

Environmental impacts of the war of independence in Namibia

- well written
- agree long-term, low intensity
- good description
- knows subject well
- much referenced

Abstract

Armed conflicts frequently have both direct and indirect impacts on the environment, on the vegetation in general, and on the forests and their fauna especially. The war of independence in Namibia, which lasted over twenty years, 1966—1990, represents a low-intensity armed conflict. It was reflected indirectly in the environment of the area as the war drew on. It provides an example for describing how a long-term conflict of this kind can affect settlement policy, land use, the state of the forests as well as the relations of the parties involved towards nature. It also demonstrates the impacts of the restoration of peace on environmental policy and the environmental values of the local population. The war had both direct and indirect effects also on the environment of southern Angola, through the activities of the Namibian and Angolan guerrillas, the South African soldiers and their allies as well as the local cattle-breeders.

Environmental impacts of the war of independence in Namibia

Introduction

The political development of the former colonies in Africa has been beset with revolutions and civil wars, to the extent that over 200 successful or attempted revolutions or coups d'état occurred in sub-Saharan Africa alone in the second half of the 20th century and there were 14

armed conflicts taking place in the continent in 2000.¹ Although the majority of the conflicts have been civil wars, their repercussions have often been felt beyond the boundaries of the nations concerned, so that their neighbours have had to bear some of the burden of the hostilities, most commonly in the form of an influx of refugees.²

Armed conflicts frequently have both direct and indirect impacts on the environment, on the vegetation in general, and on the forests and their fauna especially. The military operations themselves involve destruction of the tree cover and other vegetation, both for strategic reasons and to meet the immediate needs of war, e.g. for use as building materials or sources of energy, while the flows of refugees brought about by such conflicts are among the most substantial indirect factors exerting heightened pressure on the environment. Refugees need somewhere to settle, a source of energy for heating and cooking, and as their period of exile draws on, farm land and pastures for producing food of their own. At the same time the instances engaged in the wars are typically interested in exploiting natural resources such as deposits of diamonds and other minerals and timber as means of financing their operations.³

Homer-Dixon introduced a new dimension into the examination of armed conflicts with his concept of environmental scarcity, which arises through the exhaustion, pollution and/or unequal distribution or availability of renewable natural resources with respect to certain

¹ Michael Renner, *Ending Violent Conflict*. Worldwatch Paper 146 (Washington, D.C.: Worldwatch Institute, 1999), 36—37; Peter Wallensteen and Margareta Sollenberg, 'Armed conflict, 1989—2000', *Journal of Peace Research* 38(2001)5: 629—644.

² J. Shambaugh, J. Oglethorpe and J.R. Ham, (with contributions from Sylvia Tognetti), *The Trampled Grass: Mitigating the Impacts of Armed Conflict on the Environment* (Washington, D.C.: Biodiversity Support Program, 2001), 3. Available at: <http://www.worldwildlife.org/bsp/publications/africa/139/titlepage.htm>. [accessed 12.11.2004].

³ The environmental consequences of armed conflicts formed one topic of the Biodiversity Support Programme coordinated by the World Wildlife Fund in 1989—2001. Web pages available at: <http://www.worldwildlife.org/bsp> [accessed 12.11.2004].

states and/or sectors of the population within a state. He regards this environmental scarcity as a significant factor in the outbreak of conflicts and in the risk of their renewal even after a ceasefire has been achieved. Environmental scarcity and the associated poverty give rise to political unrest, leading to a vicious circle of repeated conflicts.⁴

Once one looks more closely into the backgrounds to the armed conflicts that have broken out in Africa, many of them appear to have been precipitated by environmental motives in addition to political, economic or ethnic ones, even though it is difficult in many cases to point to environmental scarcity as a direct cause. Schwartz and Singh are nevertheless firmly of the opinion that scarcities of natural resources contribute greatly to the danger of both civil wars and conflicts between states, especially among the developing countries.⁵

Holst grouped environmental conflicts into three categories: those that systematically destroy or spoil the environment, those that break out because of environmental problems or pollution, and those that begin for other reasons but are transformed into environmental conflicts as they extend and drag on.⁶ It is thus clear that when approaching armed conflicts in Africa as environmental conflicts we should not restrict the analysis to the effects of the hostilities themselves on the environment but should pay particular attention to the ability of the ensuing peacetime communities to cope with everyday life and establish satisfactory new relations with their environment.

⁴ Thomas F. Homer-Dixon, *Environment, Scarcity and Violence* (Princeton, N.J.: Princeton U.P., 1999); Thomas F. Homer-Dixon, 'Environmental Scarcities and Violent Conflict', *International Security* 19(1994)1: 76—116.

⁵ Daniel Schwartz and Ashbindu Singh, *Environmental Conditions, Resources, and Conflicts: An Introductory Overview and Data Collection* (Nairobi: UNEP, 1999).

⁶ Johan Jørgen Holst, 'Security and the environment: a preliminary exploration', *Bulletin of Peace Proposals* 20(1989)2: 123—128; see also Johan J. Holst, *Conflict and Environmental Degradation*. NUPI notat Nr. 325 (Oslo: Institute of International, 1985).

The report *State of the Environment in Southern Africa* provides an analysis of the conflicts that have broken out in the region since the 1960s through the medium of their environmental impact. In this context the wars in Angola and Mozambique represent intensive, long-term armed conflicts with large-scale, immediate effects on the environment. These countries were engaged first in a long struggle for independence against the Portuguese colonial power, after which they became a battleground for the world powers in their competition for new spheres of influence and targets for the destabilization policies of the apartheid regimes in South Africa. By contrast, the struggles for independence in Namibia and Zimbabwe and the fight for majority rule in South Africa represent long-term, low-intensity conflicts that had only minor direct environmental impacts, limited in the case of Namibia, for instance, to a small area in the north of the country. The third category of armed conflict mentioned above is represented by those wars that have had indirect effects on the state of the environment in neighbouring countries, e.g. in Botswana, Lesotho, Malawi, Swaziland, Tanzania and Zambia, which have had to house and care for streams of incoming refugees.⁷

- trees, ivory to fund war

*

50% of population

In terms of Holst's classification and that proposed in the *State of the Environment in Southern Africa*, the war of independence in Namibia, which lasted over twenty years, 1966—1990, represents a low-intensity armed conflict. It was reflected indirectly in the environment of the area as the war drew on. It provides an example for describing how a long-term conflict of this kind can affect ① settlement policy, ② land use, ③ the state of the forests as well as the ④ relations of the parties involved towards nature. It also demonstrates the impacts of the restoration of peace on environmental policy and the environmental values of the local population. Geographically, we shall be concerned most of all with the main arena of the

⁷ Munyaradzi Chenje & Phyllis Johnson (eds.), *State of the Environment in Southern Africa: A Report by the Southern African Research & Documentation Centre in Collaboration with IUCN – the World Conservation Union and the Southern African Development Community* (Harare: SARDC, IUCN Regional Office for Southern Africa, 1994), 255.

independence struggle, northern Namibia, which has the most extensive continuous forested areas in the country and over half of the population. The war of independence also had both direct and indirect effects on the environment of southern Angola, through the activities of the Namibian and Angolan guerrillas, the South African soldiers and the local cattle-breeders.

Studying the environmental effects of armed conflicts in the African context is exceptionally challenging, not least because such conflicts are often manifested as states of emergency and are easily overshadowed by political, economic and social changes as far as the researcher is concerned. In the case of recent conflicts, however, it is possible to analyse the environmental impacts from satellite images, aerial photographs and other products of modern technology without any need for venturing into the area of operations. Also, the aid and volunteer organizations working close to the front lines are able to relay first-hand information to the outside world virtually in real time.⁸ On the other hand, if we are interested in events extending slightly further back into the past, problems may arise in finding and gaining access to sources. One significant factor that restricts profound analysis is the lack of documentation, which means burdensome search for pieces of information and/or fall back on indirect methods. These problems also affect this study, which is based on reports – printed or published on the Web, data produced by international organizations and first-hand accounts drawn up by local government officials and/or consultants. Thus, because it was not possible to study recent armed conflicts in Africa using the archives, we had to relay on various scattered and frequently mutually incompatible sets of data. The greatest challenge using most recent material is the question of reliability, the fact, which in the present study was taken into account by adopting a comparative approach.

where used?

?

⁸ Shambaugh et al. *The Trampled Grass*, 4.

Partly for the above-mentioned reasons war situations have been largely overlooked in research into African environmental history, where the spotlight has been on African communities and their relations with nature, the changes in these relations since the colonial era, the environmental impacts of agriculture and cattle rearing, deforestation and questions of nature conservation and the establishment of protected areas.⁹ The dearth of research into the environmental impacts of wars emerges well from Beinart's extensive review of developments and trends in research into the environmental history of Africa published in 2000.¹⁰

On the road to independence

The colonial era in the geographical area of present-day Namibia began in 1884, when Germany declared its rights over the protectorate of South West Africa. At the defeat of German troops in 1915, the country was subordinated to the South African government, first under the wartime state of emergency and from 1920 by a League of Nations mandate.¹¹

⁹ Representatives of the 1970s and 1980s research tradition in African environmental history include e.g. *Conservation in Africa: People, Policies and Practice*, ed. David Anderson and Richard Grove (Cambridge: CUP, 1987); William Beinart, 'Soil erosion, conservationism and ideas about development: a southern African exploration, 1900—1960', *Journal of Southern African Studies* 11(1984)1: 52—83.

¹⁰ William Beinart, 'African history and environmental history', *African Affairs* 99(2000): 269—302; see also *Social History & African Environments*, ed. William Beinart and JoAnn McGregor (Oxford: James Currey, 2003). For research into the environmental history of wars, see Levine, Roger S., "'African warfare in all its ferocity": Changing military landscapes and precolonial and colonial conflict in Southern Africa', in *Natural Enemy, Natural Ally: Toward an Environmental History of Warfare*, ed. Richard P. Tucker and Edmund Russell (Corvallis: Oregon State University Press, 2004), 65—92; Samuel Kanyamibwa, 'Impact of war on conservation: Rwandan environment and wildlife in agony', *Biodiversity and Conservation* 7(1998): 1399—1406; Alexander Naty, 'Environment, society, and the state in western Eritrea', *Africa* 72(2004)4: 569—597.

¹¹ The description of the independence struggle is based on the following literature: Lauren Dobell, *Swapo's Struggle for Namibia, 1960—1991: War by Other Means*. Basel Namibia Studies Series 3 (Basel: P. Schlettwein Publishing Switzerland, 1998); Peter H. Katjavivi, *A History of Resistance in Namibia* (London: James Currey, 1988); Colin Leys and John S.

Following trends elsewhere in Africa, and most especially in South Africa, the nationalist movement in support of the rights of the African population gained momentum in Namibia in the 1950s. The roots of the nationalist movement and political organization in Namibia can be traced back to the activities of the students and migrant labourers. The most significant of all the new political organizations was the Ovamboland People's Congress (OPC), which was concentrated initially on abolition of the migrant labour system. This movement changed its name to the South-West Africa People's Organization (SWAPO) in 1960 and set out to oppose the system of racial segregation and demanded a transfer to majority rule. In a few years SWAPO had established itself as the leading nationalist movement in Namibia.

In its disillusionment with the feeble efforts of the international community to resolve the situation in Namibia, SWAPO resorted to armed conflict in its struggle for independence, for which purpose it founded a separate military wing.¹² Its first encounter with the South African army took place in Ovamboland in northern Namibia in August 1966. The armed resistance was concentrated up until the early 1970s in the north-eastern corner of the country, in the fairly wooded Caprivi Strip running east-west for 450 km and having a width of 30—100 km in a north-south direction. The reason for this was the border with Zambia, where the SWAPO guerrillas were based.¹³

Saul, *Namibia's Liberation Struggle: Two-Edged Sword* (London: James Currey, 1995); IDAF, *Namibia: The Facts* (London: International Defence and Aid Fund for Southern Africa, 1989); Kimmo Kiljunen, 'National resistance and the liberation struggle', in *Namibia – The Last Colony*, ed. Reginald Green, Marja-Liisa Kiljunen and Kimmo Kiljunen (London: Longman, 1981), 145—171.

¹² The People's Liberation Army of Namibia (PLAN).

¹³ The Caprivi Strip gained its name from Count Leo von Caprivi, chancellor of Imperial Germany in 1890–1894. For further details on the Caprivi Strip and the designation of the boundaries of Namibia, see Lazarus Hangula, *The International Boundary of Namibia* (Windhoek: Gamsberg Macmillan, 1993).

The independence struggle entered a new phase in 1974 when Portuguese colonial power over Angola and Mozambique collapsed as a consequence of the 'carnation revolution' at home. Thereafter the MPLA liberation movement came to power in Angola with support from Cuba and the socialist camp. The other liberation movements in Angola, UNITA and FNLA, supported by South Africa, the USA and many other western powers, did not recognize the MPLA government, and eventually entered into a civil war against the new rulers. The establishment of a pro-SWAPO government in Angola nevertheless meant the opening of the almost 1,600 km long northern boundary of Namibia for military operations, and thus the struggle for independence moved to a new level and its geographical focus shifted to the most densely populated part of the country, Ovamboland.

references

The tactics of the military wing of SWAPO were to attack South African police stations, army depots and transport convoys and to harass the army by mining the roads and bridges. In order to eliminate this guerrilla warfare, the South African government concentrated its forces to northern Namibia. Thus, where it had about 15,000 men in the country in 1974, the complement had increased to 70,000—80,000 men by 1980, the majority being stationed on bases in the north. The most intense phase of the conflict lasted almost a decade and a half, up to spring 1989, at which point moves began to be made under UN leadership to implement the plan for independence. The illegal South African occupation of Namibia came to an end on 21 March 1990, when the country got her independence.

references

Although environmental scarcity had increased in the most densely populated part of Namibia, Ovamboland, from the 1950s onwards as agricultural land was in short supply on account of population growth, so that the menfolk had to undertake migrant labour further south in order to make a living, this was not the underlying force behind the outbreak of war.

The principal motive was the demand for civil rights and majority rule expressed by the African population.

Direct environmental impacts of the state of war

Environment in northern Namibia does not favour guerrilla warfare, on account of the sparse settlement, the long distances and the openness of the landscape, as it is easy to spot people and animals on the move in the scrub or forest savannah, especially during the dry season.

The main problem from a reconnaissance point of view for the South African army was how to distinguish guerrillas from civilians. One manoeuvre of environmental significance was the clearing of a narrow 'killing zone' along the Namibia–Angola border immediately after the collapse of the Portuguese colonial administration. The vegetation was cleared and then the sandy soil was raked so that any movement over the border could be identified. This zone was then reinforced with a 'no-go zone' to the south, the existing population of which was forced to move elsewhere.¹⁴ Although the direct environmental impacts of these zones were relatively minor ones, the operation had considerable indirect repercussions that will be discussed more profoundly later in this article.¹⁵ Similar vegetation-free zones were also cleared alongside the main roads leading north, to prevent guerrilla attacks on transport convoys, and treeless protective zones were created around the military bases. *uf*

¹⁴ Emmanuel Kreike, 'War and environmental effects of displacement in Southern Africa (1970s—1990s)', in *African Environment and Development*, ed. William G. Moseley and B. Ikubolajeh Logan (Aldershot: Ashgate, 2004), 92—95; Wolfgang Werner, 'The evolution of land tenure in Oshikoto', in *The Privatisation of Rangeland Resources in Namibia: Enclosure in Eastern Oshikoto*, ed. Jonathan Cox, Carol Kerven, Wolfgang Werner and Roy Behnke (London: Overseas Development Institute, 1998), 30—31.

¹⁵ This clearing activity on the border in the eastern parts of the Caprivi Strip came to an end in 1978. Eventually saplings of the pioneer tree species, *Terminalia sericea* Burch. Ex DC, a valuable source of building material, regenerated naturally in the cleared soil. Veli Pohjonen, 'Terminalia sericea: Northern Namibia's hardy pioneer', *Agroforestry Today* 4(1992)1: 11.

By far the best area for guerrillas from Angola to infiltrate into Namibia, especially during the wet season, was the vast forested zone of eastern Ovamboland and Kavango,¹⁶ and thus a system of military roads was built into this sparsely populated area in order to facilitate patrolling by motorized units of the South African army. The direct environmental impact of this road building was no more than local in extent and of very little significance during the state of emergency. However, it should be noted that these roads also worked as firebreaks and thereby limited the spreading of forest fires.

Strip development

It is characteristic of armed conflicts everywhere that they undermine the morale of a society and detract from the observance of law and order. When the colonial administrations in Angola and Mozambique collapsed and the white apartheid government of Zimbabwe was overthrown, the South African army pursued a policy of destabilizing the new governments, which were opposed to racial segregation, by supporting counter-revolutionary movements in those countries. The special troops assigned to Namibia and Angola engaged not only in military operations but also in the illicit hunting of big game and the sale of the resulting products on the international markets, through both legal and illegal channels. These activities were successfully concealed until the late 1980s.¹⁷

This poaching practised and supported by the South African armed forces, and especially by individual soldiers, reflects well the nonchalant attitude towards legal and moral values that prevailed during the war time. Thus where there were an estimated 250—350 specimens of the rare black rhinoceros in the wild in north-western Namibia in 1970, there were only 66 survivors by 1982, the vast majority having died at the hands of local poachers. This hunting

¹⁶ Kavango is located east of Ovamboland and its habitation is concentrated close to the south bank of the Kavango River. Its administrative centre is the town of Rundu.

¹⁷ See Stephen Ellis, 'Of elephants and men: Politics and nature conservation in South Africa', *Journal of Southern African Studies* 20(1994)1: 54—59.

was facilitated by the weapons handed out to the traditional leaders by the South African military, and the horns found their way via South Africa onto the markets in Hong Kong, China and Taiwan.¹⁸

Likewise, the environmental organizations claimed in 1988 that the UNITA troops engaged in the struggle against the government of Angola had killed several tens of thousands of elephants within a space of 12 years and that ivory, rhinoceros horns and valuable timber had been transported from Angola to South Africa by air and in road haulage vehicles with the knowledge and connivance of the South African army and possibly other authorities.¹⁹ In order to calm down the resulting debate on the subject, the South African army conducted its own enquiry into the allegations, leading to the conclusion that the army had assisted UNITA 'only to a minor extent' with the transportation of ivory in the late 1970s. All told, the report was superficial and inclined to play down the significance of such activity.²⁰

It was possible to hold an independent investigation into the smuggling of ivory and rhinoceros horn by the South African army only after the apartheid administration had come to an end, whereupon the commission of enquiry nominated by President Nelson Mandela and headed by the judge M. E. Kumleben demonstrated unequivocally that the army had been involved, directly or indirectly through its servicing company, in the possession and

¹⁸ Esmond Bradley Martin, 'Rhino poaching in Namibia from 1980 to 1990 and illegal trade in the horn', *Pachyderm* 17(1994): 39—51.

¹⁹ Report of the Monitor Group, presented to the US Congress by Craig Van Note on 14.7.1998. M.E. Kumleben, *Report: Commission of Inquiry into the Alleged Smuggling of and Illegal Trade in Ivory and Rhinoceros Horn in South Africa* (Durban: 1996), 8, 12, 41; De Wet Potgieter, *Contraband: South Africa and the International Trade in Ivory and Rhino Horn* (Cape Town: Queillerie, 1995), 26—27.

²⁰ This internal enquiry was carried out under the direction of Brigadier-General De Wet Roos. Kumleben, *Report*, 40—43.

smuggling of ivory and rhinoceros horns originating from Angola and Namibia.²¹ A cautious estimate for the amount of ivory smuggled over the period 1979—1987, obtained by comparing figures for the legal production of ivory in South Africa and Namibia with the customs reports for the purchasing countries, was 192 tonnes. This report also explained how the ivory smuggled to South Africa was 'laundered' to pass as legal imports on arrival in the purchasing countries, principally Hong Kong and Japan.²²

Confirmation of the large-scale butchering of elephants in Angola was obtained in the form of information from the town of Rundu in northern Namibia, as the majority of the ivory and rhinoceros horns from Angola or brought to Namibia via Angola in the years 1975—1989 came to the South Africa army base at Rundu. Import licences for almost 4,000 elephant tusks and 700 rhinoceros horns were granted at Rundu in the first three months of 1979, for instance, mostly to South African army personnel. The exposure of this large-scale involvement in the ivory trade was a considerable embarrassment to the government of South Africa, which was trying to build up the image of a standard-bearer for the environmental protection movement.²³

Figure 1

Ivory smuggling routes in southern Africa

Source: Potgieter, *Contraband*, 14.

²¹ Kumleben, *Report*, 92. The cover organization was the army's servicing company Frama Inter-trading (Pty) Ltd.

²² Kumleben, *Report*, 15, 103—104. Examinations were made of the import statistics of Spain, West Germany, Switzerland, Belgium/Luxemburg, Great Britain, Italy, France, the United States, Japan, Taiwan, Macao, Thailand and Hong Kong.

²³ Kumleben, *Report*, 38, 57. This report and many other publications contain evidence that South African armed forces personnel were also acquiring illicit ivory, from the Kavango and Caprivi areas of Namibia.

Another commodity that was transported to South Africa via Namibia by the returning army convoys was timber. According to the report of the Kumleben Commission, large quantities of valuable timber were exported from Angola to South Africa from 1980 onwards, when the UNITA supply lines became a cover organization for the South African army.²⁴ Timber was a more important source of finance for UNITA military activities at that stage than was ivory. At the same time the South African army also began transporting timber purchased in Angola back home for its own use.²⁵ It is highly probable, however, that it was the profitable smuggling carried on by the South African army that encouraged the civilian population of Namibia to engage in both the poaching of game and the illegal felling of timber.²⁶ Following Namibian independence the focus of UNITA's attentions moved further north in Angola, to the diamond-rich areas.²⁷

Indirect environmental impacts of the war of independence

The indirect environmental impacts of the state of war within the boundaries of Namibia were many times greater than those brought about by direct military action. The indirect impacts in question were primarily the restrictions imposed on personal freedom of movement and the transfers of population by which the boundary zones and main areas of operation were emptied and the people concentrated in certain centres of settlement. Thus,

²⁴ Kumleben Report, 47, 52. The Namibian nature conservation authorities were aware of these consignments but were forbidden to speak of them. The species of tropical hardwood involved were presumably *Baikiaea plurijuga* Harms and *Pterocarpus angolensis* DC.

²⁵ Jan Breytenbach, *Eden's Exiles: One Soldier's Fight for Paradise* (Cape Town, Queillerie, 1997), 71, 226, 251, 257; Potgieter, *Contraband*, 31—32.

²⁶ See Mystery ghost struts briefly in court, *Windhoek Observer*, 26 May 1990.

²⁷ Global Witness, *A Rough Trade: The Role of Diamond Companies and Governments in the Angolan Conflict* (London: Global Witness, 1998). Available at <http://www.globalwitness.org/reports/show.php/en.00013.html>. [Accessed 10.12.2005]; Breytenbach, *Eden's Exiles*, 255; UN Security Council resolutions nos, 1173 (1998)/12.6.1998 and 1176(1998)/24.6.1998 on control of the diamond trade.

the indirect effects of the war were felt more obviously in the most populous part of Namibia, the region of Ovamboland.

The spread of settlement eastwards from the most densely populated area of Ovamboland, from the 1930s onwards had taken place along the Angolan border, and that the South African government had supported and directed this expansion through its well drilling programme, as the availability of water was one problem afflicting this area, especially in the dry season.²⁸ During the war time the most ambitious of all the transfers of population was that by which all settlements were eliminated from the zone running along the border with Angola.²⁹ In the early 1980s Kiljunen estimated that more than 20,000 people had had to leave their homes on account of the 'cleansing' of this area.³⁰

Figure 2

Channels for the release of population pressure in Ovamboland

Source: Antti Erkkilä, *Living on the Land: Change in Forest Cover in North-Central Namibia 1943—1996*. *Silva Carelica* 37 (Joensuu: University of Joensuu, 2001), 47.

As the battle for Namibian independence wore on, the South African government altered its settlement policy in Ovamboland, with the aim of concentrating the population, which had traditionally favoured a scattered distribution pattern within the rural areas. In order to make

²⁸ Kreike, 'War and environmental effects of displacement in Southern Africa', 92—100; Erkkilä, *Living on the Land*, 43—47; Werner, 'The evolution of land tenure in Oshikoto', 28—31.

²⁹ Werner, 'The evolution of land tenure in Oshikoto', 30—31; Chris Tapscott and Lazarus Hangula, *Fencing of Communal Range Land in Northern Namibia: Social and Ecological Dimensions*. SSD Discussion Paper No. 6 (Windhoek: University of Namibia, 1994), 5—7.

³⁰ Kiljunen, 'National resistance and the liberation struggle', 164

> > tel +264 61 229855 more difficult, the government supported migrations into the major
 > > fax +264 61 230172
 > > settlements of central Ovamboland and into new settlement areas in the southern parts of the
 region. As hostilities flared up, South Africa was forced to amass more troops and other
 personnel in Ovamboland from the mid-1970s onwards, and this also meant that jobs were
 created for civilians, which added to the attraction of the population centres.³¹ The
 significance of the transfers of population and the expansion of the military economy was
 seen most clearly in the vast increase in the population of the towns of Ondangwa and
 Oshakati in the course of the 1980s, the effects of the escalation of the war being most
 notable in the case of Oshakati, which had grown up around a military base, and the town of
 Rundu in the Kavango area.³²

Table 1

Population of the towns of Ondangwa and Oshakati, 1970—2001

Year	Ondangwa	Oshakati	Total
1970	2,600	2,800	5,400
1981	1,000	3,700	4,700
1991	7,900	21,600	29,500
2001	10,900	28,300	39,200

³¹ W. Pendleton, D. Lebeau and C. Tapscott, *Socio-Economic Study of the Ondangwa/Oshakati Nexus Area*. Namibian Institute for Social and Economic Research, Research Report 8 (Windhoek: University of Namibia, 1992), 13—15, 32, 104—105, 142; Lazarus Hangula, *The Oshakati Human Settlement Improvement Project: The Town Oshakati: A Historical Background*. SSD Discussion Paper No. 2 (Windhoek: University of Namibia, 1993), 24—26; Tapscott and Hangula, *Fencing of Communal Range Land in Northern Namibia*, 5—7.

³² I.J. van der Merwe, 'The role of war in regional development and urbanization in Namibia', *Africa Urban Quarterly*, 4(1989)1—2: 265—269; I.J. van der Merwe, *The Role of War in Regional Development in Namibia* (University of Stellenbosch, 1990), 5—8. In a questionnaire administered soon after Namibia gained independence, 8% of those interviewed said that their reason for moving to Ondangwa or Oshakati or the surroundings of these towns had been the pressures of war in their former home areas, while two-thirds indicated that the main motive had been the obtaining of work. Pendleton et al., *Socio-Economic Study of the Ondangwa/Oshakati Nexus Area*, 13—15, 32, 104—105, 142.

Sources: Republic of South Africa, *Population Census 1970: South West Africa, Geographical Distribution of the Population* (Pretoria: Department of Statistics, 1978), table 1; *SWA/Namibia Today* (Windhoek: Department of Governmental Affairs, 1988), 13; Republic of Namibia, *1991 Population and Housing Census* (Windhoek: Central Statistics Office, 1994), appendix c; Republic of Namibia, *2001 Population and Housing Census* (Windhoek: Central Bureau of Statistics, 2003), 21.

One basic requirement for urbanisation in northern Namibia, and especially in Ovamboland, is a reliable water supply, as settlement is effectively restricted by the uneven seasonal distribution of rainfall and the salinity of the groundwater. The South African administration initiated an emergency programme in Ovamboland during the worst droughts of the 1930s to improve the water supply by the construction of dozens of dams to store floodwater from the wet season for use during the drier parts of the year. By the 1950s the water supply system based on dams proved inadequate for the whole area.³³

Figure 3

The system of water supplies in Ovamboland

Source: Alan Marsh and Mary Seely, *Oshanas: Sustaining People Environment and Development in Central Owambo, Namibia* (Windhoek: Typoprint, 1992, 16).

In order to improve the water supplies further, a new programme was started for the building of open canals in Ovamboland. The conducting of floodwater along these was easy, because

³³ Patricia Hayes, 'The 'famine of the dams': Gender, labour & politics in colonial Ovamboland 1929—1930', in *Namibia under South African Rule: Mobility and Containment, 1915—46*, ed. Patricia Hayes, Jeremy Silvester, Marion Wallace and Wolfram Hartmann (London: James Currey, 1998), 117—146; *Directorate of Water Affairs, 25 Years of Water Supply to South West Africa 1954—1979* (Windhoek: Directorate of Water Affairs, 1979), 6—8; Republic of South Africa, *South West Africa Survey* (Cape Town: Republic of South Africa, 1967), 77—78.

the terrain slopes down steadily from the Bihé Plateau in central Angola as far as the salt lake of Etosha and precipitation also increases from southern Ovamboland towards the Angolan border. At the first stage of the programme, floodwater from reservoirs in the north was supplied to the densely populated areas of central Ovamboland via two canals. In the second stage, undertaken in the early 1970s, involved extending one canal to the perennial Kunene River, which rises in Angola and serves as a boundary between Angola and Namibia for some distance before entering the Atlantic Ocean. The construction of a pumping station and reservoir on this river in the Angolan side guaranteed a steady supply of water to the densely populated areas of Ovamboland throughout the year.³⁴

The completion of the pumping station on the Kunene River enabled the main water pipe to be extended to parts of southern and south-eastern Ovamboland that were habitable but sparsely populated on account of the shortage of water. This was entirely in conformity with South Africa's strategic aims, even though the extension was not originally advocated on the grounds of military policy. It was nevertheless largely through the development of the water supply system that the administration succeeded in reducing the population pressure on the strategically important north-eastern forest savannah region.³⁵

One consequence of the improved water supply was that southern Ovamboland emerged in the late 1970s as a major wet season cattle grazing region, a function that had traditionally

³⁴ Department of Water Affairs, 'The upgrading of the existing pumpstations of the Rucana-Mahanene regional state water scheme (Water supply proposal)', (unpublished plan); Republic of South Africa, *Owambo* (Cape Town: Republic of South Africa, 1971), 17—19; John Mendelsohn, Selma el Obeid and Carole Roberts, *A Profile of North-Central Namibia* (Windhoek: Gamsberg Macmillan, 2000), 2—3, 17, 16—17.

³⁵ The spread of settlement into southern and south-eastern Ovamboland is reflected well in the parish registers of the Evangelical Lutheran Church in Namibia, as the new parishes founded in these areas grew more rapidly than those in other parts of Ovamboland. See ELCIN, *ELCIN Statistics. Reports and Tables 1970—2004*.

Military
Road
bushes

been fulfilled by the Cuvelai River delta located further north, the cattle being moved into southern Angola to graze in the dry season.³⁶ The war made it more difficult to graze cattle in Angola, and in the forested border zone in general, so that the cattle rearers had no option but to look for optional land elsewhere. Thus the possibility for grazing in southern and south-eastern Ovamboland in the 1980s as a result of the extension of the water supply partly compensated for the loss of these pastures in the north. It meant at the same time, of course, that as a consequence of the escalation in the war of independence pressure on environment caused by cattle grazing was shifted to new, more marginal areas, as the vegetation of southern Angola was much lusher, on account of the higher rainfall and more fertile soils.³⁷

In addition to promoting more compact settlement patterns, the South African administration attempted to impose controls on the grazing of cattle. A South African consultancy company, in a development report for Ovamboland completed in 1985, proposed the establishment of fenced communal cattle ranches in the region, the South African armed forces having assisted the consultants in mapping out suitable grazing areas of at least 5,000 hectares with the necessary water supplies.³⁸ This plan would have concentrated cattle grazing in precisely defined areas set aside for the purpose, which would have supported the aims of the South African military strategy. The plan was never implemented in the proposed form, however, on account of the initiation of the Namibian independence process.

³⁶ On cattle grazing traditions in the Oshimolo area of southern Angola, see Emmanuel Kreike, 'Recreating Eden: An agro-ecological change, food security and environmental diversity in southern Angola and northern Namibia, 1890—1960' (PhD diss., Yale University, 1996), 305—359; Tapscott, Chris, Lazarus Hangula, *Fencing of Communal Range Land in Northern Namibia: Social and Ecological Dimensions*. SSD Discussion Paper No. 6 (Windhoek: University of Namibia, 1994), 4—5.

³⁷ Marsh and Seely, *Oshanas*, 27—28.

³⁸ Loxton, Venn & Associates, '*Development Strategy for Ovamboland / Ontwikkelingstrategie vir Owambo*. 1985', (unpublished consultants' report, 1985), 157—161.

The major shifts of population pressure to new areas meant that the indirect environmental effects of the war of independence were very much greater than the direct effects, and many of the refugees who returned home at the independence were shocked by the changes in the environment, particularly the destruction of trees and forests, claiming that Ovamboland had become a 'desert' in their absence.³⁹ The loss of trees in central Ovamboland, where the landscape is characterized by floodwater channels several hundred metres wide, created the impression of a radical alteration in the environment, and similarly the spread of settlement deep into the southern and south-eastern parts of the region reinforced the image of a situation in which all the land available for settlement had been taken over for fields or pastures.

The restoration of peace and environmental awareness

The attitudes of the people of Ovamboland⁴⁰ towards their environment since the restoration of peace, and particularly towards trees and forests, have been determined on the one hand by economic realities and on the other hand by deep-seated cultural structures. Independence did not immediately bring about any radical alterations in the economy, and although all the restrictions on the movement of population imposed by the South African administration were rescinded, this did not precipitate any mass migration of families from Ovamboland to the towns of southern Namibia. The menfolk continued to work as migrant labourers in the south while the other members of their families remained at home to cultivate the fields and tend the cattle. Peacetime conditions in fact meant a temporary reduction in employment

³⁹ See Harri Siiskonen, 'Deforestation in the Owambo region, North Namibia, since the 1850s', *Environment and History*, 2(1996)3: 303.

⁴⁰ After Namibia's independence the borders of the colonial administrative region Ovamboland were revised. Ovamboland was divided into four regions: Ohangwena, Omusati, Oshana and Oshikoto. They cover a larger area than the 'historical' Ovamboland. To avoid terminological confusion the term Ovamboland is still used when speaking about the north-central part of independent Namibia.

opportunities in Ovamboland, as no new work in the civilian economy was immediately forthcoming to compensate for the shutting down of the wartime economy. The financial turnover of firms functioning in the Oshakati and Ondangwa areas dwindled to a third of that previously achieved as a result of the withdrawal of the South Africa troops.⁴¹ New employment opportunities arose later, of course, through development projects and expansion of the service sector, and more recently the political stability of Namibia has attracted investors from South Africa who have an eye on the markets of both northern Namibia and southern Angola.

Questions of the use of communal lands aroused both great hopes and considerable fears among the local population. SWAPO had emphasized during the independence campaign the importance of eliminating the injustices in the ownership of land, and soon after *expectations* independence the Prime Minister summoned a land conference to discuss a solution to this question in a spirit of reconciliation and forgiveness. As expected, the process of deciding upon a land reform was time-consuming and fraught with problems. Eventually a law applying to privately owned commercial farms came into force in 1995 that did not interfere with the rights of the white landowners, but the question of the communal land, former 'homelands', inhabited by the Africans was a very much more difficult one. The first land use act governing communal lands, approved in 2002 after years of discussion, provides for future privatization of land tenure, in that it lends the force of law to the principle of inheritance of land use rights by relatives of a deceased person.⁴²

⁴¹ van der Merwe, 'The role of war in regional development and urbanization in Namibia', 269.

⁴² Wolfgang Werner, *Land Reform in Namibia: The First Seven Years*. Nepru Working Paper No. 61 (Windhoek: Namibia Economic Policy Research Unit, 1997); *Government Gazette of the Republic of Namibia* 12 August 2002, No.2787 (No. 137. Promulgation of Communal Land Reform Act, 2002 (Act No. 5 of 2002)).

The legislative uncertainty that followed the independence in 1990 increased the speculation in communal land that had first raised its head in the late 1970s, the most conspicuous manifestation of which was the fencing of grazing land.⁴³ In the interregnum that prevailed following independence the traditional leaders lost their control over land use and the rich merchants, farmers and officials began to interpret the existing rules and regulations in such a way as to allow anyone at all to fence in and make use of unclaimed communal land. In practice it was only the well-to-do who could afford these expensive fencing operations, and thus the custom had the effect not only of increasing environmental loading through grazing on unfenced land but also of promoting social inequality within Ovamboland.⁴⁴

One problem as far as forest conservation was concerned was that the traditional leaders were unable to control felling in the period immediately after the independence, as the military roads built by the South African army and the increase in the numbers of vehicles meant that felling could take place further away from the settlements than ever. Under the Forest Act of 1968, which still applied at that time, the felling of trees was subject to licence, but in practice neither the traditional leaders nor the authorities were capable of enforcing this.⁴⁵

The officials of the new Directorate of Forestry sometimes felt that all their efforts were in vain, as indicated by the statement made by the forester in charge of the Ovamboland region,

⁴³ Tapscott and Hangula, *Fencing of Communal Range Land in Northern Namibia*, 5—13; Werner, 'The evolution of land tenure in Oshikoto', 36—39.

⁴⁴ Werner, 'The evolution of land tenure in Oshikoto', 38—41; Tapscott and Hangula, *Fencing of Communal Range Land in Northern Namibia*, 8—10; Ben Fuller, Sakaria Nghikembua and Tani Forbes Irving, *The Enclosure of Range Lands in the Eastern Oshikoto Region of Namibia*. Social Sciences Division Research Report 24 (Windhoek: University of Namibia, 1996), 5—14.

⁴⁵ Antti Erkkilä and Harri Siiskonen, *Forestry in Namibia, 1850—1990*. Silva Carelica 20 (Joensuu: University of Joensuu, 1992), 176—179; Axel Martin Jensen, *Rural Development Project Ovamboland, Namibia: Environmental Component* (Geneva: Lutheran World Federation, 1990), 15.

Joseph Hailwa, in 1992 that 'It's no good asking everybody to be careful with wood use and to plant more trees, if unscrupulous people are allowed to make a fortune through theft.'⁴⁶

Independence also meant increased logging pressure in the forests of Namibia from a cultural point of view, as it led to the return of more than 40,000 exiles, the majority of whom settled in the former territory of Ovamboland,⁴⁷ increasing the demand for both land and wood.

Also, the traditional style of building came back into favour at that time, in spite of the environmental projects started by the authorities and voluntary organizations with the aim of reducing logging pressures on the forests by supporting the use of alternative sources of energy and building materials and encouraging people to plant trees around their houses as both an amenity and a means of assuming responsibility for the environment. The preservation of traditional values nevertheless won out over this environmental campaign in the fervour that surrounded independence. One businessman, Shali Kamati, summed up the attitude of the Ovamboland population towards the traditional style of building when he observed that 'To be seen as a really brave Owambo man, you have to build a big homestead consisting of many poles and a lot of wood.'⁴⁸ On the other hand, it must be admitted that other building materials were expensive and notoriously difficult to come by at that time, especially in the more remote areas.

Conclusions

⁴⁶ *The Namibian*, 26 June 1992.

⁴⁷ Douglas Webb and David Simon, *Migrants, Money and the Military: The Social Epidemiology of HIV/AIDS in Owambo, Northern Namibia*. NEPRU Occasional Paper No. 4 (Windhoek: Namibian Economic Policy Research Unit, 1995), 2—3.

⁴⁸ *The Namibian*, 9 October, 1992.

An armed conflict almost without exception means the adoption of 'wartime legislation', in Africa as elsewhere in the world, entailing the ravaging and over-exploitation of natural resources and the environment in general as well as a decline in the observance of human rights. Frequently such armed conflicts appear capable of continuing indefinitely all the time it is possible to finance the purchase of arms and supplies, and this may indeed be a profitable business not only for the local elite but also for multinational companies engaged in exploiting natural resources. In poor nations such as those of sub-Saharan Africa, anything that can be sold for money, such as timber, can be of importance as a source of income to the parties in a war. Thus it is that the forest resources of Africa have scarcely been felled or destroyed at all for strategic purposes, as was the case in Vietnam, but primarily in order to finance the wars.

It is extremely difficult to define precisely the changes in environment brought about by armed conflicts, as this would require reliable baseline data on the pre-war situation, but modern environmental assessment and monitoring, especially remote sensing techniques, provide new opportunities for analysing the consequences of the more recent armed conflicts in Africa, especially since such data are frequently produced by international organizations, reducing our reliance on parties to the conflicts themselves. On the other hand, the environmental repercussions of conflicts are often revealed by 'indirect methods' and through 'silent information'. Trade and customs statistics, and especially data on goods confiscated by customs or other authorities, have in many cases provided the first clue for tracing environmental crimes perpetrated by the parties to a war, and the numerous volunteer organizations operating in the developing countries similarly play a major role in bringing environmental infringements to light. One advantage enjoyed by the latter is that, with their

Pics
where?

grassroots operating networks, they are able to provide continuous monitoring data on the situation in a conflict area.

Although the direct effects of the war of Namibian independence spilled over into southern Angola, its environmental impact was relatively minor in extent. The greatest destruction relative to the resources available was undoubtedly that brought about by the illicit hunting of wild animals by the South African armed forces/UNITA and individual army officers for the purposes of unofficial trading. Destruction of the forests and vegetation in general remained of limited importance.

The environmental impacts of the war in Namibia were predominantly indirect, but of a long-term nature. The state of emergency did not radically alter the fundamentals of the northern Namibian way of life, with the exception of the jobs within the wartime economy made available to the civilian population in the urban centres. The military operations placed restrictions on movement in the forested areas of eastern Ovamboland and Kavango in particular and interrupted migrations to the traditional pasture lands on the Angolan side of the border, resulting in serious pressure on environment elsewhere. This was especially noticeable in the areas south-east of Ovamboland which was served by the water supply system originally built by the South African administration for strategic reasons. Thus the struggle for independence meant a shift in population pressure from north-western Ovamboland to the southern and south-eastern parts of the region.

The long period of war undoubtedly undermined the attitudes of the people of Ovamboland towards trees and forests and other aspects of their environment. The presence and unpredictable behaviour of the South African military did not encourage the local people to

take care of the environment. On the other hand, the South African 'native policy', which was aimed at fermenting inequality among the Owambo people, gave rise to a privileged group within the Namibian society and reduced the ordinary people's sense of responsibility for the environment of the communal lands. The post-independence government of Namibia has mounted a prominent campaign for the adoption of the principles of sustainable development in all aspects of human activity, but improvements in the state of the environment are still dependent on people's commitment to the general effort to achieve the goals laid down. The war of independence in Namibia shows well that attempts at understanding the environmental impacts of armed conflicts in Africa call for a broad-based approach and a time-scale that extends beyond the duration of the conflict in question.

ref/data

" "