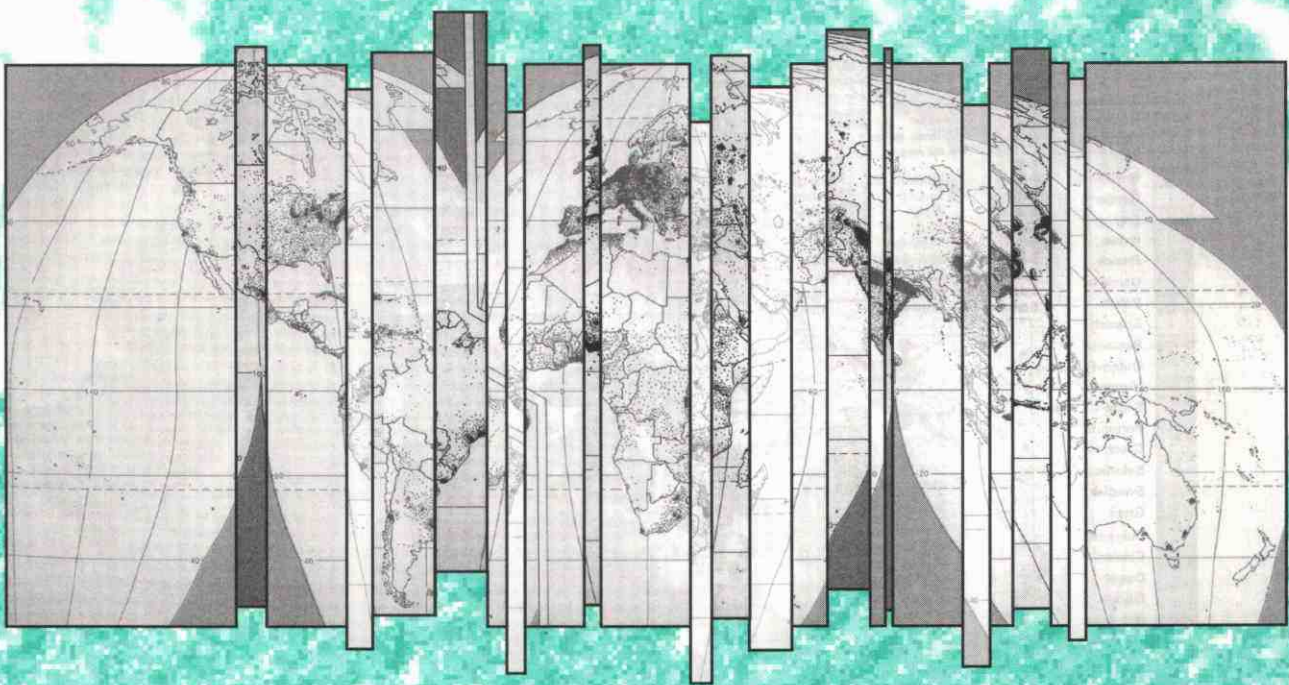


• The Project on • Environment • Population • and • Security •

Environmental Scarcity and Violent Conflict: The Case of South Africa

Valerie Percival and Thomas Homer-Dixon



AMERICAN ASSOCIATION FOR THE
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Foreword

Project Overview

The Project on Environment, Population and Security is an activity of the Peace and Conflict Studies Program of the University of Toronto conducted in cooperation with the Population and Sustainable Development Project of the American Association for the Advancement of Science in Washington and the Canadian Centre for Global Security in Ottawa. The project began in July 1994 and is supported by the Global Stewardship Initiative of the Pew Charitable Trusts.

The project will gather, evaluate, integrate and disseminate existing data on causal linkages among population growth, renewable resource scarcities, migration and violent conflict. This effort will be guided by three key questions:

- What is known about the links among population growth, renewable resource scarcities, migration and violent conflict?
- What can be known about these links?
- What are the critical methodological issues affecting research on these links?

To date, the policymaking community has not had adequate access to the best research findings on the linkages among environment, population and security. The evidence is in disparate form, often scientific in nature and not easily comprehended by those outside specialist audiences. Therefore, this project will gather as much evidence about such linkages as possible; examine and compare the best material to see if common patterns of causation exist across societies, economic regions, and time; and provide accessible summaries of these findings to policymakers.

The information and analyses generated by the project will:

- help policymakers better understand where to intervene to improve social outcomes;
- strengthen the research methodology and theories that could help scholars and policymakers understand common patterns of causation across diverse societies;
- gather together a large quantity of relevant data and make these data available to researchers and policymakers; and
- strengthen the network of experts, opinion leaders and policymakers interested in these issues.

Environmental Scarcity and Violent Conflict: The Case of South Africa

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Thomas Homer-Dixon

October 1995

Summary

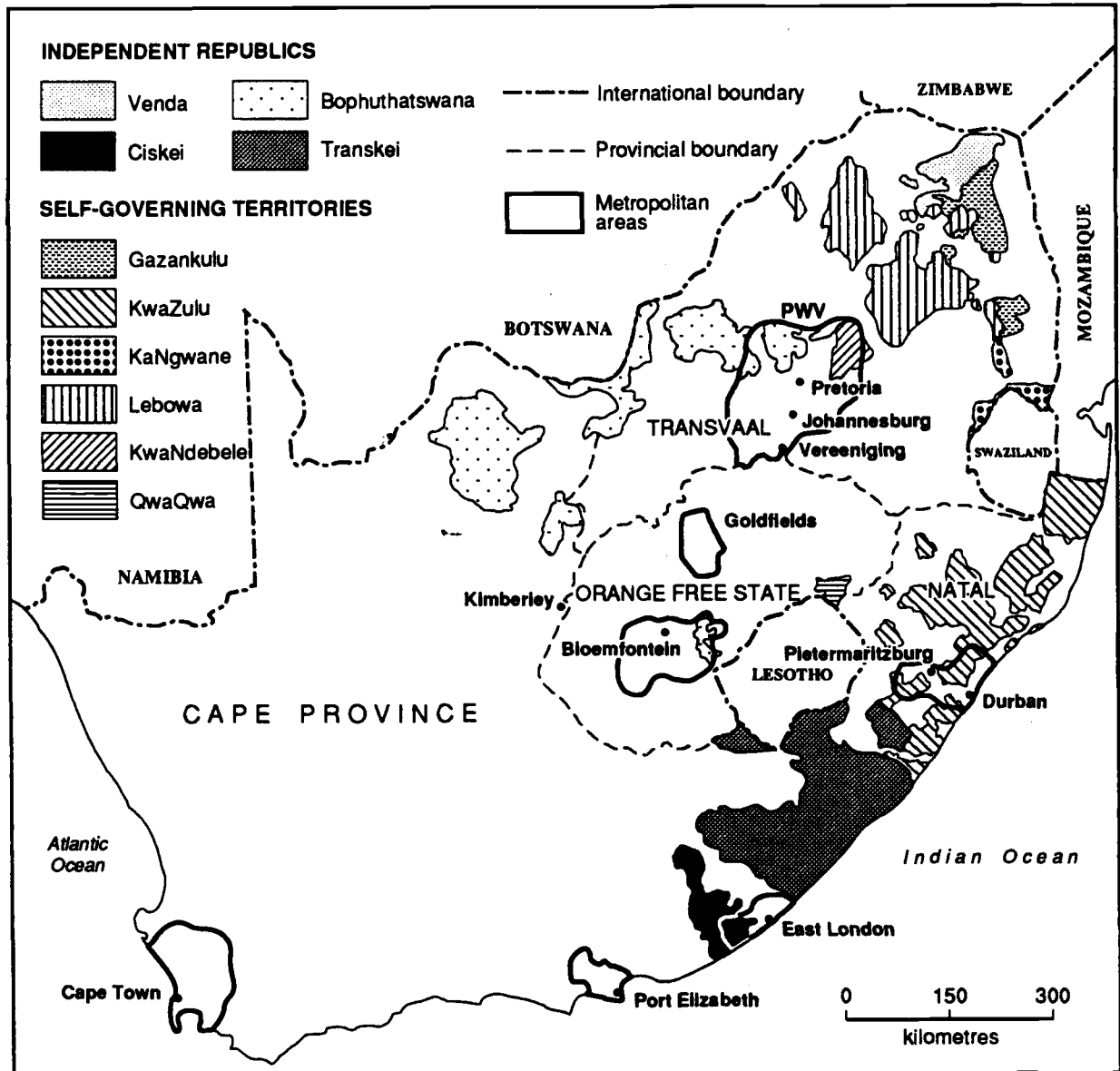
Although South Africa experienced a relatively stable transition to democratic rule, violence within the black South African community has escalated steadily since the 1980s. This violence increased at precisely the same time that many anticipated the transition to a more peaceful society — upon the release of Nelson Mandela, the end of the ban on political activity, and the official end to apartheid. Conflict became more intense and spread throughout the country. This paper provides a new perspective on these events by analyzing the link between South Africa's environmental scarcity and its social turmoil. We examine state-society relations in South Africa and how the changing nature of these relations affects resource access, perception of grievances, and opportunities for violent action. Environmental scarcity is not the sole cause of the country's recent turmoil. But policymakers and social analysts who ignore environmental problems risk missing a factor that powerfully contributes to the violence.

Scholars have overlooked the role of environmental scarcity — the scarcity of renewable resources — as a contributor to social instability in South Africa. The severe environmental problems confronting the country have been eclipsed by the negative social impacts of apartheid, opposition to minority rule, and the effort to build a post-apartheid political order. The transition to democracy was an astonishing achievement, the culmination of decades of struggle. Even so, apartheid has left behind a grim ecological legacy that will influence political, social, and economic conditions for decades.

Although the linkages between environmental scarcity and violence in South Africa are complex, this paper traces the causal role of environmental scarcity in the recent civil strife. In the context of apartheid, environmental scarcity contributed to reduced agricultural productivity in the homelands, migrations to

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Apartheid South Africa



David M. Smith, "Introduction," *The Apartheid City and Beyond: Urbanization and Social Change in South Africa*, ed. David M. Smith (London: Routledge, 1992), 3.

and within urban areas, and the deterioration of the local urban environment. These pressures undermined the ability of the state to provide for the needs of society. The level of grievances within society rose, and the transition from minority rule provided opportunities for the violent expression of these grievances. After the election of Nelson Mandela, violence subsided in most areas of the country. Yet civil strife continues in the KwaZulu-Natal region, an indication that underlying stressors — such as environmental scarcity — remain.

We begin the description of the South African case by outlining the effects of apartheid and the process of transition from apartheid rule. We then present the theoretical framework that guides our analysis of the role of environmental scarcity in this case. We provide an overview of environmental scarcity in South Africa, its social effects, and its relationship to violence, with a specific focus on the KwaZulu-Natal region. We conclude by

discussing what our analysis means for social stability in post-apartheid South Africa.

Our analysis faced serious limitations in data quality and quantity. Therefore, rather than providing definitive conclusions, this paper offers suggestive findings and provides a framework for further research on South Africa. Analysts need to identify the key social and political factors intervening between environmental scarcity and violent conflict. They must also generate good data on agricultural productivity, soil erosion, and fuelwood availability within the former homelands and on migration rates to urban settings. For urban areas, researchers need to establish the degree of dependence of the local population on renewable resources, and they must determine how access to these resources is manipulated by local leaders. Such information is essential to competent policy formation and implementation in the post-apartheid period.

SOUTH AFRICA: MOVING BEYOND APARTHEID

South Africa is one of the few countries that has experienced a relatively smooth transition to democracy. The apartheid regime, dominated by the National Party, voluntarily agreed to democratic elections in which it had little chance of victory. The election outcome allowed the African National Congress (ANC) majority to form the Government of National Unity (GNU) in cooperation with Inkatha and the National Party. The GNU will rule the country for five years, until new constitutional arrangements for South Africa are finalized. Scholars and policymakers perceive South Africa as a model for democratic transition in ethnically divided societies. However, prospects for a prosperous, peaceful, and democratic South Africa look very different when the contributions of environmental scarcity to the country's social instability are better understood.

Apartheid and the Political Geography of African Communities

Although British colonial rule gradually dispossessed the original Africans of their land, racial

separation was entrenched with the 1948 victory of the National Party, which slowly began to implement apartheid (apartness). Apartheid provided whites with 87 percent of the land, while blacks — almost 75 percent of the country's population — lived within the 10 Bantustans or homelands, which accounted for only 13 percent of the land. The black population in these areas sustained themselves through agriculture, local service industries, and as migrant labor in white-owned mines and industry.

The homelands became a dumping ground for the black South African population. From 1960 to 1980, the government forced 1.75 million people into the homelands to clear what it called "black spots" — squatter settlements in urban areas and rural villages consisting of blacks whose labor-tenant contracts on white farms had been canceled. The population density of the homelands increased dramatically as a result. Quasi-urban communities emerged on homeland borders as the labor force commuting to neighboring cities, mines, and industries grew rapidly in the 1970s. Other black workers lived in single-sex hostels near industries too far from the homelands for daily com-

muting. The remainder of the black population was restricted to legally defined “townships” lying outside white urban areas and was employed in industry and mines or as domestic laborers.¹

A recognizable apartheid city emerged — and it remains largely in existence today. Natural features, such as rivers, steep valleys, and escarpments, or human-made barriers, such as industrial areas, commercial belts, and railways, separate racial groups. Urban land is inequitably distributed: the township areas allocated for black South Africans are not sufficient for the numbers of people living there. These communities are also found on the periphery of the city, in the least attractive sectors — downwind from dirty industries, on poor land, and far from the city center. Informal settlements, which emerged first within the townships and then on public land throughout the major cities, continue to grow.² Both townships and settlements receive few services and lack infrastructure. The inadequacy of the infrastructure, such as sewage systems, water supplies, and energy sources, means that the urban black population relies extensively for its day-to-day needs on the local environment — including small vegetable plots and local streams, trees, and brush. Because many of these communities are located in fragile environments close to hillsides and river valleys, the environment quickly deteriorates.

The Struggle against Apartheid

The ANC, originally formed in 1912, escalated its activities in the 1950s as the National Party established the institutions of apartheid. With the escalating protest came increased government repression. The government banned the ANC and other opposition groups in 1960. Forced underground, the ANC established the military wing Umkhonto we Sizwe (“Spear of the Nation”), which began violent attacks against the government. Nelson Mandela, one of the leaders of the ANC, was arrested in 1961 and received a life sentence for treason in 1964.

Incremental reform began when P. W. Botha became prime minister in 1978. The political openings provided by reform stimulated increased opposition activities; in response, the government —

concerned about losing control of the pace of change — heightened its repression. The main opposition group, the United Democratic Front (UDF), the exiled ANC’s ally within South Africa, fiercely opposed the limited character of these reform measures and worked to make the country ungovernable. The government declared a nationwide state of emergency in 1986, while pressing on with limited reforms aimed at desegregating transportation and education. International companies began to divest, and many countries imposed sanctions on South African goods.

F. W. de Klerk was sworn in as state president on 20 September 1989. In the words of his foreign minister, Pik Botha, “The government began to shift away from apartheid when it realized that it was impossible to stem the tide of Africans moving to the urban areas in search of employment, signaling that the homeland system did not work.”³ On 1 February 1990, de Klerk lifted the thirty-year ban on the ANC and several other political organizations and allowed the return of political exiles. He released Nelson Mandela on 11 February 1990. With this watershed event, the process of dismantling apartheid became irreversible.

Negotiating Democracy

Almost immediately after Mandela’s release, the incidence of violence skyrocketed. Both the ANC and Inkatha became officially recognized political parties engaged in the struggle for control of the state. Clashes between their supporters gripped the KwaZulu-Natal region and the townships surrounding Johannesburg. Despite calls by all sides for an end to the bloodshed, it persisted until national elections established a multiracial democracy in April 1994.

Economic problems complicated the pre-election period. The South African economy stagnated in the late 1980s and early 1990s, debilitated by economic sanctions, low commodity prices, labor unrest, rural-urban migration, and wars in Namibia, Angola, and Mozambique. Annual real growth dropped from 3.4 percent in the 1970s to 1.5 percent in the 1980s; in 1990, the economy actually shrank. “Meanwhile [the total South African population in 1990] was swelling by 2.5 percent a year,

adding around one thousand newcomers to the work force each day. According to the best available estimates, more than one in three workers had no formal job, and half the unemployed did not even have unofficial work in the subsistence economy.⁴

In December 1991, the government, the ANC, the National Party, and most other political parties, with the exception of Inkatha and the radical Pan-African Congress, participated in CODESA — the Convention for a Democratic South Africa. After many false starts and difficult negotiations, CODESA produced a draft post-apartheid constitution and set 27 April 1994 as the date for the country's first multiracial election. The ANC won a majority but was constitutionally obligated to form a Government of National Unity from all parties winning twenty or more seats. Both the National Party and Inkatha obtained the required twenty seats, and, with the ANC, formed the Government of National Unity. Nelson Mandela, once the South African regime's most reviled political prisoner, now presides as its president.

Mandela's Presidency

The transition from apartheid to post-apartheid South Africa is being guided by the Reconstruction and

Development Program [RDP], which has as its goal the mobilization of "our people and our country's resources toward the final eradication of apartheid and the building of a democratic, non-racial and non-sexist future."⁵

Initially, the international and domestic business communities were concerned that the RDP was an inflationary social-spending program intended to rectify the years of apartheid injustices. Instead, the Mandela government put into place austere measures aimed at promoting both foreign and domestic investment. After years of near zero growth, the economy grew at a rate of 6.4 percent in the fourth quarter of 1994, which brought 1994 growth to 2.3 percent.⁶

The government's economic policies, coupled with its so-far-successful management of the political transition to majority rule, have bolstered confidence in its ability to transform South Africa from a conflict-ridden apartheid society to a prosperous democratic success story. Many commentators believe that the liberalization of markets and strict fiscal discipline are quickly addressing the development priorities of South Africa. However, the social and ecological legacies of apartheid will continue to affect the ability of both state and society to meet the goals of the RDP.

ENVIRONMENTAL SCARCITY AND VIOLENT CONFLICT: A THEORETICAL OVERVIEW

The context specific to each case determines the precise relationship between environmental scarcity and outbreaks of violent conflict. The quantity and vulnerability of environmental resources influence the activities of a society's population and determine the environmental impacts of these activities. Contextual factors also include the balance of political power, patterns of interaction, and the structure of economic relations among social groups. These factors affect how resources will be used, the social impact of environmental scarcities, the grievances arising from these scarcities, and whether grievances will contribute to violence.

The particular relationship between state and society is crucially important to the character of the links between environmental scarcity and violence.

Degradation and depletion of agricultural land, forests, water, and fish stocks threaten many societies around the world. However, in this study we examine not only the degradation and depletion of these resources but, more generally, their scarcity. There are three types of environmental scarcity: (1) supply-induced scarcity is caused by the degradation and depletion of an environmental resource, for example, the erosion of cropland; (2)

demand-induced scarcity results from population growth within a region or increased per capita consumption of a resource, either of which increase the demand for the resource; (3) structural scarcity arises from an unequal social distribution of a resource that concentrates it in the hands of relatively few people while the remaining population suffers from serious shortages.

These three types of scarcity often occur simultaneously and interact. Two patterns of interaction are common: resource capture and ecological marginalization. Resource capture occurs when increased consumption of a resource combines with its degradation: powerful groups within society — anticipating future shortages — shift resource distribution in their favor, subjecting the remaining population to scarcity. Ecological marginalization occurs when increased consumption of a resource combines with structural inequalities in distribution: denied access to enough of the resource, weaker groups migrate to ecologically fragile regions that subsequently become degraded.⁷

The three types of scarcity and their interactions produce several common social effects, including lower agricultural production, economic decline, migrations from zones of environmental scarcity, and weakened institutions.⁸ The first two of these social effects can cause objective socio-economic deprivation and, in turn, raise the level of grievance in the affected population. However, research shows that objective deprivation does not always produce strong grievances. People must perceive a *relative* decrease in their standard of living compared with other groups or compared with their aspirations, and they must see little chance of their aspirations being addressed under the status quo.⁹

High levels of grievance do not necessarily lead to widespread civil violence. At least two other factors must be present: groups with strong collective identities that can coherently challenge state authority and clearly advantageous opportunities for violent collective action against authority. For grievances to produce civil strife, such as riots, rebellion, and insurgency, the aggrieved must see themselves as members of groups that can act together, and they must believe that the best opportunities to successfully address their grievances involve violence.

Most theorists of civil conflict assume that grievances, group identities, and opportunities for violent collective action are causally independent. However, in this paper we argue, first, that grievances powerfully influence the meaning of group membership and the formation of groups and, second, that grievances can shift these groups' perceptions of opportunities for violence. The potential for group formation increases as people identify with one another due to their shared perception of grievance, and the meaning of group membership is influenced by the degree and character of the grievance. In addition, more salient group identity influences the perception of opportunity for group action: it ensures that the costs of violent challenges to authority are distributed across many individuals, and it increases the probability that these challenges will succeed.

Civil violence is a reflection of troubled relations between state and society. Peaceful state-society relations rest on the ability of the state to respond to the needs of society — to provide, in other words, key components of the survival strategies of the society's members — and on the ability of the state to maintain its dominance over groups and institutions in society.¹⁰ Civil society — groups separate from but engaged in dialogue and interaction with the state — presents the demands of its constituents.¹¹ Grievances against the state will remain low if groups within society believe the state is responsive to these demands. Opportunities for violence against the state will rise when the state's ability to organize, regulate, and enforce behavior is weakened in relation to potential challenger groups. Changes in state character and declining state resources increase the chances of success of violent collective action by challenger groups, especially when these groups mobilize resources sufficient to shift the social balance of power in their favor.¹²

Environmental scarcity threatens the delicate give-and-take relationship between state and society. Falling agricultural production, migrations to urban areas, and economic decline in regions severely affected by scarcity often produce hardship, and this hardship increases demands on the state. At the same time, scarcity can interfere with state revenue streams by reducing economic produc-

tivity and therefore taxes; it can also increase the power and activity of rent-seekers¹³, who become ever more able to deny tax revenues on their increased wealth and to influence state policy in their favor. Environmental scarcity therefore increases society's demands on the state while decreasing its ability to meet those demands.

Severe environmental scarcity causes groups to focus on narrow survival strategies, which reduces the interactions of civil society with the state. Society segments into groups, social interactions among groups decrease, and each group turns inward to focus on its own concerns.¹⁴ Civil society retreats, and, as a result, society is less able to articulate effectively its demands on the state. This segmentation also reduces the density of "social capital" — the trust, norms, and networks generated by vigorous, crosscutting exchange among groups.¹⁵ Both of these changes provide greater

opportunity for powerful groups to grab control of the state and use it for their own gain. The legitimacy of the state declines, as it is no longer representative of or responsive to society.

Opportunities for violent collective action can decrease, even under conditions of environmental scarcity, when the power of potential challenger groups is diffused by vigorous horizontal interaction within society and vertical interaction between civil society and the state. However, if poor socioeconomic conditions persist, grievances will remain. These grievances will probably be expressed through an increase in deviant activity, such as crime. Unless the grievances are addressed, the legitimacy of the government will decrease, society will once again become segmented, and opportunities for violent collective action will correspondingly increase.

ENVIRONMENTAL SCARCITY IN SOUTH AFRICA

This paper analyzes environment-conflict linkages in South Africa as a whole. Moreover, we make specific reference to KwaZulu-Natal because it is one of the most populous and poverty stricken provinces in South Africa, and since the mid-1980s, it has also been one of the most violent.¹⁶ It is a valuable case for understanding environment-conflict linkages for two reasons. First, the University of Natal has carefully conducted research on the causes of violence within the region and has developed a useful database on migration, growth of informal settlements, and violent deaths. Second, because much of the black population in the region is Zulu, explanations of violence cannot be reduced to ethnicity. Intra-ethnic divisions — caused in part by the effects of environmental scarcity — produced levels of violence in the region akin to civil war. We outline below the environmental situation in South Africa in general, with particular attention to KwaZulu-Natal.

Physical Geography

The South African ecosystem is characterized by low rainfall, water scarcity, and soils susceptible to erosion. Approximately 65 percent of the country receives less than 500 millimeters (mm) of annual precipitation, a threshold that is widely regarded by experts as the minimum required for rain-fed cropping.¹⁷ About 60 percent of South African cropland is characterized by low organic matter content. After repeated cultivation, organic matter is rapidly lost and the soil is easily eroded.¹⁸ Other factors affecting erosion include climate, slope, plant cover, and land-use management. Plant cover is especially critical for controlling soil erosion: in one study in the Mflozi catchment in northern KwaZulu-Natal, only 2 percent of the land receiving 900 to 1,000 mm of rain was eroded, compared with 13.5 percent of land receiving less than this amount. The reason for this curious differential was found to be the extensive plant cover within the former region.¹⁹

Table 1: Comparison of Population Densities within Rural South Africa, 1991

	POPULATION DENSITY (HECTARES/PERSON)				
	SOUTH AFRICA	WHITE AREAS	FORMER HOMELANDS	NATAL	KWAZULU
Cropland and Pastureland	4.7	16.22	0.92	5.36	0.68
Cropland	0.75	2.54	0.16	1.1	0.08

Adapted from: Development Bank of South Africa, *South Africa's Nine Provinces: A Human Development Profile* (April 1994), 99.

Low rainfall and fragile soils limit agriculture potential. Only 16 percent (about 16 million hectares) of the total amount of land used for crops and pasture is considered suitable for crops, while the rest is used for pasture. About 4 percent is high-potential agricultural land. Of the total area of cropland, 13 million hectares fall within commercial farming areas, while only 2.5 million are in small-scale farming areas in the former homelands.²⁰ This imbalance, combined with other natural resource limits — including weak soils and poor rains — has resulted in extensive environmental scarcities in the homelands.

Structural Scarcity under Apartheid

The apartheid system institutionalized the uneven social distribution of environmental resources in South Africa, which caused serious structural scarcity for blacks.²¹ Land ownership by black South Africans was tightly restricted in both rural and urban areas, curtailing economic advancement. Unequal access to land affected 15 million blacks living in the homelands or as tenants and laborers on "white" land.²² In the 1980s, 95 percent of the black population earned less than 100 dollars per month, whereas 89 percent of the white population earned more. With an average disposable income of only 150 dollars a year — one-sixteenth the white average — homeland farmers in particular could not make the long-term investments necessary to protect their land.²³

Table 1 uses differences in per capita availability of farmland to illustrate the structural land scarcities affecting blacks in South Africa.

Not only did blacks suffer from an imbalanced distribution of the quantity of land, but they also often received the most marginally productive land.

Moreover, under the apartheid regime, structural scarcities of land were often reinforced by stark shortfalls in agricultural inputs, such as capital, fertilizer, veterinary services, and new agricultural technologies. Tables 2 and 3 compare statistics for crop yields and cattle performance in Natal and KwaZulu.

Table 2: Comparison of Yields in Crop Agriculture, Natal and KwaZulu, 1983–84

CROP	YIELD (TONS/HECTARE)	
	NATAL	KWAZULU
Cereals (maize)	2.088	0.826
Legumes (dry beans)	1.011	0.337
Roots (potatoes)	24.015	5.006
Sugarcane	53.814	28.795

Source: Norman Bromberger and Francis Antonie, "Black Small Farmers in the Homelands," in *State and Market in Post Apartheid South Africa*, eds. Merle Lipton and Charles Simkins (Johannesburg: Witwatersrand University Press, 1993), 421.

Table 3: Comparison of Statistics of Cattle Performance, Natal and KwaZulu, 1987

	PERFORMANCE (%)	
	NATAL (Private Land Tenure)	KWAZULU (Communal Grazing)
Herd Mortality	3.9	7.4
Calving Rate	80.0	32.0
Slaughter and Export Rate	25.0	5.0

Source: Bromberger and Antonie, "Black Small Farmers in the Homelands," 422.

Structural scarcities of land also existed *within* the former homelands. Rights to communal land were unevenly distributed among homeland populations: up to 80 percent of production came from 20 percent of the farmers who controlled most of the land, and in some areas three or four landholders owned 80 percent of the livestock grazing

on communal land. Widespread landlessness existed even in Transkei, the homeland with the best land, where fewer than 50 percent of villagers were allocated a field, and 60 percent had no cattle.²⁴ In urban areas, black townships were built on sites not useful to the white community. They were often overcrowded, short of housing, and located downwind from dirty industries. Infrastructure was inferior, with few services such as electricity and running water.²⁵ Overcrowding and poverty meant that new residents built their houses from nonconventional materials scavenged from local dumps and public buildings; they used mud, grass, and straw from nearby streams, fields, and hillsides, which tended to increase local erosion and flooding damage.

In sum, the black population, with little political or economic power in South Africa, was forced to subsist on a severely restricted and eroded land base. Because of the particular vulnerabilities of the South African ecosystem, this structural scarcity interacted with and exacerbated demand- and supply-induced scarcities.

Demand-Induced Scarcity

The estimated population of South Africa in 1995 is 42.6 million, with an annual increase of 970,000. About 28 million people — over 66 percent of the population — live within towns and cities, while 15 million reside strictly within urban areas.²⁶ The black population is expected to grow at a 3 percent rate from its current 32 million to 37.2 million people by the year 2000, which will be 78.3 percent (up from 74.8 percent in 1991) of the anticipated total population of 47.5 million. Conversely, the white population will stay constant at approximately 5 million, and its proportion of the total population will drop from 14.1 to 11.4 percent.²⁷

The growth of the black population results in more severe scarcity of land and exacerbates the differentials in land availability per capita shown in Table 1. Under apartheid, the average population density of the former homelands was 10 times the density of rural “white” South Africa. When labor requirements in commercial agriculture declined,

apartheid ensured that black South Africans could not move to cities when they were expelled from rural white areas. Police forcibly moved blacks to the homelands; partly as a result of this forced migration, the population of the homelands grew from 4.5 million to 11 million between 1960 and 1980.²⁸ But the land area of the homelands did not increase.

In addition to this in-migration, the homelands experienced high natural population growth rates. The total fertility rate for blacks from 1985 to 1990 was estimated at 5.12 children per woman.²⁹ In 1990, Alan Durning observed, “Black couples . . . have larger families because apartheid denies them access to education, health care, family planning, and secure sources of livelihood — the things that make small families possible and advantageous.”³⁰ Gender discrimination contributed to these high fertility rates. Priya Deshingkar, a researcher for the Land and Agriculture Policy Centre in Johannesburg, describes the responsibilities of women in informal settlements and rural regions:

As opposed to men, the lives of a majority of women in rural and peri-urban areas of South Africa are linked intimately with their natural environment in the course of their daily activities. Women are responsible for providing food, water and fuel (survival tasks); preparing food and caring for children (household tasks) and income generating activities such as trading of forest products. At the same time they are poor and face many legal and cultural obstacles which deny them the rights to own and control natural resources.³¹

Research conducted by Cambridge economist Partha Dasgupta shows that women who lack paid employment have less decision-making authority in their families. Weak authority, combined with the usefulness of children for labor in subsistence conditions — for collecting fuelwood and water and for herding animals — leads to high fertility rates.³² In South African rural areas, black women’s responsibilities are largely unpaid, and high fertility rates are to be expected. High infant and child mortality rates also raise fertility rates, as families have no guarantee that their children will survive to adolescence. The infant-mortality rate among black children was estimated at 74 per 1,000 from 1985 to 1990.³³

Table 4: Population Size and Growth Rate, KwaZulu-Natal

YEAR	SIZE (THOUSANDS) AND GROWTH RATE (%)			
	RURAL	URBAN	INFORMAL SETTLEMENTS	TOTAL
1985	4,281	2,592	1,143	8,019
1990	4,518 (1.1%)	2,936 (2.5%)	1,419 (4.4%)	8,874 (2.0%)
1995	4,747 (1.0%)	3,400 (3.0%)	1,733 (4.1%)	9,882 (2.2%)

Source: Doug Hindson and Jeff McCarthy, "Defining and Gauging the Problem," in *Here to Stay: Informal Settlements in KwaZulu-Natal*, eds. Doug Hindson and Jeff McCarthy (Dalbridge: Indicator Press, 1994), 2.

Population size, growth rate, and geographical distribution in KwaZulu-Natal are shown in Tables 4 and 5. These tables demonstrate that all areas in KwaZulu-Natal are experiencing population growth, with the most dramatic increases in informal settlements. In 1992, the population of informal settlements made up 26 percent of the total KwaZulu-Natal population—and the percentage was steadily increasing.

Supply-Induced Scarcity

The apartheid regime situated the homelands in fragile environments with thin topsoil not suitable for supporting the level of agricultural production required by their populations.³⁴ The result has been severe erosion: "Dongas [erosion gullies] have become small valleys which split the hillsides; soil has given way to a crumbling grey shale, stone-guilt huts squat in a scene which is almost lunar in its desolation."³⁵ Per capita food production in the

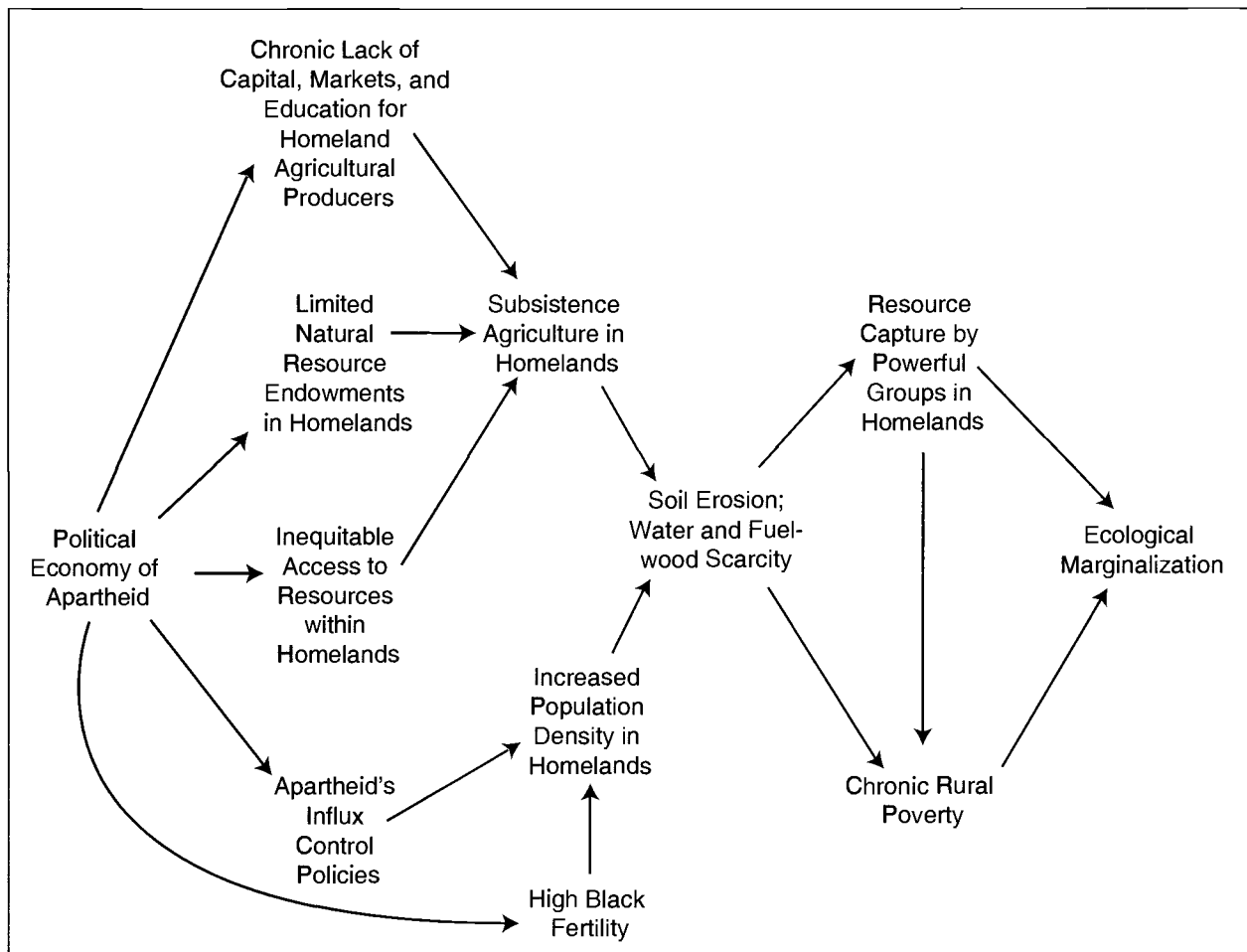
former homelands has fallen; these areas have become net importers of food, partly a result of land degradation and high population growth rates.³⁶ South Africa's overall rate of topsoil loss is 20 times higher than the world's average.³⁷ Experts estimate that South Africa has lost 25 percent of its topsoil since 1900 and that 55 percent of South Africa is threatened by desertification.³⁸ One study puts the daily cost to the national economy of lost production due to reduced soil fertility at about \$250,000. Yet maintaining agricultural productivity is crucial, because South Africa's food needs are predicted to double by 2020.³⁹

Deforestation is an important form of supply-induced environmental scarcity. By destabilizing soils and changing local hydrological cycles, it disrupts key ecosystem links.⁴⁰ Unfortunately, fuelwood remains the most accessible and inexpensive energy source for many rural blacks, which encourages deforestation. Inadequate energy services force about 40 percent of the South African population to depend on fuelwood for cooking and heating. Estimates place the annual volume of fuelwood consumed at 11 million metric tons.⁴¹ In the past 50 years, 200 of KwaZulu's 250 forests have disappeared.⁴² A comparison of forest consumption rates with noncommercial forest growth rates shows that all ten former homelands are in a fuelwood deficit, with supplies expected to be almost gone by the year 2020.⁴³ Wood for fuel is perceived as free, and collection costs are seen in terms of women's time, which is generally undervalued. Moreover, "frequent fires, the high opportunity cost of land, the long time periods for tree growth, and the use of both arable and uncultivated land for grazing all discourage tree planting. Trees can be seen as a threat to crops if they compete for space, water, and labor, and if they are seen to harbor pests."⁴⁴

Table 5: Population Location, KwaZulu-Natal, 1992

	POPULATION	
	THOUSANDS	% OF TOTAL
Metropolitan	2,290	24.7
Towns	350	3.8
Total Urban Formal Settlement	2,640	28.5
Informal Metro	1,550	16.7
Informal Towns	470	5.1
Transitional (Rural/Urban)	400	4.3
Total Urban Informal	2,420	26.1
Total Urban	5,060	54.6
Total Rural	4,210	45.4
Grand Total	9,270	100.0

Source: Hindson and McCarthy, "Defining and Gauging the Problem," 3.

Figure 1: Environmental Scarcity within South African Homelands

The scarcity and degradation of water resources is also a problem. South Africa is a water scarce country: twelve to sixteen million people lack potable water supplies, and twenty-one million people — half the country's population — lack adequate sanitation.⁴⁵ Seventy percent of urban blacks do not have access to running water and are forced to rely on severely contaminated river systems for their daily water needs.⁴⁶ The water used by residents in informal settlements tends to have the highest concentrations of suspended solids and the highest level of fecal bacterial contamination.⁴⁷ The wider health of South African society is at risk as the probability rises in these settlements of epidemics of cholera, gastroenteritis, dysentery, parasitic infections, typhoid, and bilharzia. Pollution from industrial sources and seepage from coal, gold, and other mines threatens the quality of both river and ground water. The level of industrial pollution is particularly severe in the former homelands, where environmental controls were nonexistent.

Summary of Environmental Scarcity in the Former Homelands

Figure 1 summarizes the causes and effects of environmental scarcity in the former homelands. Apartheid created homelands in areas with few natural resources. Resources were also inequitably distributed within the homelands themselves, as elites controlled access to productive agriculture and grazing land. Populations sustained themselves through subsistence agriculture with added remittances from family members working in industry and mines outside the homelands. Homeland agricultural producers suffered from a chronic lack of investment capital, were denied access to markets, and lacked knowledge of appropriate land-use management techniques — a product of discriminatory education and agricultural extension services. Opportunities to move into urban areas were restricted by influx control; these restrictions combined with

high fertility rates to increase population densities. Soils were fragile and susceptible to erosion. Inadequate supplies of electricity and fossil fuels forced people to use fuelwood, which became more scarce. Rural poverty escalated as agricultural and grazing productivity declined from land degradation, and daily water and energy needs became ever more difficult to satisfy.

This rising scarcity of vital environmental resources boosted incentives for powerful groups within the homelands to secure access to remaining stocks — a process we call resource capture. Land rights were traded for political favors in the homelands' highly corrupt system of political rule. The combination of overpopulation, depleted resources, and unequal resource access resulted in ecological marginalization: To survive, people migrated first to marginal lands within the homelands — hillsides, river valleys, and easily eroded sweet veld. Then, as the apartheid system began to show signs of limited reform in the early 1980s, people started moving to ecologically and infrastructurally marginal urban areas.

Environmental Scarcity in Urban Areas

Even before the collapse of apartheid, an estimated ten million people lived in informal housing in urban areas — corrugated shacks, outbuildings, and garages.⁴⁸ Although the system of apartheid was initially successful in curtailing the movement of the black population to urban areas, influx control broke down in the early 1980s. In 1993, the *New York Times* described the implications of rapid growth in the city of Durban:

Albert and Nellie Brown need no newspaper to tell them South Africa's old order is collapsing. They can step out on their porch in a white university neighborhood and look across the street. There, on an overgrown slope where they once expected to see a new hospital or terraces of comfortable homes like their own, is a burgeoning squatter village of mud huts, recycled plywood, plastic tents and sheet metal. The Browns can hear the whack of machetes chopping the neighborhood trees for firewood. They

can smell the stink of pit toilets, and watch the daily procession of new black settlers walking up Cato Manor Road, some pushing grocery carts full of building scrap, to join an estimated 15,000 people encamped near the heart of South Africa's second largest city.⁴⁹

South Africa's recent economic decline combined with its infrastructural shortcomings to produce a dire marginal existence for most blacks within urban areas. Urban growth has placed natural vegetation under constant attack, as the poor struggle to satisfy their basic needs. A growing population, concentrated in a limited area, coupled with the structural inequalities that deny them access to basic services, such as electricity, running water, refuse collection, and adequate sewage disposal facilities, results in environmental degradation. An estimated 25 percent of the population of informal settlements have no access to piped water, 46.5 percent have no access to electricity, and 48 percent lack adequate sanitation facilities.⁵⁰ Trees are cut down for fuel, grasses are used for feeding livestock and thatching, and residents often burn the veld to promote rapid regrowth, which depletes the soil of its humus content. These processes increase soil erosion, which is particularly high during intense rainstorms.⁵¹ Devegetation leads to floods, mud slides, and sinkholes, because informal settlements are frequently in water catchment areas.⁵²

Table 6 provides statistics on water and electricity services in informal settlements in KwaZulu-Natal and shows the degree to which the population must rely on the local environment to provide its daily needs.

Table 6: Basic Services in Informal Settlements, KwaZulu-Natal, 1994

SERVICE	POPULATION	
	NUMBER	% OF TOTAL
Water		
Only Springs And Streams	229,878	76.2
Taps In Homes	300	0.0
Standpipes	45,434	15.0
Reservoirs	4,800	1.6
None	21,205	7.1
Electricity		
Some Domestic Supply	108,816	36.2
No Supply	191,501	63.8

Source: Hindson and McCarthy, "Defining and Gauging the Problem," 20.

SOCIAL EFFECTS OF ENVIRONMENTAL SCARCITY

We have shown that environmental scarcity has reached alarming levels in many of the former homelands and informal urban settlements in South Africa. Rural areas are unable to support their growing populations: soil is degraded, water resources are inadequate and decreasing in quality, and fuelwood is scarce. Urban areas cannot adequately provide for the needs of the people living and moving within their boundaries. Below we examine the four main social effects that arise from rural and urban environmental scarcity: decreased agricultural production, economic decline, population movement, and weakened institutions.⁵³

Falling Agricultural and Economic Productivity

Agricultural potential decreased in the homelands due to growing population densities, water scarcity, and soil erosion. In Bophuthatswana in the 1940s, farmers harvested 110 kilograms (kg) of maize and sorghum for each person. By the late 1950s, this decreased to 80 kg per person, and by the late 1970s, to 50 kg.⁵⁴ The rural black South African population is increasingly unable to sustain itself. David Cooper of the Land and Agriculture Policy Centre describes the situation:

Family incomes in South African "homelands" are among the lowest in Africa; migrant remittances, state pensions and local employment account for 90 percent of village income. Agriculture, however, accounts for only 10 percent. Malnutrition-related diseases, including kwashiorkor and pellagra in children and tuberculosis in adults, are widespread. Not only are impoverished families unable to invest in tree-planting or soil conservation schemes, but they are forced to strip the land of its resources. Families burn dung as fuel, instead of using it as manure; they strip trees for firewood, leaving hillsides bare.⁵⁵

As agricultural and forest resources are depleted, people switch to low-paying jobs in villages and towns. A study of a rural community in Bophuthatswana found that such wage labor was the major source of income for more than 90 percent of households; less than 5 percent could make a living from agriculture. Approximately 55 percent of the households studied had no agricultural land at all, and 37.5 percent had too little land to make a living.⁵⁶

Finding wage labor is more and more difficult because South Africa has such a serious unemployment problem: formal jobs are available for only 50 percent of the country's population, whites and blacks included.⁵⁷ Poverty is therefore endemic and deep within the rural black community. In 1980, 81 percent of the rural population earned less than the minimum subsistence wage.⁵⁸ In urban areas the situation is little different:

It is estimated . . . that some 40 percent of the metropolitan African population, outside the "homelands," earns incomes below the poverty datum line of R700 per month and that 25–40 percent of the potential economically active African population is formally unemployed. As a result, vast numbers of people are engaged in a desperate daily struggle to meet basic needs.⁵⁹

Marginal rural and urban blacks are trapped between worsening environmental scarcities and inadequate investment in the physical and human capital that might eventually generate alternative employment opportunities. The result is chronic poverty. In 1993 in KwaZulu, 80 percent of all rural households and 40 percent of urban households were living below the poverty line. The average rural monthly household income was 43 percent below urban income. Moreover, the average rural worker supported 4 people, while the average urban worker supported 2.5 people. It was estimated that only 25 percent of the urban population in KwaZulu — and a dismal 16 percent of the rural population — had formal jobs.⁶⁰

Migration

Migrations from rural areas to urban and peri-urban areas have increased sharply in recent years.⁶¹ "Push" factors are difficult to distinguish from "pull" factors. The former clearly include environmental degradation, unequal access to land, and high population densities within the homelands. Three major pull factors are "the repeal of the pass laws in 1986, the rapid construction of backyard shacks in formal townships, especially in the Pretoria–Witwatersrand–Vereeniging area, and the increasing designation of land outside the 'homelands' as suitable for African residential development."⁶² Although the number of blacks moving into cities is estimated to be 750,000 a year,⁶³ rural-urban migration rates are disputed, and determining the precise rate will require more research.

Researchers, however, have identified some basic trends. The Durban Functional Region (DFR), an administrative region that includes Durban and surrounding areas, provides an example of the way the process generally proceeds:

[Rural migrants scout] to find their first urban base, often within a formal township. This transforms, however, into indirect migration within the DFR as the recently arrived rural migrants tend to move around within the DFR, from formal to informal settlements, and then from one informal settlement to another. Once a rural migrant family is established within an informal area, it becomes possible for some direct migration from rural source areas to take place.⁶⁴

Although most migrants to urban regions are of rural origin, the percentage is falling. Families moving into informal settlements increasingly move from closely adjacent communities. Urban-urban migration is driven by the housing shortage (currently estimated at over a million units), migrant laborers bringing families to urban areas, and the unemployed attempting to avoid exploitative rents for backyard shacks in the townships.⁶⁵ Violence also plays a role in determining migration: people often leave their homes after violence erupts, but their places are quickly taken by migrants desperate for housing.⁶⁶

We can make three generalizations regarding migration in South Africa. First, the majority of those moving into most urban settlements are still rural migrants. Second, the same processes of resource capture and ecological marginalization that occur in the homelands are occurring in urban informal settlements. The concentration of many people on a limited resource base, in the context of weak local government authority, leads to resource capture: "violence [becomes] entrenched with formation of competing local power structures whose leaders seek to gain and secure power through the control of basic residential resources such as land, home allocations, services, business rights etc."⁶⁷ And third, the combination of this resource capture and environmental problems forces greater urban-urban migration.

KwaZulu-Natal experiences particularly high levels of migration to urban areas. Catherine Cross and her colleagues at the University of Natal identify the sources for the DFR:

The most important areas of origin for the DFR informal population are the rural districts of former Natal, which contribute some 46 percent of the informal population. At some 5 percent the peri-urban districts are relatively less significant sources of inflow, as is the Transkei at 8 percent. The contribution from other former homelands and countries outside South Africa represents a negligible 2 percent, but these may be under reported. The informal population is thus predominantly from KwaZulu-Natal or Transkei, and is mostly of rural origin, although there is a substantial urban origin component.⁶⁸

Although the population of both rural and urban areas within KwaZulu-Natal is growing, the population growth rate of urban areas is about three times greater than that of rural areas. Moreover, the growth of informal settlements, which now represent more than a third of the total urban population and more than half of the total black urban population, exceeds growth within formal urban boundaries.⁶⁹ Migration from rural regions is largely responsible for these differentials. Nick Wilkins and Julian Hofmeyer note that "by the mid-1980s it was clear that rural poverty was undermining the system of oscillating migration, and that people were migrating permanently into ur-

ban areas. Migrants appear to follow several routes into urban areas, and once there may move several times from area to area."⁷⁰

Declining Institutional Capacity

When he received the 1993 Nobel Peace Prize with Mandela, President de Klerk stated that it was not international sanctions or armed struggle that forced apartheid to change, but instead the movement of millions of people into the cities that created social upheaval and strained community and state institutions.⁷¹ The township of Khutsong in the province of Gauteng (formerly the Pretoria-Witwatersrand-Vereeniging administrative region) is one of many examples of urban migration initially straining and finally overwhelming the capacity of institutions:

*The official township of Khutsong was set up in 1958 to house labor for the mines near the 'white's-only' town of Carletonville. Khutsong's population has grown so fast that today more people live in shacks than in formal houses. State surveys, although dated, suggest that there are more than 29,400 informal squatter dwellings in and about Khutsong and only about 17,757 formal houses. The township no longer even meets the needs of people residing within its official boundaries. For the growing population of squatters the authorities take almost no responsibility — apart from a few taps there are no other services.*⁷²

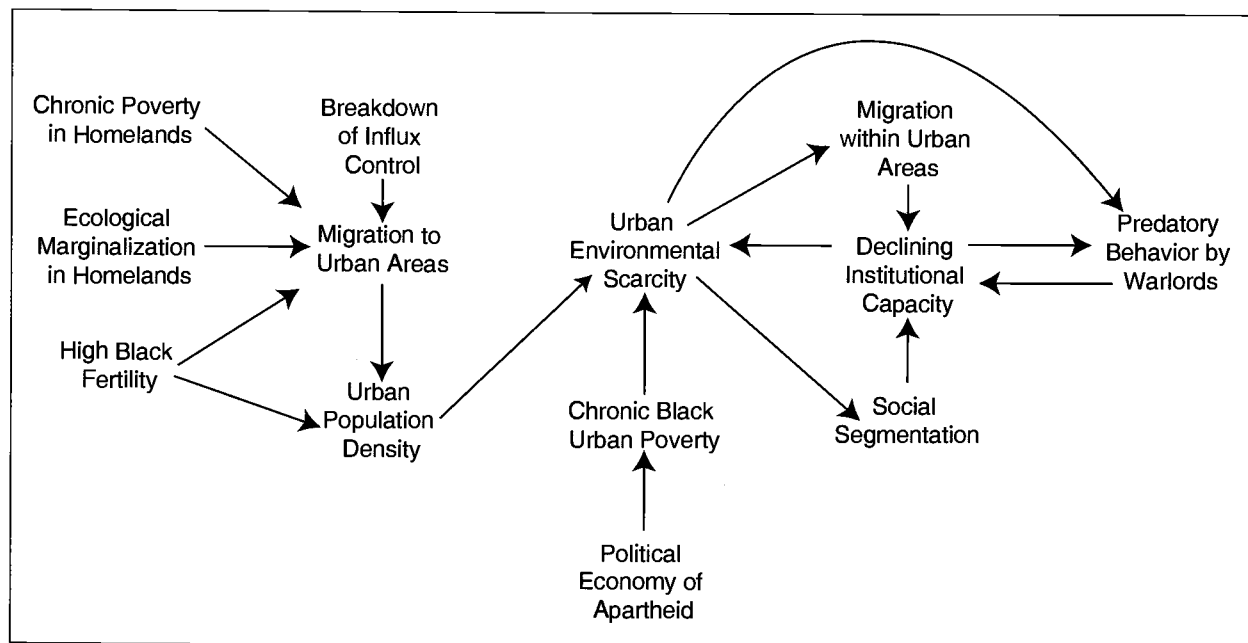
Strong community institutions are crucial for managing the social conflicts that inevitably arise from large numbers of migrants. Institutional strength is a function of an institution's financial resources, the adequacy and relevance to community needs of its expertise, and its flexibility in novel circumstances; these factors, in turn, are influenced by the depth of the community's social capital. Uncontrolled influxes of people and the degradation of resources that often ensues can, as we have noted, cause social segmentation as subgroups within the community withdraw into themselves to protect their own interests. Segmentation breaks down social networks, weakens community norms, and erodes trust. This loss of social capital, in turn, undermines the ability of institutions to function.

In South Africa, segmentation often takes the form of divisions among ethnic groups, among family-based clans, and among the residents of townships, informal settlements, and work hostels.

Marginal urban communities of blacks are often trapped in a downward spiral. Because community institutions are debilitated by the processes just described, they are unable to provide infrastructure — including sewers, electricity, and running water — to keep residents from wrecking local environmental resources. As people become more dependent on these resources for basic services, and as the resources are thus further degraded, community segmentation increases. This segmentation again weakens essential community institutions, allows powerful "warlords" to capture critical resources, and sets the stage for outbreaks of violence among competing groups.

KwaZulu-Natal has seen huge influxes of people into its cities. Approximately half the population in the Durban-Pietermaritzburg region now lives in informal settlements, lacking infrastructure and basic services.⁷³ According to the Urban Foundation, the region has the largest concentration of informal settlements in the country.⁷⁴ These settlements are often run by warlords — local leaders who control their own paramilitary forces and owe "only nominal allegiance to any higher authority."⁷⁵ Warlords establish patron-client relations with settlement residents: the residents support the warlord in return for essential resources and services, including policing and dispute settlement. Paramilitary forces allow warlords to exercise strict control over the right to conduct business and over environmental resources, such as land and water. Resource control multiplies warlord power and wealth, permitting extraction of surpluses in the form of taxes, rents, and levies.⁷⁶

Warlords, in fact, have limited ability to provide their communities with infrastructure or services. They have no real control over electricity, refuse removal, roads, and other services, since these services — to the extent that they are available — are provided by the local municipality.⁷⁷ They control only their paramilitary forces, the residents in their territories, and the local land and water (including taps into municipal pipelines) that residents de-

Figure 2: Environmental Scarcity and Urbanization in South Africa

pend on. Resource control therefore becomes a main source of legitimacy within the warlords' communities.

As resources are degraded within their territories, warlords often try to maintain power by pointing to resources in neighboring townships and informal settlements and mobilizing their communities to seize them. This mobilization can set in motion a cycle of appalling violence among African communities. "Squatters are mobilized to fight for access to resources in neighboring townships, and township youth organize military style units to defend their areas and counter-attack squatter areas."⁷⁸

Figure 2 summarizes the variables and causal relations identified in this section. As described above, chronic poverty, ecological marginalization, and high fertility rates in the former homelands cause rural-urban migration. These migrations, along

with high urban fertility rates, boost urban population densities. High urban densities, in turn, combine with the impoverishment produced by apartheid to force people to rely on the urban environment to provide for their daily needs. Where too many people rely on a limited resource base, there is urban environmental scarcity.

The huge movement of people to and within an urban area increases demands on local institutions. Rising environmental scarcity, meanwhile, causes ever more social segmentation. These two processes together produce a sharp weakening of the institutions needed to meet the needs of the local population. Warlords are able to seize control of key environmental resources, which further weakens local institutions. A cycle begins: institutions cannot provide for the population which forces people to rely on, and subsequently degrade, the local environment; weak institutions provide warlords with increased opportunities for predatory behavior.

ACUTE CONFLICT IN SOUTH AFRICA

Between September 1984 and the end of 1989, an estimated 3,500 people died in political violence throughout South Africa. After Mandela's release in February, 1990, violence became pervasive. From that date until December 1993, political vio-

lence killed an estimated 12,000 people — an annual rate more than four times that prior to 1990.⁷⁹ In 1992 alone, criminal and political violence together produced more than 20,000 deaths.⁸⁰

In July 1990, the so-called Reef Township War began in the regions around Johannesburg. Clashes broke out between migrant workers residing in hostels and residents of townships and informal settlements.⁸¹ In 1992, the annual incidence of violence escalated 133 percent in the Central Rand, the area immediately surrounding Johannesburg. The area south of Johannesburg saw a jump of 200 percent, whereas the region east of Johannesburg witnessed an increase of 84 percent.⁸²

Table 7 contains totals for deaths and injuries for the former provinces of Transvaal (primarily the area around Johannesburg) and Natal. The table does not include deaths from criminal violence, but the distinction between political and criminal motivations is somewhat arbitrary in a politically charged atmosphere, such as that of the pre-1994 election period.⁸³

Environmental scarcity is not the sole cause of this violence, yet analysts should not ignore how scarcity has undermined South Africa's social stability. Below, we examine the effect of scarcity on grievances, group segmentation, and opportunities for violent collective action.

Escalating Grievances

Environmental scarcity reduced rural incomes and helped push many black South Africans into urban areas. The segmentation of urban black communities weakened local institutions, which often could not deliver basic services to their people and as a consequence lost legitimacy. The apartheid state depended upon its ties to co-opted local institutions, such as municipal and tribal councils, to maintain order within black communities. With the debilitation of these institutions, the apartheid state lost its tenuous link to black society and was forced to relinquish control over communities, which made it impossible for the state to address local grievances.

Research conducted on black South Africans' happiness and perception of personal well-being shows that, although levels of happiness have historically been low, grievances escalated during the late 1980s. "Being black in South Africa was a strong predictor of negative life satisfaction and [un]happiness, even when other background factors were controlled."⁸⁴ From 1983 to 1988, the percentage of blacks satisfied with life declined from 48 to 32, and the percentage stating they were happy declined from 53 to 38 (see table 8).⁸⁵

Table 7: Unrest-related Deaths and Injuries, Natal and Transvaal, 1990-93

YEAR	DEATHS		TOTAL CASUALTIES	
	NATAL	TRANSSVAAL	DEATHS	INJURIES
1989	(est.) 800	NA*	1,403	1,425
1990	1,685	924	2,609	4,309
1991	1,057	1,197	2,254	3,166
1992	1,430	1,822	3,252	4,815
1993	2,009	2,001	4,010	4,790

Source: Anthony Minnaar, *An Overview of Political Violence and Conflict Trends in South Africa with Specific Reference to the Period January-June 1994* (Pretoria: Centre for Socio-Political Analysis, Human Sciences Research Council, July 1994), 1. * Not available.

Table 8: Quality of Life Trends in South Africa

	% SATISFIED OR VERY SATISFIED			
	BLACKS	COLOREDS	INDIANS	WHITES
Life Satisfaction				
1983	48	81	89	89
1988	32	77	77	82
Happiness				
1983	53	80	88	93
1988	36	83	83	92

Source: Valerie Moller, "Post-Election Euphoria," *Indicator SA* 12, no. 1 (summer 1994), 28.

Group Divisions

Group divisions, reinforced and in some instances created by the institution of apartheid, became the basis of politics in South Africa. Identification with one's ethnic group was necessary for survival and advancement within apartheid's ethnically divided political system. These divisions were reinforced by the territorial boundaries of the homelands. When people moved to the cities, therefore, they tended to carry their ethnic identities with them. A survey taken just prior to the 1994 election shows the salience of ethnic identity: when asked to name their nationality, 16 percent of blacks replied South African or black South African, while 63 percent gave the name of their tribe.⁸⁶ Much of the recent violence in South Africa has been between supporters of the ANC and those of the Inkatha movement. The Inkatha-based Freedom Party is primarily a Zulu organization, and the ANC's leadership is dominated by members of the Xhosa ethnic group. Thus ethnic divisions reinforce the political differences between the two groups.

Ethnic groups are not only divided among themselves; they are also divided internally. Environmental scarcity increases the salience of group boundaries, which causes the segmentation of communities. Competition within and among groups grows under conditions of economic hardship and influxes of migrants.⁸⁷ Powerful individuals manipulate group identities within their communities to capture resources, and they distribute resources according to group affiliation to maintain their support. Mary de Haas and Paulus Zulu describe this process in KwaZulu-Natal:

As with any ethnic identity, the emotional appeal of Zuluness does not, of course, operate in a vacuum. There seems little doubt that Inkatha's success in appealing to the ethnic sentiment of many of its supporters is enhanced by its ability to disperse patronage, both through its administrative structures — jobs, housing, franchises for shops and bottle stores, etc. — and sanctioning and facilitating the operations of warlords who preside over what amount to be private fiefdoms.⁸⁸

While international attention has often focused on the interethnic conflict between Zulu and Xhosa,

the Zulu population itself is cleaved into factions. These cleavages have political overtones and often manifest themselves as conflicts between the ANC and Inkatha. Group divisions are constructed and manipulated by political leaders and warlords on each side. ANC members tend to support political and social change, while Inkatha members support more traditional tribal institutions. The ANC is strong in the townships, while Inkatha draws its strength from informal settlements, often through connections to warlords.

Opportunities for Violence

The strife in South Africa and its links to changing opportunities for violence can be better understood by examining the phases of conflict in the country. Before 1983, almost all black political violence aimed to dismantle apartheid; it was sporadic and of relatively low intensity. In 1983, the UDF was formed to oppose the new constitution. An organized wave of protests against both the white regime and black local authorities, seen as puppets, caused President Botha to declare a state of emergency in June 1986. From 1983 to 1990, the violence against symbols of apartheid steadily increased in intensity. Although instances of violence within the black community rose, they remained relatively isolated, confined mostly to outbreaks at migrant workers' hostels and to protests against puppet local governments.

Before 1983, the apartheid state was strong enough to control violent protest. With reform in 1983, however, power relations began to change; the new constitution ceded some power to nonwhite groups. The small political space provided by reform was astutely exploited by opposition groups, such as the UDF, and their power relative to the state increased rapidly. Boycotts of schools, white businesses, and township rents further weakened the state at the local level. The regime's inability to control protest in subsequent years clearly showed that the balance of power had shifted in favor of the opposition.

After Mandela's release in February 1990, the nature of protest and violence changed, since it became clear that apartheid was about to collapse. The cli-

mate of reform made it easier to express grievances publicly. Both the ANC and the Inkatha Freedom Party, led by Mangosuthu Buthelezi, were transformed into political parties. The townships went to war with each other as the ANC and Inkatha struggled for political dominance.

In just one month, between August and September 1990, the death count around Johannesburg stood at more than 700, dwarfing the final death toll after four months of the Soweto uprisings of 1976. In the first three months of 1991, more than 400 people died in political violence, 260 of them after the long-awaited and much-applauded Mandela-Buthelezi peace summit. Watching the death count on television and reading about the carnage in newspapers gave the impression that nearly every major South African city, large town, and even outback farming districts was experiencing turmoil more fierce than the 1984-6 upheavals. More than 7,000 lives were lost in the 14 months that followed the unbanning of the ANC, and other liberation movements, from February 1990 to April 1991.⁸⁹

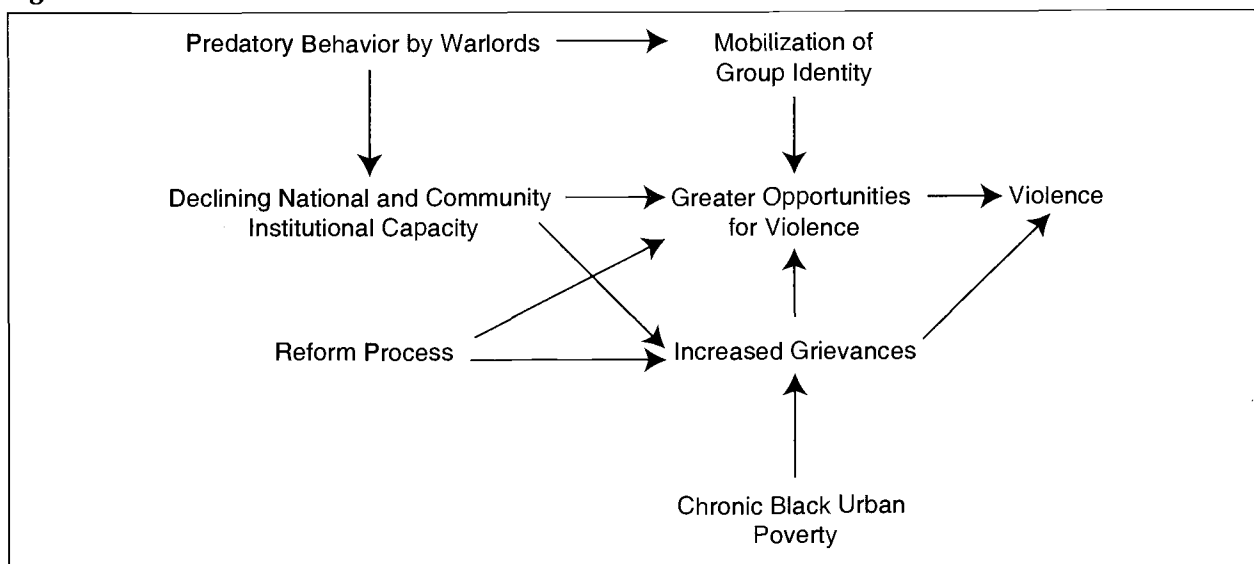
The events of 1990 radically changed the opportunities for political violence in South Africa. As the ANC and Inkatha became fully fledged political organizations battling for control of the institutions of power, they mobilized huge numbers of people and substantial financial resources for their political ends. At the same time, the capacity of the state to do anything about the violence between the ANC and Inkatha was debilitated by the reform process. The apartheid

state seemed to retreat into the white areas of the country, leaving the ANC and Inkatha to fight it out between themselves.

The South African state was unable to control violence at the local level because communities were segmented and institutions were weak. The withdrawal of the state from these communities made it possible for the ANC and Inkatha to mobilize large numbers of alienated and underemployed young men for their political battle. The battle took place within a deeply aggrieved society, brutalized for generations, and well rehearsed in fighting the system of apartheid. It resulted in the worst outbreak of violence in the country's history.

Figure 3 diagrams the surge of violence after 1990 in South Africa. The reform process raised expectations for better socio-economic conditions, while declining capacity limited the ability of institutions to meet these expectations. Unmet expectations, further frustrated by the poverty endemic to the black South African community, increased grievances within black society and promoted group cleavages and competition for resources. Opportunities for collective action changed with the transformation of South African politics. Predatory warlords and opportunistic members of the ANC and Inkatha took advantage of a weakened state, debilitated local institutions, and an aggrieved population to mobilize group identities and instigate group rivalries. These factors dramatically increased the incidence of violence.

Figure 3: Outbreak of Violence in South Africa



KwaZulu-Natal Conflict

The conflict in KwaZulu-Natal began much earlier than in the rest of South Africa. Before 1985, it took the form of opposition to the state, particularly in UDF-dominated townships resisting incorporation into Inkatha-dominated KwaZulu. The 1985 murder of civil rights lawyer Victoria Mxenge sparked intensified fighting between the UDF and Inkatha. In battles between these groups from 1985 to 1990, the UDF gained control of most townships. Since the informal settlements were not under the clear rule of either faction, violence shifted into these areas, with the UDF and Inkatha vying for political dominance.

Political leaders and warlords on both sides manipulated the conflicts among communities over access to resources, such as land, housing, water, and services.⁹⁰ The large numbers of people moving into and within the KwaZulu-Natal region made the situation worse: migrants contributed to turmoil by increasing demands on resources and straining relations among groups. Disputes over scarce resources within informal settlements were transformed into political battles between the UDF — later the ANC — and Inkatha.⁹¹

Inkatha came to dominate the informal settlements by striking political deals with warlords and manipu-

lating the conservative group identities of many residents who had only recently arrived from rural areas.⁹² Warlords, in turn, used the charged political climate to gain protection and favors from Inkatha. The ANC promoted a revolt against tradition among Zulu youth, who expressed their opposition to traditional tribal structures through participation in ANC recruitment drives.⁹³ Divisions between the ANC and Inkatha polarized social relations within townships and informal settlements, mobilizing and politicizing their residents.⁹⁴ The region seemed locked into a spiral of violence, as conflict created migrants that, in turn, strained social relations in receiving communities:

The number of refugees and displacees from violence over the years runs into thousands. Conflict has arisen when these people either move into new communities or try to return to their homes. This, along with migration of people for economic reasons, puts extra pressure on scarce resources creating the potential for violent conflict.⁹⁵

Table 9 shows how political violence soared during this period in the DFR. Although violence increased everywhere, the informal settlements became the main zones of conflict. The table also shows that — as elsewhere in the country — Mandela's release in 1990 substantially boosted violence.

Table 9: Total Deaths Resulting from Political Violence in the Durban Functional Region,

AREA	DEATHS						
	1986	1987	1988	1989	1990	1991	1992
Formal	100	88	186	227	289	151	246
Proportion Of Total	70%	63%	50%	44%	36%	34%	30%
Informal	43	51	188	288	515	290	566
Proportion Of Total	30%	37%	50%	56%	64%	66%	70%
Grand Total	143	139	374	515	804	441	812

Source: Doug Hindson, Mark Byerley, and Mike Morris, "From Violence to Reconstruction: The Making, Disintegration and Remaking of an Apartheid City," *Antipode* 26, no. 4 (1994): 339.

After 1990, the use of lethal weapons rose and attacks targeted specific persons, not property or police.⁹⁶ Deaths in KwaZulu-Natal doubled again in 1992–93. Between 1992 and the 1994 election, more than one hundred violent events occurred per month, making the conflict in KwaZulu-Natal, and in the DFR in particular, the most sustained in the country.⁹⁷

After the election, violence subsided in both KwaZulu-Natal and the region around Johannesburg. Although conflict levels have remained relatively low around Johannesburg, they have risen in Kwazulu-Natal. Buthelezi has called on his supporters to rise up and resist the control of the central government. In response, Mandela has threatened to cut the flow of federal funds to KwaZulu-Natal. The lives of people in the province continue to be disrupted by violence that shows little sign of ending.

IMPLICATIONS FOR POST APARTHEID SOUTH AFRICA

It is impossible to prove that the upsurge of violence in the early 1990s would not have occurred in the absence of severe environmental scarcity. The data available are simply not adequate for such proof. Moreover, environmental scarcity is always enmeshed in a web of social, political, and economic factors, and its contribution to violence is exceedingly difficult to disentangle from contributions by these other factors. Yet we have shown in the South African case that scarcity pushed up grievances and changed opportunities for violent collective action, thus contributing to social instability.

We have argued that analysts must understand the relationship between state and society if they are to understand the complex links between environmental scarcity and violent conflict. During the 1980s and early 1990s, South African society's demands on the state increased as thousands of people migrated to urban areas, while the ability of both national and local institutions to meet these demands decreased. With the decline of local governments, the apartheid regime lost its already tenuous links to society. Society segmented, and powerful groups seized control of resources. These groups married their local conflicts over resource access to the struggle for political control between the ANC and Inkatha.

The election of Mandela has changed the relationship between state and society. State legitimacy has jumped upwards. The RDP recognizes the needs of society, and interactions between state and society are now more constructive and vigorous. The government has established forums

around the country to discuss local implementation of the RDP — forums that boost civic engagement and generate social capital. Levels of grievance have fallen: the proportion of black South Africans expressing satisfaction with their lives rose from 32 percent in 1988 to 80 percent in 1994, while the proportion expressing happiness went from 38 percent in 1988 to 86 percent in 1994.⁹⁸ A sharp rise in expectations of change has accompanied this decline in grievances. Table 10 on page 22, identifies blacks' expectations of their new government. When asked what their reaction would be if their expectations were not met, 20 percent cited violent action, while only 5 percent cited peaceful mass protest.⁹⁹

The election of Mandela may have boosted expectations for change, but for most blacks objective living conditions remain dismal. Blacks are not happier because their living conditions have changed; rather, they are happier because they think these conditions are going to change. If change is not quickly forthcoming, therefore, the regime will lose legitimacy, and linkages between state and society will once again weaken. Unfortunately, already severe environmental scarcity makes the process of positive change much harder. Social demands on local institutions continue to expand, and the potential for violence between the ANC and Inkatha remains high.

Violence between these groups continues to be serious in areas where political control is contested, especially in KwaZulu-Natal. The *Economist* recently reported rising conflict in that province.

Since the general election 13 months ago, political violence across the country has subsided. At first it fell back also in KwaZulu-Natal. But at the start of this year political murders there began to multiply again, against the national trend. In April, Gauteng, the province around Johannesburg, had 11; KwaZulu-Natal had 83.¹⁰⁰

Table 10: What Blacks Expect from their New Government

ITEM	% WHO EXPECT ITEM
Enforced Minimum Wages	58
Subsidies To Lower Transport and Food Prices	56
Ready-built Houses Provided By Government	58
Government To Provide Work To All Unemployed	71
Free Schooling For All Children	70
White Schools To Accept All Black Applicants	71
White Farmers To Give Up Part Of Their Land To Black Farmworkers	54
Heavier Taxation On Whites To Provide Welfare For The Poor	50
White Companies To Appoint More Blacks	41
Whites In Civil Service To Make Way For Blacks	46

Source: *Indicator SA* 12, no. 1 (summer 1994): 73.

Local elections, scheduled for May, 1996, may produce widespread violence as Inkatha and the ANC fight to dominate local governments. Crime rates remain at alarming levels, indicating that underlying grievances and social alienation in the black community are still high. Many analysts predicted a decrease in crime after the 1994 election.¹⁰¹ However, overall levels of crime — in both KwaZulu-Natal and the region surrounding Johannesburg — appear to have increased, although the precise degree awaits complete statistical analysis.¹⁰²

In conclusion, it is still too early to establish whether South Africa will make the transition to a stable and prosperous democracy. If a successful transition is to occur, national and local institutions must understand and break the links between environmental scarcity

and conflict: they must redress the chronic and brutal structural scarcities impoverishing the black community; they must promote rapid, but sustainable, economic growth to absorb huge numbers of unemployed blacks in a still growing population; and they must preserve political channels for the peaceful expression of grievances. The state needs to provide agricultural extension services to black farmers, to target informal settlements for new infrastructure, and to increase opportunities for civic engagement. Women must be provided with investment capital, employment opportunities, and family-planning services to increase their authority within families and communities. Gender equality and increased female participation in society not only reduces fertility rates, but also enhances economic growth.

South Africa's transition to majority rule was a miracle few anticipated. Nelson Mandela's victory gave many hope that the ills of apartheid and the violence of recent years would give way to peace and prosperity. Nothing can detract from the accomplishments so far. But without careful attention to the environmental factors contributing to violence, South Africa may once again be locked into a deadly spiral of conflict.

ENDNOTES

1. Especially in the townships, many people earn their livelihood by buying and selling outside the formal economy of South Africa.
2. In this paper, "informal settlement" denotes a legal or an illegal settlement with little infrastructure. Housing is constructed from unconventional building materials. Normally, illegal settlements are described as squatter communities, yet this distinction will not be made here. Derik Gelderblom and Pieter Kok, *Urbanization: South Africa's Challenge* (Pretoria: Human Sciences Research Council, 1994), 255.
3. Quoted in Rich Mkhondo, *Reporting South Africa* (London: Heinemann, 1993), 19.
4. Sebastian Mallaby, *After Apartheid: The Future of South Africa* (New York: Times Books, 1992), 43.
5. African National Congress, *The Reconstruction and Development Programme: A Policy Framework* (Johannesburg: Umanyano Publications, 1994), 1.
6. Bill Keller, "Mandela's Rising Star in Corporate Circles," *New York Times*, 22 April 1995, 17, 31.
7. Thomas Homer-Dixon, "Environmental Scarcities and Violent Conflict: Evidence from Cases," *International Security* 19, no. 1 (summer 1994): 10–11.
8. Thomas Homer-Dixon, "On the Threshold: Environmental Changes as Causes of Acute Conflict," *International Security* 16, no. 2 (fall 1991): 91. Various types of conflict can result from these social effects. Ethnic conflict (or group identity conflict) arises with population displacement. Civil strife, riots, insurgency, revolution, and coups d'état often occur with declining economic productivity and the inability of the state to meet the needs of its population. Interstate conflict can arise from disputes over the access to and distribution of resources shared between states, for example, water.
9. Ted Gurr, *Minorities at Risk: A Global View of Ethnopolitical Conflicts* (Washington, D.C.: U.S. Institute of Peace, 1993), 126.
10. Joel Migdal, "The State in Society," in *State Power and Social Forces*, eds. Joel Migdal, Atul Kohli and Vivienne Shue (Cambridge: Cambridge University Press, 1994), 27.
11. Both Robert Putnam and Naomi Chazan emphasize the importance of interactions between civil society and the state for effective state policy. See Robert Putnam, *Making Democracy Work: Civil Traditions in Modern Italy* (Princeton, N.J.: Princeton University Press, 1993); Naomi Chazan, "Engaging the State: Associational Life in Sub-Saharan Africa," in *State Power and Social Forces*, eds. Joel Migdal, Atul Kohli, and Vivienne Shue (Cambridge: Cambridge University Press, 1994), 255–292.
12. Gurr, *Minorities at Risk*, 130.
13. Rent seekers are persons or groups who seek to extract payments from the economy for factors of production that are in excess of what would normally be obtained in a competitive market.
14. Chazan, "Engaging the State," 269. Chazan argues that under conditions of economic strain, both state and society become more insular.
15. Putnam, *Making Democracy Work*, 167.
16. Under the new constitution, the formerly white-dominated province of Natal has been integrated with the neighboring Zulu-dominated homeland of KwaZulu to form the province of KwaZulu-Natal.
17. Henk Coetzec and David Cooper, "Wasting Water," in *Going Green: People, Politics, and the Environment in South Africa*, eds. Jacklyn Cock and Eddie Koch (Cape Town: Oxford University Press, 1991), 130.
18. Craig MacKenzie, *Degradation of Arable Land Resources: Policy Options and Considerations within the Context of Rural Restructuring in South Africa*, Agriculture Policy Centre Working Paper 8 (Johannesburg: Land and Agricultural Policy Center, December 1994), 2.
19. Bruce Liggitt, *An Investigation into Soil Erosion in the Mflozi Catchment: Final Report to the KwaZulu Bureau of Natural Resources*, Institute of Natural Resources, University of Natal, Investigational Report I/R 28, (Pieter-Maritzburg: Institute of Natural Resources, University of Natal, February 1988), 2.
20. MacKenzie, *Degradation of Arable Land*, 1.

21. According to its Gini coefficient, South Africa was the most inequitable nation in the world. In 1976, the Gini coefficient based on household income was estimated at 0.68, and in 1991 it was 0.67. The coefficient for the United States is 0.34, and that for Canada, 0.29. Mike McGrath and Andrew Whiteford, "Disparate Circumstances," *Indicator SA* 11, no. 3 (winter 1994): 49.
22. David Cooper, "From Soil Erosion to Sustainability," in *Going Green: People, Politics, and the Environment in South Africa*, eds. Jacklyn Cock and Eddie Koch (Cape Town: Oxford University Press, 1991), 176.
23. Alan Durning, *Apartheid's Environmental Toll: World Watch Paper 95* (Washington, D.C.: World Watch Institute, 1990), 14.
24. Cooper, "From Soil Erosion to Sustainability," p. 179.
25. Lesley Lawson, "The Ghetto and the Greenbelt," in *Going Green: People, Politics, and the Environment in South Africa*, eds. Jacklyn Cock and Eddie Koch (Cape Town: Oxford University Press, 1991), 61.
26. David Barnard, "Housing: The Reconstruction Challenge," *Prodder Newsletter: Program for Development Research* 6, no. 4 (November 1994): 1.
27. Mkhondo, *Reporting South Africa*, ix. Mkhondo gets these figures from the South African Development Bank.
28. Francis Wilson, "A Land out of Balance," in *Restoring the Land*, ed. Mamphela Ramphele, (London: Panos Institute, 1991), 32.
29. Charles Simkins, "Population Pressures," in *Restoring the Land*, ed. Mamphela Ramphele, (London: Panos Institute, 1991), 22.
30. Durning, *Apartheid's Environmental Toll*, 13.
31. Priya Deshingkar, *Integrating Gender Concerns into Natural Resource Management Policies in South Africa*, (Johannesburg: Land and Agriculture Policy Centre, April 1994), 1.
32. Partha Dasgupta, "Population, Poverty and the Local Environment," *Scientific American*, (February 1995): 40-42.
33. Simkins, "Population Pressures," 23. The white infant mortality rate for the period 1985-1990 is 9.0 per thousand (see "Republic of South Africa," *South Africa Statistics 1992* [Pretoria: Central Statistical Service, 1992], 3.8).
34. Land use management practices, not just natural vulnerabilities, must be analyzed when soil erosion is discussed: "Factors such as climate, soil erodibility and topography determine the potential erosion hazard in an area. Nevertheless, the difference in erosion caused by differing management of the same soil is very much greater than the difference in erosion from different soils under the same form of management. Thus cropping and management practices provide the key to controlling soil loss." Liggitt, "An Investigation into Soil Erosion," 27.
35. Wilson, "A Land out of Balance," 34.
36. Durning, *Apartheid's Environmental Toll*, 12-13.
37. John Collings, "The Vanishing Land," *Leadership*, 24.
38. Dan Archer, *Twenty-Twenty, A Working Report*, Institute of Natural Resources, University of Natal, Working Paper 111 (August 1994), 5.
39. Ibid.
40. Mark Gandar, "The Imbalance of Power," in *Going Green: People, Politics, and the Environment in South Africa*, eds. Jacklyn Cock and Eddie Koch (Cape Town: Oxford University Press, 1991), 98.
41. David Cooper and Saliem Fakir, *Commercial Farming and Wood Resources in South Africa: Potential Sources for Poor Communities*, Land and Agriculture Policy Centre Working Paper 11, (September 1994), 1.
42. Francis Wilson and Mamphela Ramphele, *Uprooting Poverty: The South African Challenge* (New York: W.W. Norton and Co., 1989), 44.
43. Gandar, "Imbalance of Power," 98-99.
44. Morag Peden, *Tree Utilization in KwaZulu and the Future Provision of Tree Products*, Institute of Natural Resources, University of Natal Working Paper 88 (March 1993), 7.
45. David Brooks, *Field Study Report: South Africa, Mozambique and East Africa*, (Ottawa: International Development Research Centre, Environment and Natural Resources Division, 31 May 1995), 17.

46. David Dewar, "Cities under Stress," in *Restoring the Land*, ed. Mamphele Ramphele (London: Panos Institute, 1991), 92.
47. Dean Simpson, "The Drowning Pool," in *Rotating the Cube: Environmental Strategies for the 1990s* (University of Natal, Indicator South Africa, 1993), 28.
48. Barnard, "Housing," 1.
49. Bill Keller, "Squatters Testing Limits as Apartheid Crumbles," *New York Times*, 14 November 1993, A3.
50. Barnard, "Housing," 1.
51. H. R. Beckedahl and D. G. Slade, "Minimise Soil Loss in Urban Areas," *Muniviro* 9, no. 3: 12.
52. Lawson, "The Ghetto and the Green Belt," 54.
53. Homer-Dixon, "On the Threshold," 91.
54. Durning, *Apartheid's Environmental Toll*, 13.
55. Cooper, "From Soil Erosion to Sustainability," 179. Kwashiorkor results from a lack of protein in the diet and causes skin problems and muscle wasting. Pellagra is a riboflavin deficiency that results in joint deformities and gastrointestinal ailments and affects the nervous system.
56. N. Boesema, "Making the Right Move: Migration Decision Making in a Rural Community," in *Making a Move: Perspectives on Black Migration Decision Making and Its Context*, eds. H. P. Steyn and M. Boesema (Pretoria: Human Sciences Research Council, 1988), 113–114.
57. Barnard, "Housing," 2.
58. H. P. Steyn and N. Boesema, "Introduction" in *Making a Move: Perspectives on Black Migration Decision Making and Its Context* (Pretoria: Human Sciences Research Council, 1988), 3.
59. Dewar, "Cities under Stress," 91–92.
60. South African Institute of Race Relations, *Race Relations Survey, 1993–94* (Johannesburg, 1994), 493.
61. In addition, South Africa has an estimated seven to eight million homeless people drifting from countryside to cities and also among cities. Barnard, "Housing," 1.
62. Simkins, "Population Pressures," 23–24. See also H. P. Steyn and N. Boesema, "Conclusion," *Making a Move*. In this publication, written before the repeal of the pass laws, Steyn and Boesema state: "The rural-urban migration of blacks in South Africa centers around the inability of the rural areas to provide for the material needs of the local people. Structural determinants such as land shortage and the inaccessibility of available land, overpopulation, and the general underdevelopment of rural areas on the one hand, and the attractions of cities and city life such as job opportunities, general infrastructure and facilities on the other hand are relevant in this regard" (134).
63. This estimate was produced by the Urban Foundation. Lawson, "The Ghetto and the Green Belt," 47.
64. Catherine Cross, Simon Bekker, and Craig Clark, "People on the Move: Migration Streams in the DFR," *Indicator SA* 9, no. 3 (winter 1992): 42.
65. Inga Moltzin, "Do-It-Yourself Urban Living," *New Ground*, no. 3 (March 1991): 15–16.
66. Cross et al., "People on the Move," 43.
67. Doug Hindson and Mike Morris, "Violence in Natal/KwaZulu: Dynamics, Causes, Trends," (unpublished paper, March 1994), 1.
68. Catherine Cross, Simon Bekker, and Craig Clark, "Migration into DFR Informal Settlements: An Overview of Trends," in *Here To Stay: Informal Settlements in KwaZulu-Natal*, eds. Doug Hindson and Jeff McCarthy, (Dalbridge: Indicator Press, 1994), 88–89.
69. Doug Hindson and Jeff McCarthy, "Defining and Gauging the Problem," in *Here to Stay: Informal Settlements in KwaZulu-Natal*, eds. Doug Hindson and Jeff McCarthy (Dalbridge: University of Natal, Indicator Press, 1994), 2.
70. Nick Wilkins and Julian Hofmeyer, "Socio-Economic Aspects of Informal Settlements," in *Here to Stay: Informal Settlements in KwaZulu-Natal*, eds. Doug Hindson and Jeff McCarthy (Dalbridge, South Africa: University of Natal, Indicator Press, 1994), 109. Oscillating migration is the movement of people, predominantly for employment purposes, back and forth between urban and rural areas.
71. John Darnton, "Note of Unity Pervades Peace Prize Ceremony," *New York Times*, 11 December 1993, 7.

72. Moltzin, "Do-It-Yourself Urban Living," 14.
73. Antoinette Louw, "Conflicting Views," *Indicator SA* 11, no. 1 (summer 1992): 17-18.
74. Philip Harrison, "The Policies and Politics of Informal Settlement in South Africa: A Historical Perspective," *Africa Insight* 22, no. 1, (1992), 14.
75. Anthony Minnaar, "Undisputed Kings: Warlordism in Natal," in *Patterns of Violence: Case Studies of Conflict in Natal*, ed. Anthony Minnaar (Pretoria: Human Sciences Research Council, 1992), 63.
76. Hindson and Morris, *Violence in Natal/KwaZulu*, 6-7.
77. *Ibid.*, 8.
78. Doug Hindson, Mark Byerley, and Mike Morris, "From Violence to Reconstruction: The Making, Disintegration and Remaking of an Apartheid City," *Antipode* 26, no. 4 (1994): 341.
79. Anthony Minnaar, *An Overview of Political Violence and Conflict Trends in South Africa with Specific Reference to the Period January-June 1994* (Pretoria: Centre for Socio-Political Analysis, Human Sciences Research Council, July 1994), 1.
80. South African Institute of Race Relations, *Race Relations Survey, 1994-95*, 296.
81. Minnaar, *An Overview of Political Violence and Conflict Trends*, 17.
82. The percentage increases are based on the following numbers:
 Central Rand—203 incidents to 473
 East Rand—145 incidents to 266
 South of Johannesburg—53 incidents to 160
 From Matha Ki and Anthony Minnaar, "Figuring Out the Problem: Overview of PWV Conflict from 1990-1993," *Indicator Essay* 11, no. 2 (autumn 1994): 26.
83. Antoinette Louw, "Post-Election Conflict in KwaZulu-Natal," *Indicator SA* 11, no. 4 (Conflict Supplement, spring 1994): 16.
84. Valerie Moller, "Post-Election Euphoria," *Indicator SA* 12, no. 1 (summer 1994): 27.
85. *Ibid.*, 28.
86. John Battersby, "Blacks Prepare to Cast Their Ballots," *Christian Science Monitor* (28 February 1994): 11.
87. Susan Olzak and Johan Olivier, "The Dynamics of Ethnic Collective Action in South Africa and the United States: A Comparative Study," (unpublished paper, June 1994), 2-7.
88. Mary de Haas and Paulus Zulu, "Ethnic Mobilisation: KwaZulu's Politics of Secession," *Indicator SA* 10, no. 3 (winter 1993): 49.
89. Mkhondo, *Reporting South Africa*, 48.
90. Mike Morris and Doug Hindson, "The Disintegration of Apartheid: From Violence to Reconstruction" in *South African Review*, eds. Glen Moss and Ingrid Obery (Braamfontein, South Africa: Raven Press, 1992), 158.
91. Mike Morris and Doug Hindson, "Power Relations in Informal Settlements," in *Here to Stay*, 160.
92. Hindson et al., "From Violence to Reconstruction," 340.
93. Louw, "Conflicting Views," 21.
94. Antoinette Louw, "Political Conflict 1989-92," *Indicator Essay* 9, no. 3 (winter 1992): 57.
95. Louw, "Conflicting Views," 21.
96. Antoinette Louw, "Wars of Weapons, Wars of Words," *Indicator SA* 11, no. 1 (autumn 1994): 65-70.
97. Antoinette Louw, "Conflict of Interest," *Indicator SA* 11, no. 2 (autumn 1994): 17.
98. Moller, "Post-Election Euphoria," 28.
99. *Indicator SA* 12, no. 1 (summer 1994): 73.
100. "A Zulu Irritant," *The Economist* (27 May 1995), 39.
101. Mark Shaw, an analyst with the Centre for Policy Studies, wrote: "The number of murders increased dramatically from 1980 to 1990 after which levels surged. Some of these statistics reflect political violence, but the line between political and criminal violence is fine. This implies that the

murder rate should decline from 1994 when political violence decreased." Mark Shaw, "Exploring a Decade of Crime," *Crime and Conflict*, no. 1 (autumn 1995): 13.

102. See Glanz, "Patterns of Crime," *Crime and Conflict*, 9-10. Glanz compares crime levels from 1988 to 1993 and to the first ten months of 1994. The following tables are adapted from this article and are based on crime statistics compiled by the commissioner of the South African Police. Rates are calculated per hundred thousand of the population of South Africa, including the former self-governing territories. The "big six" crimes are rape, murder, aggravated assault, aggravated robbery, burglary (business and residential), and theft of motor vehicles.

TYPE OF OFFENSE	1988		1992		1993	
	No.	Rate	No.	Rate	No.	Rate
Big Six	422,116	1,440	557,426	1,764	587,030	1,821
Total	1,423,763	4,857	1,781,861	5,639	1,852,223	5,747

TYPE OF OFFENSE	JAN.-OCT. 1994	
	No.	Rate
Big Six	545,158	2,522
Total	NA	NA

TYPE OF OFFENSE	% CHANGE IN RATE	
	1988-93	1992-93
Big Six	+26.5	+3.2
Total	+18.3	+3.2

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