$ 2 billion (US$ 350 million). Despite the numerical advantage of the communal farmers, the livestock industry in the country is dominated by the commercial sector which accounts for about 80% of national output. Over 80% of Namibian livestock and animal products are exported to RSA and the EU.

Figure 9. Land classification and distribution of livestock farming enterprises in Namibia



In order to benefit from exports of animals and animal products, Namibia has to maintain an OIE recognised FMD "free zone". The most significant threat to the continuation of this trade has been the possible outbreak of FMD in the free zone. The threat is perceived to come from

two possible sources-Southern Angola and Eastern Caprivi. Southern Angola is perceived this way because of the breakdown in veterinary services following many years of civil strife. Although peace has returned to that country, much of the veterinary infrastructure and disease surveillance systems need to be restored before the threat can be reduced. The other threat is from Eastern Caprivi where thousands of African buffalo (the main reservoir of FMD) roam free and come in contact with local livestock.

The proximity of the NCA of Namibia to Angola and the presence of infected buffalo and other wildlife in Eastern Caprivi, combined with the communal land tenure system are perceived as risk factors in the occurrence and propagation of FMD which threaten the FMD free zone. This, together with the absence of farm fences and the relative difficulty in enforcing animal movement controls in the NCA, are regarded as factors that may contribute to the rapid spread of FMD should it occur in the area.

For the purpose of the control of FMD control the country is therefore divided into Disease control zones and strategy is based on a zoning system primarily regarding FMD status. Disease prevention is through a system of movement controls and preventative vaccination against the major diseases. Livestock movement in all zones is controlled through individual producer identification (through brands) and a permit system. Namibia is currently implementing a livestock traceability system which is expected to come on stream in 2005. The different zones are described below and their locations are shown in figure 7.

Infected zone

So-called because of the high risk of FMD outbreaks due to the presence of free-roaming buffalo. FMD vaccinations are carried out bi-annually. The boundary with the buffer zone consists of the Okavango River and a game-proof fence bordering the Muhango game reserve. Prophylactic vaccination against FMD is practiced. Movement of cloven-hoofed animals to the buffer zone is only allowed after negative serology and a 3-week period of quarantine.

Buffer zone

This zone is free of free-roaming buffalo and borders the infected zone and areas bordering neighbouring countries considered as high risk. The southern boundary of this zone is formed by a game and stock-proof double fenced corridor (veterinary cordon fence). Annual prophylactic FMD vaccination in some areas and regular inspections are carried out. Movement of cloven-hoofed animals and their product into the free zone in not permitted.

Surveillance zone

This is a buffalo free zone in the FMD-free area which is at least 2 farms deep south of the cordon fence. There are intensive livestock inspections and no FMD vaccination is permitted. Movement from this zone is permitted for direct slaughter at quarantine abattoirs or after 3 weeks quarantine for movement to the free zone.

Free Zone

This is an area south of the surveillance zone where no FMD vaccinations are permitted and is free of buffalo. Because of the strict controls in other zones, relatively free marketing is allowed. The FMD-free zone is recognised by the OIE.

Timeline

September 1934:

- First reported outbreak of FMD occurred in Namibia in Gobabis District on 2 farms 30 km from the Botswana Border. Outbreak was suspected to have been a spill-over from Botswana where aphthisation (artificial infection) was in use to control FMD. Slaughter-out policy applied. Vaccination not used.
- Exports from Namibia were banned only to be resumed after extend of the outbreak had been determined.

1945-1960:

- A total of 6 outbreaks of FMD occurred in NCA. Control measures (aphthisation and movement restrictions) contained the outbreaks in the affected areas. Sources of outbreaks were suspected to be the neighbouring countries of Angola, Zambia and Botswana.
- After the outbreak of FMD in Owambo (northern Namibia) in 1958 construction of the Namibia/Angola border fence started but destroyed during the years of the liberation struggle.

July 1961:

- FMD outbreak on a farm in Windhoek district is reported.
- It was suspected to have originated from illegally imported small stock from Botswana.
- Ban immediately imposed on exports, vaccination and movement control imposed.
- Restructuring Veterinary services to meet the new challenges was started.
- By the end of the year nearly all farms in the central third of the country had been infected.

August 1961:

- Work began on the construction of fences that would separate areas with good infrastructure for animal movement control from areas where movement control was not possible.
- Construction of the present day Veterinary Cordon Fence (VCF) also started but unfortunately its construction coincided with the military occupation of Namibia by South African Forces who used it for their own purposes. The fence therefore gained political connotations as it was seen by common people as a police fence rather than a *cordon sanitaire*. Because of the bitter memories it came to be known as the “Red Line.”

December 1962:

- Outbreak contained.
- Restructuring Veterinary services to meet the new challenges was completed.
- A new outbreak near Ondangwa (NCA) caused by illegal importation of animals from Angola.

May 1964:

- FMD flared up for the last time in the commercial farming area. It was reported on four farms in the Kalkfield area. Virus type was similar to the one causing the 1961 outbreak.

1980:

- Fence construction completed countrywide.
- FMD continued to break out in NCA across the breadth of the country from east to west from (1962 to 2000) with the western areas practically becoming free of the disease

1990:

- Namibia gains independence from South African occupation.
- Becomes a full member of the OIE and other international organisations

1992:

- The Government of the Republic of Namibia requests the International Fund for Agricultural Development to Commission a study to look into the necessity of the Cordon Fence and the future options for its translocation or removal. The study advocated for the status quo.

1989/99:

- Another study is commissioned which proposes a 10-year plan of action to eventually move the VCF to the northern border of Namibia. The study also recognises the need for a regional approach for the control of the disease.

2002:

- Peace returns to Angola, creating opportunities for the return of organised veterinary services in southern Angola. Joint meetings resume between the two neighbours to harmonise control measures along the common border.

Narratives

The political perspective

Seventy percent of Namibians are resident in the NCA where the majority are dependant on agriculture and in particular livestock farming for their livelihoods. However, livestock in the whole NCA region is under restriction and livestock cannot move freely to markets in the south of the VCF and farmers cannot benefit from the export market to the EU. The limited marketing opportunities consequently result in depressed livestock prices in the NCA and are entrenching the poverty of the northern communal dwellers. Only commercial farmers in the south continue to benefit from the wider marketing opportunities.

This scenario is unacceptable to the current democratic dispensation in Namibia. It follows therefore that Namibia has to adopt policies that are in keeping with the aspirations of the new order. The government of the republic of Namibia has to move speedily to ensure that this situation is quickly rectified and all Namibian farmers are afforded equal opportunities. The VCF which clearly demarcates the NCA from the commercial sector is perceived by the majority of the affected farmers as a continuation of the past political order. The VCF cannot therefore continue in its current state without causing unnecessary anxiety and despondency among the majority of the people of this country who are unable to participate fully in the mainstream economy of their own country

The official veterinary perspective

FMD is the most feared and contagious disease of cloven hoofed animals. The Directorate of Veterinary Services is mandated to control this disease and ensure that it does not occur in the OIE recognised FMD free zone. The country has invested heavily in the control of FMD in order to maintain the FMD free zone. Relaxing the control measures that are in place without applying other adequate risk mitigating measures at present would increase risks of FMD outbreaks in the Free Zone. The expansion of the FMD-free zone has to be done in a systematic way that does not in the long term compromise the disease status of the country.

This cannot be allowed to happen given the disastrous consequences an FMD outbreak would have on the livestock industry and to the whole economy of Namibia in general. Namibia exports 80% of its livestock and livestock products, earning the country over N$ 2 billion in foreign currency. Seventy percent of the population of Namibia depends directly or indirectly on agriculture. Livestock farming contributes up to 90% of agricultural production in Namibia. It is therefore very clear that any disruption of this vital industry such as would result from an

FMD outbreak in the free zone would have serious consequences for the economy of this country.

The wildlife lobby

The sustainability of conventional, export based livestock farming systems as practised in Namibia cannot be guaranteed especially given the rapidly changing global marketing arrangements. The expiry of the current preferential trade agreements favour third World countries and the future liberalisation of global trade underscores the need for diversification in farming practices if we are to remain competitive. Small red-meat-producing countries such as ours will have no chance competing with large producers such as South America, Australia and New Zealand. Add to that there is evidence of significant environmental degradation on farms where conventional livestock farming is practised. For example, bush encroachment and receding water table as a result of overgrazing have been the order of the day.

Tourism is one of the fastest growing enterprises globally. Eco-tourism (especially the hunting and trophy sector) has been growing in leaps and bounds in the last few years. Namibia therefore needs to strategically position itself to tap into this lucrative high value business. One African wild buffalo for example can fetch as much as N$ 300,000, the equivalent of 100 finished steers! With the technology that exists for breeding FMD free buffalo the chances of introducing the disease into farming areas is negligible.

Actors

The Government of the Republic of Namibia

- Politicians
- Ministry of Agriculture Water and Rural Resettlement
- Directorate of Veterinary Services
- Other relevant government ministries e.g. Trade

Industry stakeholders

- Individual farmers and farmer organisations (NNFU, NFU)
- Meat Board of Namibia
- Abattoir operators
- Processors of by-products e.g. leather, wool, milk etc.
- Traders in animals and animal products e.g. auctioneers, exporters, importers, butcheries
- Supply industry-Pharmaceutical companies, feed companies, transporters
- Employees of various industry players (trade unions etc.)

Wildlife producers

NGO's and donors

International organisations

- EU
- SADC
- OIE
- FAO
- AU-IBAR
- USDA

Trading partners

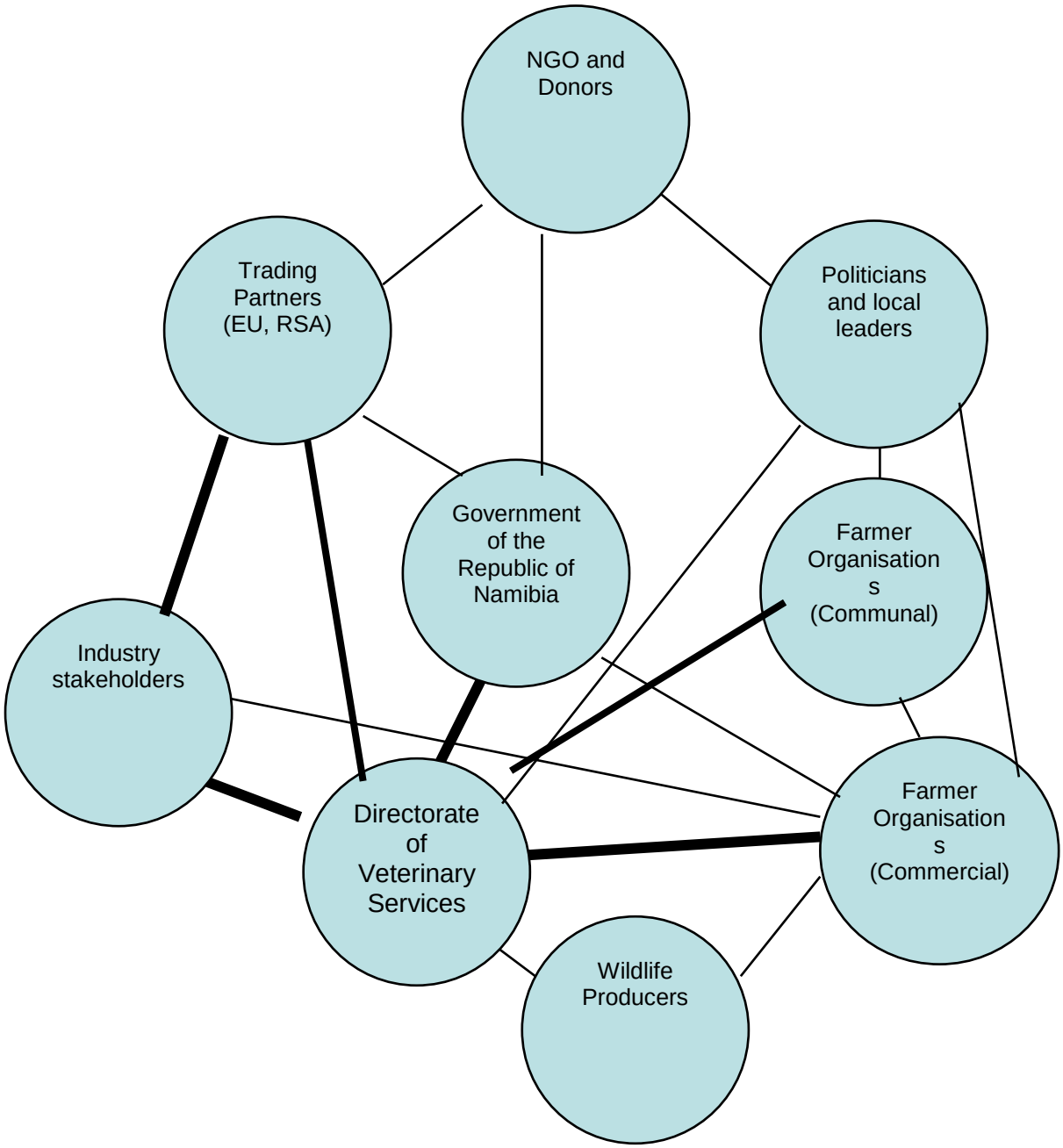
- European Union
- South Africa

- US Government

Networks

Figure 10 illustrates the interaction of the different players in the livestock industry of Namibia. Thick lines emphasise strong interaction and thin lines indicate weaker links.

Figure 10. Networks



Interests

Group	Interests
Government of the Republic of Namibia and the bureaucrats in government	Interested in making sure the country gets an adequate inflow of foreign currency in order to finance its social and economic programs such as health, education, fuel etc. The government would also like to see a stable socio-economic environment prevail in the country to maintain its own integrity.
Politicians	To ensure the equitable distribution of wealth to the majority of the people particularly the resource poor farmers who in fact constitute the bulk of their constituents. Although they are fully apprised of the need of the current VCF they find it increasingly difficult to justify its continued existence to the satisfaction of their constituents.
Commercial producers of livestock	Their interest is largely commercial. They would want to continue to have access to the export markets. An outbreak of foot and mouth disease would impact heavily on this sector because of it dependency on exports. They would see the expansion of the free zone as a threat to their wellbeing as it would from their perspective increase the risks of an FMD outbreak. They for instance do not have any reserve carrying capacity on which to keep the animals if the live exports to South Africa banned.
Communal farmers	They would like their situation to be improved and would welcome any attempts that would see the VCF removed and the export zone expanded to include their areas too. There are complaints by the communal farmers that prices for livestock in NCA are depressed because of less marketing opportunities. They will continue to voice their concerns through their political and traditional leaders.
Processors and traders	They would like the status quo to be maintained. The high price levels in the country are benefiting the processors. Importers for instance are able to import animal products at low prices and are able to sell the same products for large profits. They would fear that an expansion of the free zone will bring with it increased risks of an outbreak. This would have the impact of causing a glut on the local market and the risk of lowering prices of livestock and their products. They have invested heavily in infrastructure and markets which they would like to protect.
Partners	The EU would like to be seen to be playing a role in the macroeconomic stability and social development of Namibia. South Africa on the other hand has had access to slaughter animals from Namibia helping to sustain its own meat industry.
Wildlife farmers	The wildlife farmers have very few sympathisers. Their agenda can only be driven by commercial concerns. They can perhaps influence change if they can demonstrate how the smallholder communal farmer can also be a meaningful player in the industry. An example would be the 'CAMPFIRE' programme in Zimbabwe. Their lobby can be strengthened by environmentalists

Trade-offs

The status quo is simply not sustainable in the long term as it risks being overtaken by events. They way forward is for some action to be taken decisively to include parts of the NCA in the Free Zone. For example, the Kunene region in the west of the NCA has not experienced an

outbreak of FMD for more than 30 years. The mainstream industry cannot continue to benefit alone at the expense of the of the smallholder farmers in NCA. They could invest part of their profits in assisting in improving the disease status of the NCA.

Implications

As has been demonstrated in other studies foot and mouth disease does not seriously impact directly on the poor. It is the macro-economic environment that takes the knock which then indirectly impacts on the poor as the government's ability to provide social services becomes compromised. The FMD control measures in Namibia are blamed for lower prices being paid to farmers in NCA. The pricing policy perhaps needs to be reviewed e.g. subsidisation or some form of price equalisation policy must be worked out. However, an FMD outbreak would result in lowered livestock prices throughout the country. This may benefit some poor people who are unable to buy animal products at current prices.

The resolution of the civil war in Angola has created opportunities for constructing a cordon fence along the border with Angola and the introduction of a surveillance zone in southern Angola. Such an option would be difficult to implement without strong political will and participation of all parties concerned including the beneficiaries.

Regional cooperation under the auspices of SADC and other international organisations may create opportunities for regional cooperation for the control of transboundary diseases. Experience has shown that without regional cooperation FMD cannot be controlled or eradicated.

Conclusion

The issue of expanding the FMD free zone of Namibia is a contentious from a social, political and economic point of view. A clear and unequivocal position on the way forward on the issue needs to be determined and time frames for what ever is agreed upon must be established.