

doc
CA1
EA
96P66
ENG

DOCS .63283410(E)
CA1 EA 96P66 ENG
Percival, Valerie
The Project on Population,
Environment and Security :
empirical findings from recent
research : paper for the Seminar on
Env

THE PROJECT ON POPULATION, ENVIRONMENT AND SECURITY

**EMPIRICAL FINDINGS FROM RECENT
RESEARCH**

**PAPER FOR THE SEMINAR ON ENVIRONMENTAL SECURITY
DEPARTMENT OF FOREIGN AFFAIRS AND INTERNATIONAL TRADE
FEBRUARY 29TH, 1996**

**VALERIE PERCIVAL
UNIVERSITY OF TORONTO**

INTRODUCTION

The understandings gained by investigation into the causes and consequences of the Cold War and other inter-state conflicts seem ill-equipped to explain and manage the violence that dominates international relations today. Conflicts are increasingly being waged by non-state actors, and states face more threats domestically from their constituents than internationally from other states. Different explanatory tools have to be developed to understand the violence in the world today.

Dept. of External Affairs
Min. des Affaires extérieures
1999
RETURN TO DEPARTMENTAL LIBRARY
BIBLIOTHÈQUE DU MINISTÈRE

In an effort to explain contemporary forms of violence, analysts have intensified their research into the environmental basis of civil strife. Investigations into the relationship between environmental scarcity -- the scarcity of renewable resources -- and violence have attracted attention among academics, non-governmental organizations, and policy making communities. However, much of this research has been overly simplistic. While not denying the importance of environmental factors in some instances of conflict, it is equally important to avoid the pitfalls of apocalyptic determinism and fully understand the factors that influence the relationship between the scarcity of renewable resources and social instability.

Environmental stress is not the sole cause or even the most important cause of certain conflicts in the world today. Environmental scarcity interacts with political, economic, and social factors; within this complex, interactive system one factor cannot be isolated as the cause of conflict. Therefore, to understand the contribution of environmental scarcity to violence, researchers must disentangle the various factors at play in any one particular conflict, and trace out the role of environmental scarcity amid these other factors.

To facilitate an understanding of the link between environmental stress and violence, the Project on Environment, Population and Security, under the direction of Thomas Homer-Dixon brought together a team of researchers at the University of Toronto¹. I begin this paper with an outline of the conceptual framework developed by Homer-Dixon and utilized by the project to guide investigation into the relationship between environment and conflict. To illustrate the relationship between environmental factors and conflict, I apply this framework to the case of South Africa. I conclude with a summary of the project's key findings on environment-conflict links.

¹ Under the direction of Thomas Homer-Dixon, the Project on Environment, Population and Security Links began in July 1994 with a grant from the Pew Charitable Trusts. The goal of the project is to gather, evaluate, integrate and disseminate information on causal linkages among population growth, renewable resource scarcities, migration and violent conflict. The case studies of the project include Chiapas, Mexico; Gaza; Pakistan; Rwanda; and South Africa. The thematic reports include a study on Urban Growth and Violence and a paper on Social Adaptation. The project also is producing a Briefing Book summarizing the findings of the project for policy makers. The research team includes the following members: Thomas Homer-Dixon (Principal Investigator, Social Adaptation); Peter Gizewski (Urban Growth, Pakistan); Philip Howard (Chiapas); Kim Kelly (Gaza); and Val Percival (Rwanda, South Africa, Briefing Book).

55442326

CONCEPTUAL FRAMEWORK

The context specific to each case determines the precise relationship between the scarcity of renewable resources — such as cropland, water, fuelwood, and fish — 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.

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 the 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.²

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.³ 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. 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. In other words, 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.

² Thomas Homer-Dixon, "Environmental Scarcities and Violent Conflict: Evidence from Cases," *International Security*, Vol. 19, No. 1 (Summer 1994), p. 10-11.

³ Thomas Homer-Dixon, "On the Threshold: Environmental Changes as Causes of Acute Conflict," *International Security*, Vol. 16, No. 2 (Fall 1991), p. 91.

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.⁴ Civil society — groups separate from but engaged in dialogue and interaction with the state — present the demands of their constituents.⁵ 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 behaviour 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.⁶

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 productivity and therefore taxes; it can also increase the power and activity of rent-seekers who become evermore 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 between groups decrease, and each group turns inwards to focus on its own concerns.⁷ Civil society retreats, and as a result, society is less able to effectively articulate its demands on the state. This segmentation also reduces the density of "social capital" — the trust, norms, and networks generated by vigorous, cross-cutting exchange among groups.⁸ 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.

⁴ Joel Migdal, "The State in Society," in *State Power and Social Forces*, Joel Migdal, Atul Kohli, Vivienne Shue eds. (Cambridge: Cambridge University Press, 1994) p. 27.

⁵ 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: Princeton University Press, 1993); Naomi Chazan, "Engaging the State: Associational Life in Sub-Saharan Africa," in *State Power and Social Forces*, Joel Migdal, Atul Kohli, and Vivienne Shue eds. (Cambridge: Cambridge University Press, 1994) pp. 255-292.

⁶ Ted Robert Gurr, *Minorities at Risk: A Global View of Ethnopolitical Conflicts*, (Washington: United States Institute of Peace, 1993) p. 130.

⁷ Chazan, "Engaging the State," p. 269. Chazan argues that under conditions of economic strain, both state and society become more insular.

⁸ Putnam, *Making Democracy Work*, p. 167.

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 socio-economic conditions persist, grievances will remain. These grievances will probably be expressed through an increase in deviant activity such as crime. Unless they are addressed, the legitimacy of the government will decrease, society will once again become segmented, and opportunities for violent collective action will correspondingly increase.

THE CASE OF SOUTH AFRICA

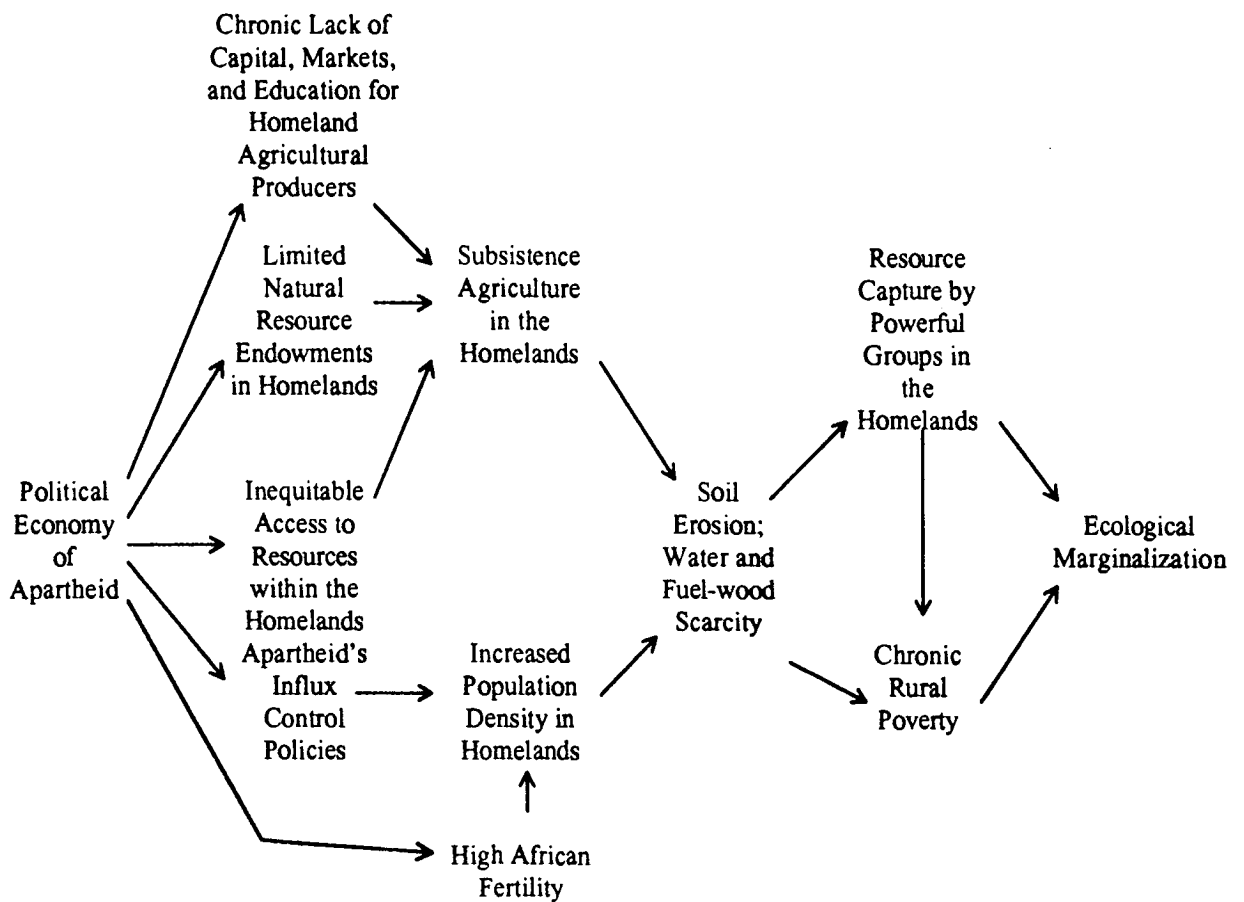
Although South Africa experienced a relatively stable transition to democratic rule, violence within the black South African community has escalated steadily since the 1980s. This violence increased at precisely the same time that many anticipated the transition to a more peaceful society — upon the 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. Analysts have overlooked the role of environmental problems as a contributor to social instability in South Africa. Environmental scarcity is not the sole cause of the country's recent turmoil. But policy makers and social analysts who ignore environmental problems risk missing a factor that powerfully contributes to the violence.

Figure one presents the impact of environmental scarcities in South Africa's rural areas. 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 evermore 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 known as resource capture. Land rights were traded for political favours 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.

Figure 1: Environmental Scarcity within South African Homelands



As presented in figure two, chronic poverty, ecological marginalization, and high fertility rates in the former homelands caused rural-urban migration. These migrations along with high urban fertility rates boosted urban population densities. High urban densities, in turn, combined with the impoverishment produced by Apartheid to force people to rely on the urban environment to provide for their daily needs. Too many people relying on a limited resource base produced urban environmental scarcity.

The huge movement of people to and within urban areas increased demands on local institutions. Rising environmental scarcity, meanwhile, caused evermore social segmentation. These two processes together produced a sharp weakening of the institutions needed to meet the needs of the local population. Warlords were able to seize control of key environmental resources, which further weakened local institutions. A cycle began: institutions could not provide for the population which forced people to rely on, and subsequently degrade, the local environment; weak institutions provided warlords with increased opportunities for predatory behaviour.

Figure 2: Environmental Scarcity and Urbanization in South Africa

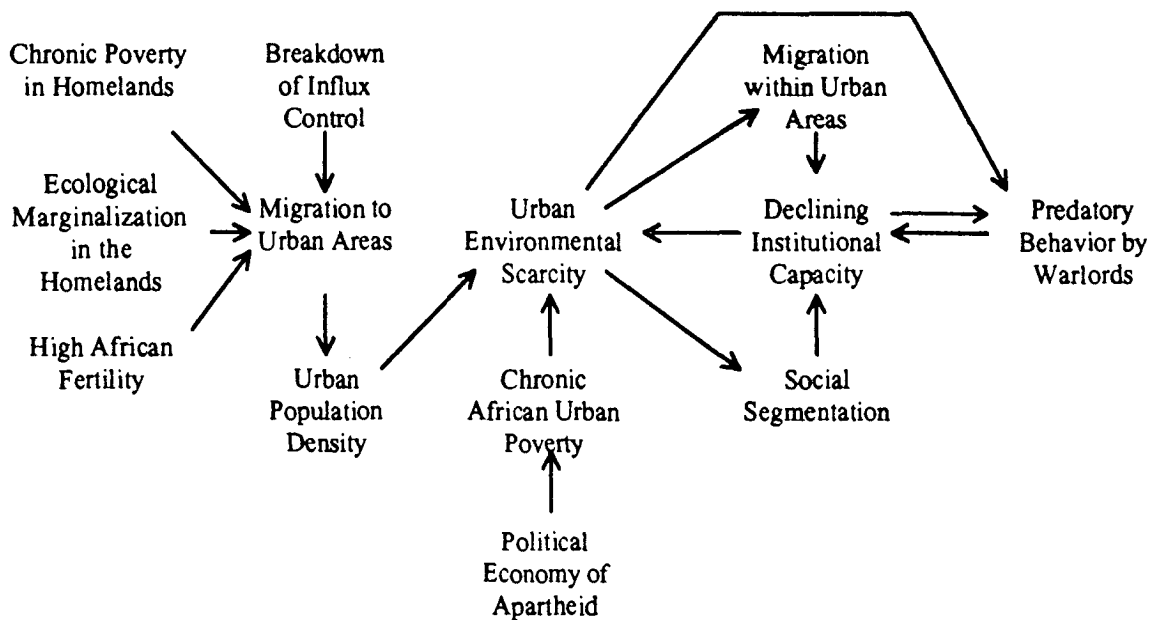
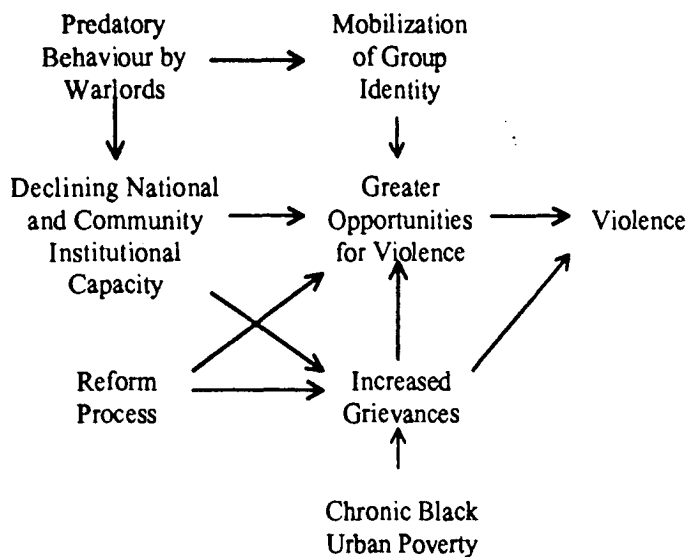


Figure 3 diagrams the surge of violence after 1990 in South Africa. The reform process raised expectations for better socio-economic conditions, while declining state capacity limited the ability of institutions to meet these expectations. Unmet expectations, further frustrated by the poverty endemic to the African community, increased grievances within African 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 African National Congress (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.

After Nelson Mandela's release in February, 1990, violence became pervasive. From that date until December 1993, political violence killed an estimated 12,000 people — an annual rate more than four times that prior to 1990. In 1992 alone, criminal and political violence together produced more than 20,000 deaths. 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. 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. 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. Yet, as shown above, environmental scarcity

increased grievances and changed opportunities for violent collective action, thus contributing to social instability.

Figure 3: Outbreak of Violence in South Africa



To understand the complex links between environmental scarcity and violent conflict, analysts must understand the relationship between state and society. During the 1980s and early 1990s, the demands of South African society on the state increased as thousands of people moved 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 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, and political violence has declined dramatically. The Reconstruction and Development Program (RDP), instituted to manage the transition from apartheid, 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.

However, for most blacks, 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,

LIBRARY E A / BIBLIOTHÈQUE A E



3 5036 01069359 9



60984 81800

crime rates have increased dramatically, and political violence between Inkatha and the ANC has recently escalated.

CONCLUSION

The main causes of civil conflict, such as the violence in South Africa, appear to be ethnic tension, poverty, institutional breakdown and migrations. However, the scarcity of renewable resources, such as water, fuelwood, cropland and fish, can contribute to increased tensions between ethnic groups, impoverishment, weakened institutions, and migrations. Although renewable resource scarcity is not the sole cause of these conflicts, it is a factor that until recently has been neglected in analysis into the causes of acute conflict.

Environmental scarcity rarely results in interstate wars, most conflict arising from environmental stress will be intra-state in nature. However, this civil violence can have international repercussions. The international community will be affected by civil strife if it occurs within a strategically important region, if the participants in the conflict possess weapons of mass destruction, and if the violence results in massive refugee flows. Civil strife has recently resulted in complex humanitarian disasters, such as Rwanda and Somalia. Humanitarian disasters have significant transnational consequences as the international community is called upon to deliver humanitarian assistance to alleviate human suffering.

The project's research analyzes the relationship between environmental factors and violence; we do not refer to the link between environmental stress and Canadian national security. The end goal of our research is to heighten the understanding of what contributes to the outbursts of violence that affect millions of people in the world today. Although we offer proactive policy suggestions, these recommendations are focused on the link between scarcity and violence within each particular case. Our recommendations do not address Canadian security interests, however reducing the incidents of violent conflict can only enhance human security worldwide.

