

# Social-Ecological Scenarios for the Eastern Cape

2012 – 2050



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## Glossary and Abbreviations

<b>Alien invasive species:</b>	Non-native/exotic plant or animal species that adversely affect the native fauna and/or flora
<b>ANC:</b>	African National Congress – South Africa’s majority ruling party since 1994 (founded in 1912)
<b>Apartheid:</b>	A system of racial segregation enforced by the National Party government, which ruled South Africa from 1948-1994. Under the Apartheid system the rights of the majority black inhabitants of the country were restricted, and the minority rule of the white population was enforced.
<b>Baviaanskloof:</b>	Nature reserve in the Eastern Cape, west of Port Elizabeth
<b>Biofuel:</b>	Any kind of fuel made from living things, or from the waste they produce
<b>BRICS:</b>	An association of leading emerging economies (Brazil, Russia, India, China, South Africa)
<b>COSATU:</b>	Congress of South African Trade Unions – the largest trade union federation in South Africa (founded in 1985)
<b>Ecosystem services:</b>	Benefits that people derive from nature, for example food, water, climate control, flood attenuation, and spiritual experiences
<b>Fracking:</b>	Hydraulic fracturing – a technique used to extract petroleum, natural gas, or other substances from reservoir rock formations
<b>Game-farming:</b>	Farming activities that centre on breeding, rearing and hunting wild animals
<b>HIV/AIDS:</b>	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome – an infectious viral disease of the human immune system
<b>Homelands</b>	Also known as ‘bantustans’ – territories within South Africa that were set aside for black Africans during Apartheid. Many inhabitants of the homelands were forcefully relocated to homelands. The Eastern Cape homelands were called the Ciskei and the Transkei.
<b>Land grabbing:</b>	large-scale land acquisitions in developing countries by domestic or international companies, governments or individuals
<b>Land invasion:</b>	the forceful occupation of land by people claiming ownership of the property
<b>N2:</b>	Major national highway between Cape Town and Durban
<b>NGO:</b>	Non-governmental organization
<b>Nongqawuse:</b>	Xhosa prophetess (1840s-1898) whose prophecies led to the cattle-killing of 1856-1857 in the Eastern Cape
<b>PES:</b>	Payments for Ecosystem Services – the practice of offering incentives to farmers or landowners in exchange for managing their land to provide some sort of ecological service. It is designed to promote the conservation of natural resources through market-based mechanisms.
<b>Rinderpest:</b>	An infectious viral disease of cattle, now eradicated globally
<b>SACP:</b>	South African Communist Party – a political party in South Africa (founded in 1921)
<b>Social capital:</b>	The benefits derived from cooperation and social networks
<b>Tripartite Alliance:</b>	A strategic political alliance between the ANC, COSATU and SACP
<b>Wild Coast:</b>	Rugged coastal area between the Great Kei River and Port St Johns
<b>Xhosa:</b>	Name given to the group of cultures who speak isiXhosa, living predominantly in the south-east of South Africa

## Introduction

The Eastern Cape Province of South Africa (Fig.1), like many developing regions around the world, is undergoing rapid social-ecological changes that will have profound impacts on the region over the coming decades. These changes are driven by a complex mix of political, economic, legislative, environmental and social forces at local, regional, national and international scales. While parts of the Eastern Cape remain poor and underdeveloped without sanitation or electricity, other areas are prospering through large scale growth and development plans, luxury coastal resorts and a burgeoning ecotourism industry. At the same time, land degradation, droughts, a downturn in the livestock sector, and a struggling rural economy are reinforcing human migration patterns to overflowing urban centres and a dependence of rural communities on grants and welfare. Consequently, while the options and living standards of some people have improved dramatically, lack of capacity, corruption and conflicting interests between government, traditional leaders, business and the poor are hampering progress towards environmental sustainability and the eradication of poverty in the Eastern Cape.



Figure 1: Map of the Eastern Cape

The complex set of changes currently ongoing in the Eastern Cape could lead to some very different trajectories of development in the region, with very different implications for ecosystem services and human well-being. The scenarios described in this report explore the outcomes of four contrasting trajectories of change over the period 2012 - 2050. The scenarios are based on ideas generated at a scenarios workshop held in Chintsa near East London, on 30-31 January 2012, which involved 19 researchers and managers with a range of perspectives on and insights into the region (Appendix A). The aim of the workshop was to develop a better understanding of the dynamics of change in the Eastern Cape, and to foster links with researchers and practitioners working in the region. Scenario planning was used as a tool to facilitate the sharing of experiences and insights in a creative and collaborative way.

The workshop and this report form part of a project on “Governance of ecosystem services under scenarios of change in southern and eastern Africa” funded by the Swedish International Development Agency (SIDA), run by the Stockholm Resilience Centre in Sweden, in collaboration with the Biodiversity and Ecosystem Services group at the CSIR in South Africa and the Department of Organizational Sciences at the VU University in Amsterdam, The Netherlands. Our intention is that the scenarios developed here will be used as a basis for more detailed analyses of the impacts of social-ecological change as the project develops. We also hope that the workshop participants and other researchers and practitioners in the region may find the scenarios useful in their work. This report first outlines the process used to construct the scenarios, and summarizes the main regional drivers of change identified in the workshop. Thereafter, the report describes the four scenarios, and concludes with some overall insights.

### **What is Scenario Planning?**

Scenario planning is a method for exploring the future by understanding the most important uncertainties and driving forces shaping change today. Scenario planning is based on the assumption that the future cannot be predicted, so that the best way to prepare for it is to consider some very different ways in which the future may unfold and ensure that policy and planning is robust across these possibilities. Scenario planning typically involves the development of 3-5 qualitative scenarios, each associated with different trends and assumptions. Each scenario represents a plausible – but not necessarily likely – story about how the future might unfold. Importantly, scenario planning does not examine all possible combinations of different drivers. Rather, it assumes that different drivers are tightly interconnected, so that whole suites of changes occur together.

In South Africa, scenario planning was famously carried out in the Mont Fleur Exercise of 1991/92, when a diverse group of South African leaders created scenarios for the future of South Africa during a time of great social upheaval and political change; and then again in 2008/09 when the Dinokeng Scenarios were created for South Africa to 2020. In these examples, scenario planning was used to reflect upon the past, and to have a reasoned, strategic discussion about possible future trajectories of change in South Africa in order to inform policy development.

The process of scenario planning can itself often be of great value - sometimes more valuable than the scenarios that are generated. This is because scenario planning is a highly creative group process that brings together people with different perspectives and assumptions in a joint dialogue. This process encourages the exchange of knowledge and experiences, leads to the broadening of the individual participants’ understanding, as well as a greater appreciation and understanding of others’

points of view, which is especially useful in dealing with uncertainty and conflicting values in complex systems.

It was in this spirit that scenario planning was used as a tool in the Chintsa Workshop. Our aim was not to construct scenarios that could be used to inform policy development or government planning. Rather, our aim was to deepen our joint understanding of the dynamics shaping change in the Eastern Cape - to let the imagination run wild and then to return to reality with plausible, internally coherent storylines that capture some of the major drivers, opportunities and risks identified by the workshop participants.

**For more information on scenario planning, please refer to:**

Alcamo, J (2001) Scenarios as tools for international environmental assessments. Copenhagen, Denmark: European Environmental Agency. Available at [http://www.eea.europa.eu/publications/environmental\\_issue\\_report\\_2001\\_24](http://www.eea.europa.eu/publications/environmental_issue_report_2001_24)

Biggs R, Diebel MW, Gilroy D, Kamarainen AM, Kornis MS, Preston ND, Schmitz JE, et al. (2010) Preparing for the future: teaching scenario planning at the graduate level. *Frontiers in Ecology and the Environment*, 8(5): 267-273.

Biggs R, Raudsepp-Hearne C, Atkinson-Palombo C, Bohensky C, Boyd E, Cundill G, Fox H, Ingram S, Kok K, Spehar S, Tengö M, Timmer D, and Zurek M (2007) Linking futures across scales: a dialog on multiscale scenarios. *Ecology and Society* 12(1): 17.

Dinokeng Scenarios (2008) Available at [www.dinokengscenarios.co.za](http://www.dinokengscenarios.co.za)

Evans K, Velarde SJ, Prieto R, Rao SN, Sertzen S, Dávila K, Cronkleton P, de Jong W (2006) Field guide to the Future: Four Ways for Communities to Think Ahead. Bennett E. & Zurek M. (eds.) Nairobi: Center for International Forestry Research (CIFOR), ASB, World Agroforestry Centre.

Mont Fleur Exercise (1991) Available at [http://www.gbn.com/articles/pdfs/gbn\\_montfleur%20scenarios.pdf](http://www.gbn.com/articles/pdfs/gbn_montfleur%20scenarios.pdf)

Peterson GD, Beard Jr. TD, Beisner BE, Bennett EM, Carpenter SR, Cumming GS, Dent CL, Havlicek TD (2003) Assessing future ecosystem services: a case study of the Northern Highlands Lake District, Wisconsin. *Conservation Ecology* 7(3): 1.

## Developing the Scenarios

The material underlying the scenarios was largely generated at a 2-day workshop involving experts with knowledge and experience of the social, ecological, development and governance issues in the Eastern Cape (Appendix A). Below we outline the process by which the scenarios were created.

### **Step 1: Set the Scene – Introduction to Scenario Planning**

The workshop began with a round of introductions and a short presentation describing the process of scenario planning. We agreed that the workshop would focus on the Eastern Cape Province, and explore possible trajectories of change up to 2050.

## **Step 2: Construct a Timeline**

Participants worked in small groups to identify significant past events that shaped social-ecological change in the Eastern Cape. These events were recorded on coloured cards and attached to a long timeline on a wall, and discussed interactively by the groups.

## **Step 3: Identify Drivers of Change**

Based on the timeline, participants worked in a new set of small groups to identify the major drivers that have shaped change in the Eastern Cape. Drivers were recorded on coloured cards, reflecting on whether or not the drivers were long-term trends or highly uncertain. Groups jointly organized their cards on a wall, placing similar drivers together, so that clusters of drivers emerged.

## **Step 4: Create Wild Cards**

Next, rearranged participant groups focused on identifying 'Wild Cards': unlikely but plausible 'game-changing' events or developments that could significantly alter future developments in the province. The objective was to engage the participants' imaginations and give them the freedom to get creative about possible 'what ifs'. Again, group ideas were recorded on cards, and clustered onto a wall based on interactive discussions amongst and between the groups.

## **Step 5: Creating Scenario Fragments**

Six key areas of social-ecological change emerged from the groups of drivers and wild cards: *governance, tourism, energy, land reform, community-based natural resource management, and climate adaptation*. On the second day, new participant groups were each given one of these themes around which to create two scenario fragments: a dystopian and a utopian story, that described the Eastern Cape in 2050 and the sequential development of this outcome from the present day. Each fragment described intended and unintended consequences of actions taken, and the trajectories of urbanization, poverty alleviation and natural resources. Each group presented their scenario fragments using a series of fictional newspaper headlines.

In the second session, a new set of groups created another set of scenario fragments for each of the six themes. This time groups were instructed to create scenario fragments that were not exclusively utopian or dystopian, but rather included twists and turns along the pathway to the endpoint. Scenario fragments were again presented using newspaper headlines, and discussed in plenary.

## **Step 6: Synthesis of Scenarios**

Following the workshop, the organizers synthesized the ideas generated at the workshop into four distinct scenario themes. A common set of crises was agreed on to structure and compare the sequential development of each scenario from the present to 2050. These included some political upheaval around 2017; a major global recession around 2025; and a devastating drought in the early 2030's. The storylines for each theme were created by weaving together elements of the scenario fragments generated during the workshop. Each scenario was given a catchy title, inspired by songs by the music group Queen (see Fig. 4). Finally, the scenarios were sent out to all workshop participants for comments that were then incorporated into the report.

## Drivers of social-ecological change

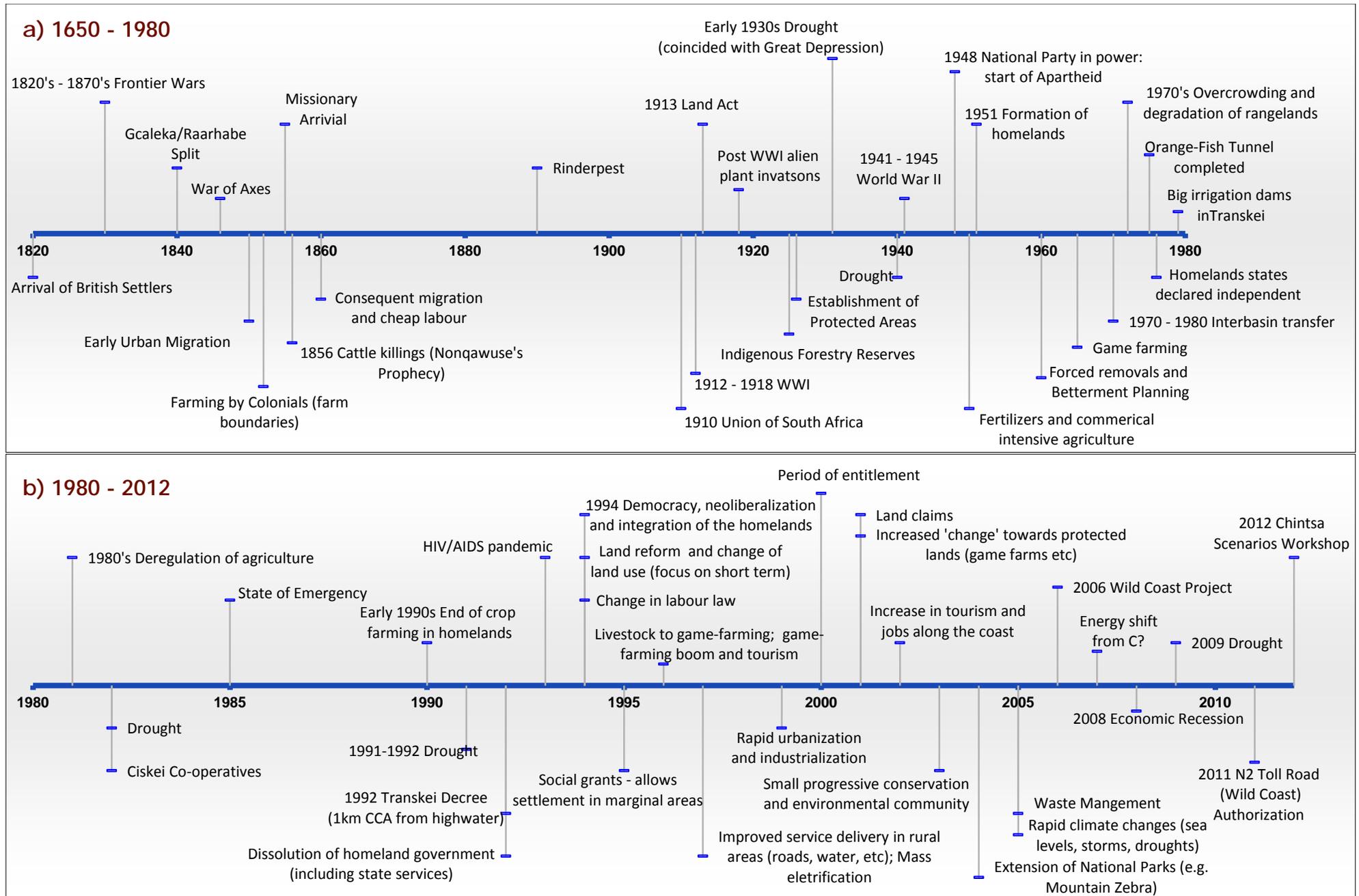
This section outlines the key historical events, social-ecological drivers and wild cards that have shaped past or may shape future change in the Eastern Cape, as identified by the workshop participants.

### Timeline of key historical events

The timeline (Fig. 2) that was created is by no means exhaustive, but portrays the participants' collective understanding of the most important events or periods that shaped the social-ecological history of the Eastern Cape. We identified four periods of intense change, when a number of events or surprises occurred in quick succession:

1. *The period from approximately 1820 to 1890* saw the arrival of British settlers and missionaries, and the Frontier Wars between the Xhosa and the settlers. The Prophecy of Nongqawuse led to the killing of thousands of Xhosa cattle and the Rinderpest ended Xhosa resistance. This led to the beginnings of human migration to urban areas, and the availability of cheap labour.
2. *The period from the late 1940's to the 1960's* saw unprecedented political changes with the National Party in power and the beginnings of Apartheid. Expanding commercial agriculture in some areas contrasted with the formation of the homelands (the Ciskei and the Transkei), forced removals and 'betterment planning'.
3. *The 1970's and 1980's* saw a surge of protests against Apartheid policies. Global awareness about the South African situation grew following the government's brutal response to these protests. In the mid 1980's government declared a state of emergency and eventually yielded to international pressure to negotiate with the African National Congress (ANC). This period also saw the construction of large irrigation schemes and dams, and the deregulation and restructuring of the agrarian sector.
4. *The period of the middle to late 1990's* marked the end of Apartheid and start of democracy. This included a focus on rural development and the roll-out of social grants. The early days of democracy were also accompanied by changes in labour laws, rapid urbanization, land restitution and the start of the AIDS pandemic.

These periods of multiple stresses resulted in large, rapid changes to the social-ecological systems of the Eastern Cape, and their legacies live on today, creating a rich mosaic of landscapes and cultural identities.



**Figure 2:** Timeline of events that have shaped the social-ecological landscape of the Eastern Cape between a) 1820 - 1985 and b) 1985 - 2012

## Key Drivers

Over 80 drivers of social, economic and ecological change were identified by the workshop participants (Appendix B). These were grouped into ten broad themes illustrating the main drivers of change in the province:

1. *Macro-economic drivers* such as the macro-economic climate, international markets which affect tourism, and neo-liberal policies
2. *Population and health drivers* including population growth which is affected by HIV/AIDS and migration, among other factors
3. *Political drivers* such as corruption, political infighting, government capacity, and social support services and grants
4. Urban *migration* and rural-urban linkages
5. *Socio-cultural drivers* of stewardship, civil society engagement, connection to the land, trust and social cohesion
6. *Biophysical drivers*, the most important of which were pollution, degradation, alien invasive species, and bush encroachment
7. *Climate-related drivers* such as climate change and variability which is said to increase drought severity, as well as water quality and supply problems
8. *Social drivers* especially poverty and lack of education
9. Drivers related to *energy and mineral resources* such as the building of the N2, electrification of areas, and the biofuel policy
10. *Land-related drivers* such as land 'grabbing', land tenure and reform.

## Wild Cards

The wild card session was designed to allow participants the freedom to imagine different futures in the Eastern Cape, regardless of how likely or unlikely these futures are. Therefore the ideas presented in the wild cards ranged from nihilistic to very optimistic (Appendix C). Similar themes to the drivers emerged.

Wild cards that centred on stewardship of natural resources were common, especially around eradication of invasive alien species and successful establishment of 'payments for ecosystem services' schemes. The possibility of extreme drought events was mentioned by a few participants, as was the idea of protected area invasions and land grabs.



In terms of politics and governance in the province, ideas ranged widely from government bankruptcy to the elimination of corruption. Nationalization of land and privatization of communal lands were also common themes, as was the disbanding of provinces so that only national and local governments remained. Interestingly, futures of war and civil unrest also featured strongly, especially uprisings over water scarcity.

*“Sun International resort in the Wild Coast”*

Many of the wild cards focussing on economic concerns exhibited economic collapse, but also included ideas such as a green economy and an economic boom in the province. A complete decline in tourism or, conversely, large tourism developments attracting large numbers of international tourists were associated with the economic developments. Similarly, the discovery of mineral resources, as well as a switch from coal to renewable energy sources, featured prominently as wild cards.

*“Discovery of shale gas in the Baviaanskloof”*

In terms of social issues, reduction of poverty and inequality was at the forefront. A cure and vaccine for HIV were suggested, as was

*“Bullet train from Mthatha to East London”*

an increase in literacy and ‘state of the art’ education facilities. Investment into public transport was also a common theme.

The wildest wild cards explored futures such as the entire population converting to vegetarianism, women-only traditional leadership, and a new political leader with influence comparable to that of the Prophetess Nongqawuse.

### The Scenarios

This section describes the four different scenarios that were synthesized from the drivers, wild cards and scenario fragments generated at the Chintsa workshop. Each scenario describes the trajectory of the Eastern Cape from 2012 to 2050. Key themes explored in each scenario include changes in human migration patterns (especially urbanization), natural resource use and biodiversity conservation, poverty, tourism, and land reform. In addition, three significant events are common to all scenarios: a time of political upheaval around 2017; a major global recession around 2025; and a devastating drought in the early 2030’s (Fig. 3). The differing impacts of these events in the four scenarios help to highlight the key characteristics of each scenario.

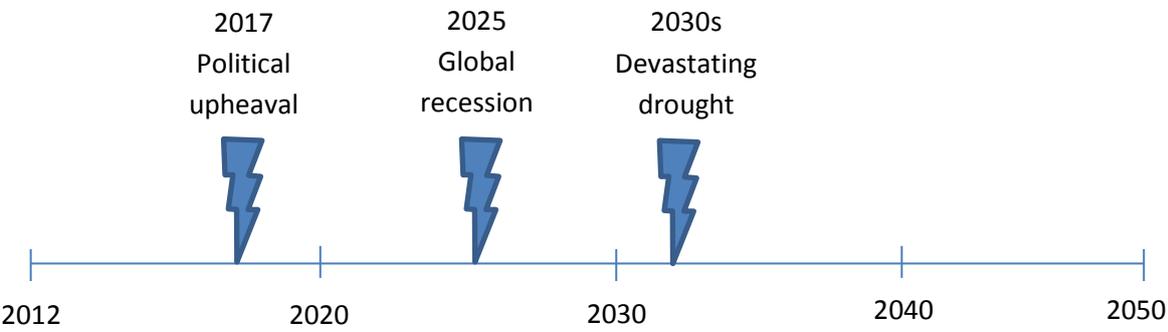
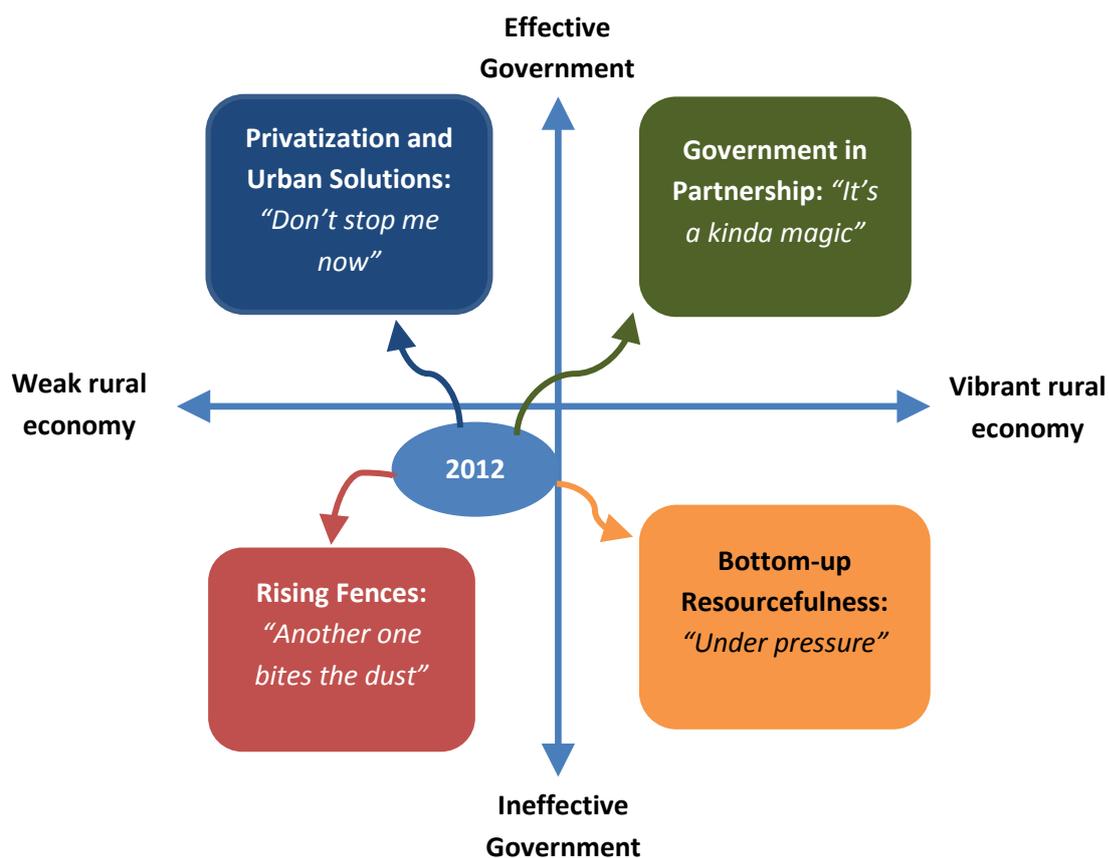


Figure 3. Common shocks experienced across all four scenarios

The four scenarios can be distinguished along two major axes: the effectiveness of government, and the vibrancy of the rural economy (Fig. 4). The **Privatization and Urban Solutions** scenario describes a situation in which effective and focused government planning stimulates the development of urban centres, industry and large-scale commercial agriculture, thus encouraging large-scale, well-planned urbanization and a depopulation of the rural areas. In contrast, the **Bottom-up Resourcefulness** scenario sketches a situation in which the government is relatively weak and ineffective, but grassroots entrepreneurs, with the assistance of NGOs, take the initiative for development through a multitude of small business initiatives. A vibrant rural economy develops, but large-scale poverty eradication is hampered by the lack of effective government services and infrastructure. Similarly, in the **Rising Fences** scenario, government becomes increasingly weak and ineffective; however in this case, the rural economy remains underdeveloped and increasingly vulnerable to shocks (such as droughts). Mass migration to urban informal settlements occurs, poverty remains widespread, crime escalates, and the wealthy elite cordon themselves off from the rest of society and siphon off the profits from business and industry. In contrast, the **Government in Partnership** scenario is characterized by a strong rural economy, but here it is developed through effective partnerships between government, communities and the private sector focused on the development of small to medium-scale enterprises.



**Figure 4:** The four scenarios can be arranged along two major axes of uncertainty: the effectiveness of government at different levels, and the vibrancy of the rural economy.

# Privatization and Urban Solutions

## “Don’t Stop Me Now”



### Storyline in brief

Pro-privatization policies and extensive government investment in planned urban and industrial development leads to transformation of the rural landscape. Urban centres proliferate and small-scale farming is replaced by large-scale profit-driven agriculture. This results in the erosion of regulating ecosystem services and increasing vulnerability to climatic shocks. The realization of these impacts leads to attempts to counteract environmental degradation.

### Key features

- Focus on market solutions , industrial development and planned urbanization
- Privatization of communal areas and nature reserves
- Depopulation of rural areas
- Environmental degradation and biodiversity loss increases vulnerability to climate shocks

Leadership struggles and factionalism within the African National Congress (ANC), the ruling party in government, as well as increasing dissatisfaction and protests by the country’s poor lead to a disintegration of the Tripartite Alliance in 2017 and a major reorganization of priorities within the ANC. The party redirects its focus to economic growth through privatization and industrial development. A major effort is undertaken to root out corruption in order to attract foreign investors. Nationally, economic growth is driven by strong links with the other BRICS countries, especially China. At a provincial level, specialized industry (such as car manufacturing) and mining (including fracking) become the main economies in the Eastern Cape. In the interest of economic growth, a decision is taken to privatize communal land and to invest heavily in the development of urban nodes (established and up-coming). To this end, the government actively promotes and plans immigration to these urban centres.

As a result of the government focus on promoting urbanization and industrial growth, towns such as Graaff-Reinet, Queenstown and Mthatha grow rapidly, though strict government regulations prevent uncontrolled sprawl. Major investments in education, public transport and health services secure a comparatively high quality of life in the new cities, attracting ever more people to the urban centres. In addition, government actively encourages rural dwellers to sell their privately-owned parcels of land to multinational agricultural and mining companies in



return for shares. Large-scale, highly mechanized and efficient farming takes over most of the arable land in the Eastern Cape, and only a small, skilled labour force remains in the rural areas. Most people move to the cities where service delivery is better and jobs in the new industrial sector are more abundant. Over time the migrations of people into the cities leads to an erosion of the cultural ties between people living in the cities and their ancestral rural homes.

A major global recession around 2025 causes considerable turmoil in the new specialized fossil fuel-dependent industries and the commercial farming sector of the Eastern Cape. In response, the South African government joins the global call for green energy and an independence from oil, and begins to promote biofuel crop production and nuclear energy. Biofuels become economical in the late 2020's due to a scientific breakthrough in the highly efficient conversion of cellulose to ethanol. Large tracts of land in the Eastern Cape are converted to biofuel cropland as a result of both the government's focused interest in the new industry, as well as the private sector's realization of biofuel's profitability.



**THE DAILY NEWS**  
*Voice of the Nation* Tuesday, 04 December 2032

## EC BUCKLES UNDER DROUGHT



Port Elizabeth – The worst drought in decades has crippled the Eastern Cape's biofuel farming sector. The provincial agricultural union declared the industry to be in acute crisis, and requested urgent support from national government to assist biofuel farmers in the drought-stricken areas. This comes after a similar call for help from the food production sector last week, to which national government responded with coordinated relief efforts to supplement the Eastern Cape's basic foods requirements with imports from Kwa-Zulu Natal and the Free State. As one farmer puts it: 'We're running out of options. It needs to rain. Now.' However, climate predictions are

However, large-scale privatization of land and expansion of biofuels results in a landscape dominated by monocultures, with biodiversity largely limited to islands of conservation. The government's pro-privatization policy has seen most of the reserves handed over to private tourism enterprises that manage the reserves for profit. In many cases, the wishes of tourists and economic imperatives supercede biodiversity conservation and environmental considerations. Extralimital species are introduced in many nature reserves and these theme-park-style wildlife experiences reflect people's disconnection from ecological reality. Invasive alien species are only controlled if it is economically justified. In the non-conservation areas, alien species spread due to the lack of clearing programmes which have been declared un-economical by the government.

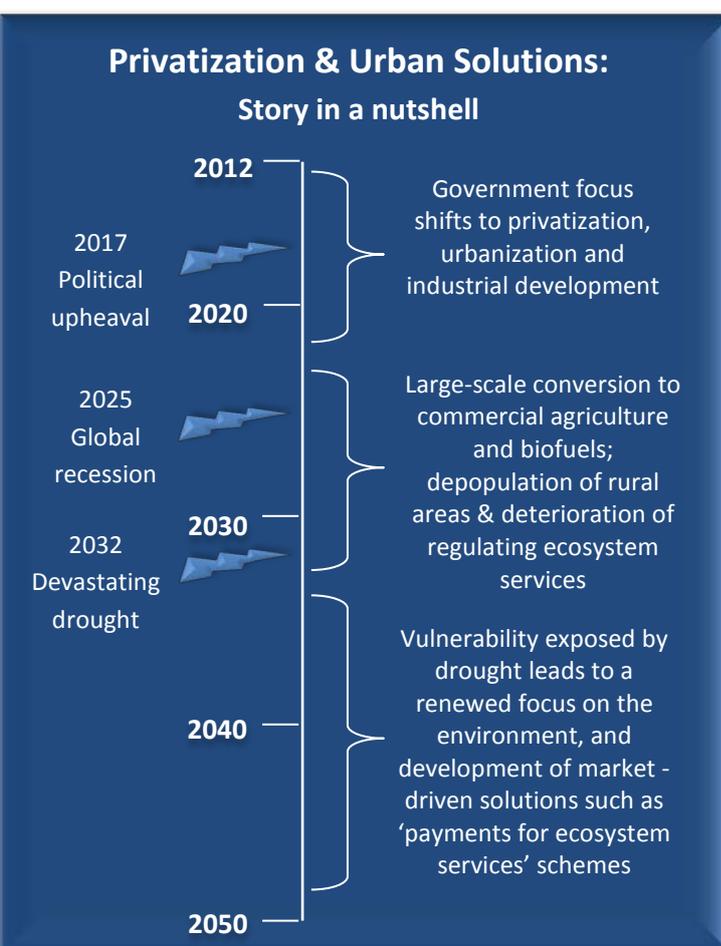
The lack of control of invasive alien plants and the high water demands of commercial farming and industry result in a substantial decline in water quantity and quality in the Eastern Cape. Regulating ecosystem services such as water purification take a back seat to agricultural production that is maximised by fertilizer and pesticide inputs. Riparian health is not a priority; river pollution and siltation increase, leading to escalating conflicts between upstream and downstream users.

Over time, the increase in water-intensive monocultures and erosion of regulating services make the Eastern Cape progressively more vulnerable to climatic shocks. When a severe drought strikes in 2032, it wreaks havoc in the commercial farming sector. Biofuel crops are devastated and food production is at the lowest level in decades. Industry is affected by the lack of water, which results in lay-offs and an increase in unemployment in the cities. National government has to step in to coordinate a relief effort in which food from less-affected provinces is distributed in the Eastern Cape.

The effects of the drought make it clear that the kind of large-scale, commercial farming practised in the Eastern Cape is unsustainable. The government recognizes the need for better ecosystem management to enhance resilience against future droughts. More diversified land uses and ‘greener’

farming is promoted and increasingly subsidized. Riverine health becomes more of a priority, and a major alien clearing program is established, employing workers who had been retrenched during the drought. A ‘payments for ecosystem services’ scheme is pioneered in the Umzimvubu area and its success begins to feature strongly in policy discussions as a possible market-driven model for ecosystem service protection.

By 2050, the province has well-developed, prosperous urban centres and a strong industrial sector. Its agricultural sector is changing to adopt a greener approach, though the effects of previous management on ecosystem degradation and biodiversity losses are slow to reverse. People are disconnected from the land and the general engagement in conservation issues and sustainability is low. However,



extreme climatic events have demonstrated the importance of protecting ecosystems so they continue to provide regulating services – a concept supported by the well-educated populace of the cities.

## Bottom-up Resourcefulness “Under Pressure”



### Storyline in brief

Failure of government to deliver leads to widespread bottom-up entrepreneurial activities as communities take development into their own hands. However, most initiatives are hampered by lack of reliable government services and infrastructure, and pressure on natural resources increases. The economy of the initiatives remains limited, but rural poverty slowly but steadily decreases.

### Key features

- Weak local government
- Widespread development of bottom-up entrepreneurial activities, facilitated by NGOs
- High environmental pressure regulated by local institutions
- Financial security remains limited

Worsening conflict within the ANC leads to the disbanding of the Tripartite Alliance in 2015. Without the Congress of South African Trade Unions (COSATU) and the South African Communist Party’s (SACP) influence, factions within the ANC that hold a pro-capitalist stance regain power and promote neo-liberal strategies at a national level. However, at the provincial and local level, government in the Eastern Cape becomes consumed by political infighting as different alliances and parties fight for survival and domination in the new political landscape. The citizenry grow increasingly dissatisfied with government performance, and 2017 sees the eruption of violent service delivery and land reform protests across the Eastern Cape. National government is forced to step in to halt the escalation of violence, and promises to fast-track two major regional development initiatives: a comprehensive upgrade to the N2 arterial highway, and the establishment of a large automobile plant to manufacture South Africa’s new low-cost *Jaloppie* car brand, which is to be specifically targeted at the African market. The jobs provided by these initiatives placate citizens somewhat, but inefficiencies and lack of reliability of key services slows their implementation.



Progress around land reform remains slow due to political disagreements and infighting between different levels of government, but in 2021 a new Land Reform Bill is finally passed. The Bill provides for progressive land restitution and land reform measures and strong support for new land owners through extension services. However, continued weakness of provincial and local government in the Eastern Cape mean that implementation is slow, and extension services are few and far between.

Disenchantment with government deepens, and a growing belief that government cannot be relied on to improve the lives of people in the Eastern Cape takes hold. As the younger, more tech-savvy

and connected generation with higher expectations emerges, they increasingly take the initiative for development of their communities into their own hands. Following the land reform, there are also incentives for educated urbanites to return and invest in the rural areas.

The newly constructed N2 brings opportunities that facilitate market access and bottom-up entrepreneurial initiatives. Communities experiment with various cultural and eco-tourism ventures, which are sold to a domestic market as well as a growing international market that seeks exotic cultural experiences. There is rapid growth in small informal businesses such as hair salons, small convenience stores ('spaza shops'), restaurants, and taxi services. Small-scale agriculture experiences a boom, and some communities organize themselves into cooperatives and experiment with the production of high value niche products such as essential oils and herbal tea. Several large international NGOs move into the region to support and facilitate these initiatives through skills development programs (e.g. permaculture, field guiding, small scale milk production, nurseries, marketing etc.), investments in small industrial plants for refining and packaging produce, and the sharing of experiences between communities. A culture of small-scale business and entrepreneurship takes hold in the region, and more and more communities start up their own small scale entrepreneurial projects, usually with NGO support.

**BISHO CHRONICLE**

02 March 2021 THE EASTERN CAPE'S FAVOURITE NEWSPAPER - Since 1996

**BISHO CO-OP WINS 1<sup>st</sup> PRIZE!**

The Bisho Agricultural Cooperative (BAC) was awarded the prestigious FutureGrowth prize in East London yesterday, after being selected top performing co-op in the Eastern Cape for the second year in a row.

The co-op again managed to convince judges with their inclusive management approach and focus on giving back to the wider community in which they run their small-holder farms. The money generated by the co-op not

only supplies most of the people living in their community with cheap, fresh produce, but was also invested to generate funds for a new school.

The BAC model has now been successfully copied by four other communities in the Bisho area, all of which received honorary mentions at the award ceremony, along with cash prizes in support of their efforts.

The awards are funded by the international NGO FutureGrowth and the plan

The BAC celebrates their victory in East London

However, the longer term success of these projects is variable. While some projects, especially those in remote inland areas remain marginal and generate little or no profit, others flourish due to a steady cash income which is reinvested in the community. This success attracts more people to these rural areas and,

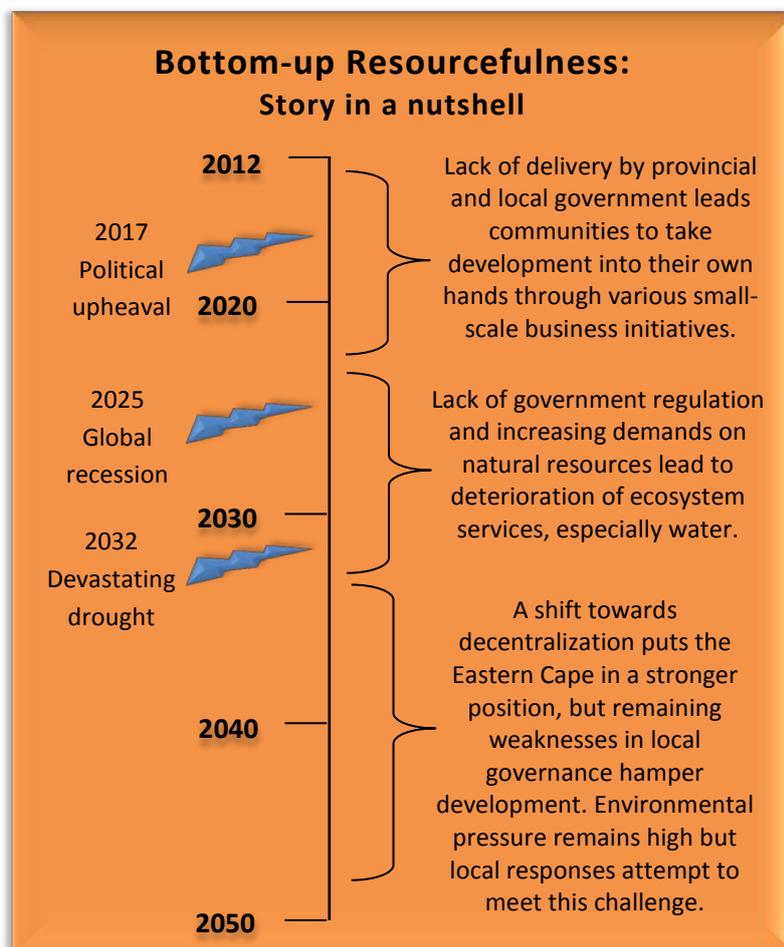
consequently, pressure on natural resources is high. In addition, many successful projects experience vandalism by neighbouring communities and intense conflicts about benefit flows among project members. Over time, however, most communities develop mechanisms and innovations for addressing these challenges, often drawing on traditional leadership, collective memory and local ecological knowledge. As a result there is a slow increase in social capital and sense of community in the rural areas.

A global recession in 2025 sees large-scale retrenchments in the industrial sector, including the government-supported *Jaloppie* plant. The retrenchments place an added burden on the small business sector as people move in with relatives and have to share in the meagre profits. Local

government is further weakened by the recession and the little support that government offered small-holders is withdrawn. The only relief offered by the government remains in the form of social grants, and reliance on these increases. The recession also takes a toll on NGOs and external donors, and there is a substantial decrease in external funding and support for small-scale projects. Many projects suffer, and some collapse. However, most community initiatives manage to continue due to the strong social capital that has been built up, and the resilience of these schemes in the face of adversity is seen as a great triumph.

While these projects offer some relief to people to the Eastern Cape, environmental degradation and localized pressure on ecosystem services is exacerbated by a prolonged drought between 2030 and 2033. The decline in water quality becomes increasingly apparent as water supplies dwindle. A large outbreak of cholera leads to the highest infant mortality rate in decades, largely due to a lack of coordinated medical treatment. Food and energy security are also compromised. In 2035, disenchanted citizens protest the lack of employment opportunities and support for community-based projects, pointing to the weak local presence of government. Globally, resistance to neo-

liberalization has become stronger and developed a more cohesive program of action. This facilitates an about-turn in national policies towards decentralization and sustainability in the 2040's. The culture of entrepreneurship and many small-scale initiatives in the Eastern Cape give the province an advantage over other provinces that have invested mainly in the large business sector, in line with earlier neo-liberal policies.



By 2050, government has introduced substantial services tailored to supporting small businesses and sustainable community-based tourism and agricultural development. However, the legacy of poor and corrupt governance in the Eastern Cape is difficult to

reverse in some areas, and many community-based initiatives remain hampered by government inefficiencies and the unreliability of basic services such as electricity and road infrastructure. Although most people still have low to middle incomes and limited financial security, absolute poverty levels have decreased. Overall well-being has increased due to a pervasive sense of social cohesion, empowerment and connection with the land.

# Rising Fences

## “Another One Bites the Dust”



### Storyline in brief

A weak, corrupt government and lack of opportunities in the rural areas leads to mass migration into urban slums and widespread poverty and dissatisfaction. Crime escalates and the wealthy elite increasingly cordon themselves off from the poor majority, and siphon off the profits from industry. Eventually a violent revolution brings a new party of the people to power.

### Key features

- Weak & corrupt government
- High inequality & fortification of wealthy elite
- Large urban slums develop around more prosperous cities
- Violent protests & land invasions

The government becomes progressively weakened by political infighting, corruption and lack of leadership. This weakness manifests most prominently at the provincial and local levels, with national government having to step in more and more frequently to take over provincial departments and municipalities that consistently underperform. However, national government competency itself is patchy, and often more time and resources are spent fighting for power than serving the people. Turbulence in the global economic markets, coupled with the lack of investor confidence in South African politics, leads to a decline in investments in the country as a whole.

In the Eastern Cape, some industrial sectors like mining and the automobile industry continue to do well, but become increasingly isolated hubs of activity along the coast. The urban middle-class associated with these industries persists, but increasingly cordon themselves off physically and economically from the poor, through private schools, hospitals and security services. Much of the money that is injected into the broader provincial economy does not reach the public sector because of corruption and nepotism. There is little governmental support for rural development and migration from the Eastern Cape to other, more prosperous provinces like



Gauteng and the Western Cape increases dramatically, putting enormous pressure on resources and services in these ‘receiving’ provinces. People remaining in the Eastern Cape grow increasingly disillusioned and angry, and in 2017 a huge province-wide service delivery protest erupts that continues for weeks. Inequality between the wealthy and poor grows, leading to escalating conflicts along the rural-urban and traditional-modern social divides.

In response to the lack of job opportunities, some rural communities with entrepreneurial spirit establish local-level upliftment projects with the support of international NGOs. But these localized projects remain isolated pockets of economic development in a sea of poverty. Successful schemes are not replicated and shared effectively, and projects are not scaled up from a local basis. This is due to a lack of government support and the growing culture of distrust borne of inequality. When a major global recession strikes in 2025, the international NGO sector largely withdraws and many of the rural development projects collapse. Dependence on government grants grows to an all-time high. As prospects in the rural areas continue to deteriorate, more and more people move into the vast sprawling slums that have grown up around the three big South African metros: Cape Town, Durban and Johannesburg. Government in these provinces cannot keep up with service delivery, and violent protests start erupting. In response, national government threatens the reduction of grants to pay for improved services, effectively holding the poor hostage.

# THE DAILY NEWS

Voice of the Nation

Monday, 04 June 2027

## NEW LAND INVASION TERROR



Port Elizabeth – The latest incidence in the recent spate of illegal land invasions in the Cacadu District occurred yesterday near Somerset East. Farmer Kobus Roodt refused to leave his farm after a group of people arrived at his house around 5pm, claiming ownership of the land.

According to witnesses, a struggle ensued in which gunfire was exchanged. When police arrived on

the farm about 30 minutes later, they found three people had been seriously wounded, including Mr Roodt. The injured were taken to the hospital in Somerset East, where they are currently in a stable condition.

This is the third land invasion incident in two weeks that has resulted in injuries. Eastern Cape police spokesperson Fundisile Lwazi said investigations have been

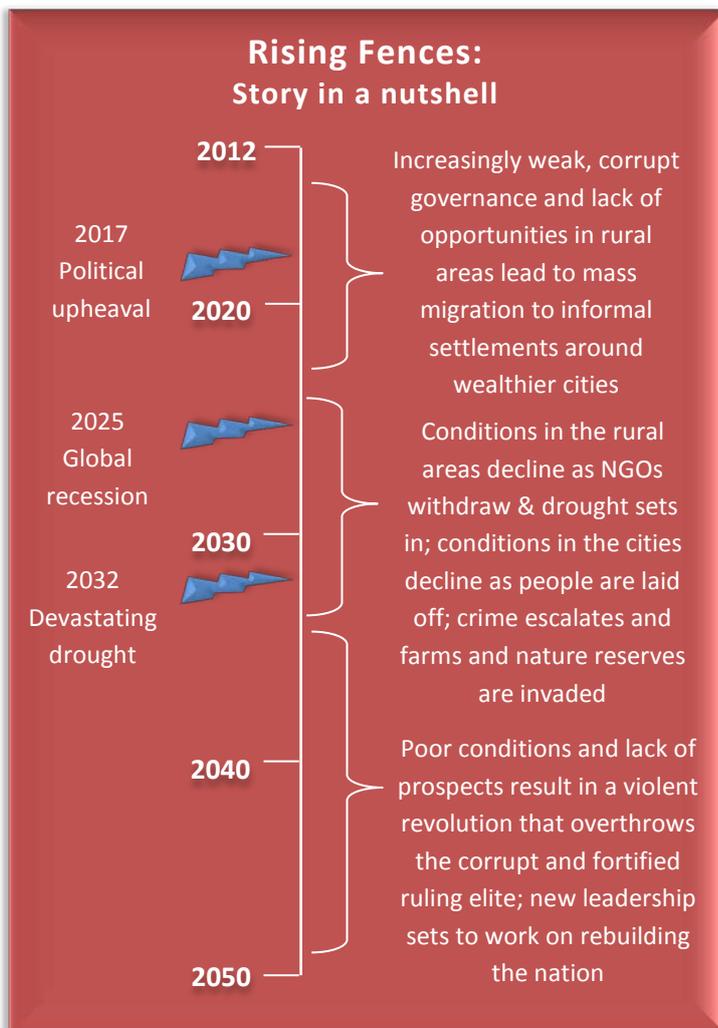
Difficult conditions in the urban informal settlements are exacerbated by the continuing effects of the recession as more and more people are laid off. The high level of joblessness, coupled with an increasingly weak and corrupt national government, leads to escalating levels of crime and political instability, even in provinces that were formerly

more stable and well-governed. Outside the cities, violent land occupation incidents start to occur as the disenfranchised poor decide to take matters into their own hands, invading commercial farms and nature reserves. Enclaves of high-end safari tourism start experiencing significant declines in international customers following a series of high profile incidents. One of the few industries that experiences growth is the security sector as the middle-class and upper-class citizens increasingly seek to protect themselves from criminal elements.

The large-scale migration of people into the cities means that some parts of the Eastern Cape have become relatively depopulated. As land use pressures declined, some areas experienced a return of native vegetation and biodiversity. In other areas, however, invasive species such as wattles take advantage of the lack of management and spread unchecked, negatively impacting water flows. Some of these depopulated areas are subject to dubious land deals between the powerful elite and international consortia interested in biofuel production, which effectively amounts to land grabs. The limited employment created by these biofuel enterprises offer some small opportunities for

upliftment. Other rural areas have experienced a different dynamic: Where people remain on the land, high levels of unemployment and poverty mean that they are highly dependent on natural resources. Biodiversity suffers as a result of overgrazing and unsustainable harvesting. Tensions arise between the few communities that actively try to manage their natural resources, and neighbouring communities that struggle to survive on degraded lands.

A 3-year drought starting in 2030, and intensified by climate change, pushes many of the remaining populated rural areas to the edge. Thousands of cattle and sheep are lost, and major crop failures are experienced throughout the region. The Eastern Cape is declared a disaster area in 2032, and South Africa has to ask for food aid from the international donor community. In response to the catastrophic effects of the drought the government decides to build an expensive desalination plant. This controversial project is supposed to create thousands of jobs, but after construction is completed very few people remain employed to run the plant. The water generated by the desalination plant is used mainly by elite-owned industries and big cities on the coast, and very little of the water reaches the inland areas that are most vulnerable to increasingly frequent droughts. This reinforces the migration of people into the urban slums, despite the poor living conditions.



By 2040 the province and the country more broadly has the markings of a failed state: a small, wealthy elite that essentially lives in fortresses, surrounded by poverty, and a weak, corrupt, ineffectual government. When a radical new leader, Julia Nongqawuse, appears on the political scene in 2043, calling for a violent revolution to overthrow the entrenched elite, the disaffected majority rally behind her. Protests escalate, and eventually a violent coup d'état in 2046 brings the new revolutionaries to power. However, decades of governmental mismanagement and neglect bring enormous challenges, not least rebuilding social trust and a culture of nonviolence in society. Nevertheless, substantial foreign support and strong leadership by the new ruling party mean that by 2050 there is some indication that the fortunes of the province and the country may be on the road to recovery.

## Government in Partnership “It’s a Kinda Magic”



### Storyline in brief

Strong and decisive government action on land reform sees the rural areas transformed into high-productivity small-holder agricultural zones. A vibrant rural economy is created, but the focus on agricultural production marginalizes the poorest people and leads to a gradual erosion of regulating services. ‘Payments for ecosystem services’ schemes are introduced to encourage better ecosystem stewardship.

### Key features

- Focus on rural development & decentralized multi-level governance
- Strong partnerships between government, communities and the private sector
- Vibrant rural economy develops

Worsening conditions in informal settlements in cities, such as overcrowding and poor services, lead to unprecedented levels of violent crimes, xenophobic attacks and shack fires. In addition, a huge corruption scandal in 2015 involving government contracts for low-cost housing developments in Gauteng is uncovered. As the court case uncovers the grim details, the scandal escalates into a major political crisis in 2017 resulting in the emergence of a new dynamic leadership in the ANC. To salvage its reputation and legitimacy and to address the problems in the urban areas, the government introduces a host of initiatives that take a strong stand on corruption, and decides to focus on sustainable rural development to combat the tide of people flocking to Gauteng and Cape Town. Subsequent investment in capacity building and streamlining of provincial and local government departments pays off, and by the early 2020s the Eastern Cape sees a turnaround in efficiency and popularity of government. There is a strong focus on developing partnerships with communities and the private sector, creating effective governance through a combination of bottom-up initiatives and top-down coordination. Internationally, the country becomes increasingly recognized as a model for good governance.

Central to the new focus on rural development is the fast-tracking of a national integrated multipurpose land reform strategy, adopted in 2018. The strategy introduces a ‘use it or lose it’ approach to combat land abandonment and poor land management in the areas under communal tenure. Under this strategy, land allocation is coordinated by local government, and if land is poorly used it is reallocated to someone who is able to use it more productively and provide more local jobs. The new land reform strategy forms an integral part of the Eastern Cape’s economic development strategy, which focuses on the development of small- and medium scale tourism, industry, forestry, food production and biofuel enterprises. Government provides comprehensive extension support to agricultural landowners and a variety of support instruments (e.g. tax incentives) to facilitate the development of sustainable eco-tourism ventures and other small

businesses in the villages. In some areas, however, power struggles between progressive actors in local government and traditional leaders arise over land allocations.

Date today 15/04/22 **NEWS**

## Pondoland Resort Celebrates 1<sup>st</sup> Birthday

Ever since the Pondoland Resort and Casino opened its gilded gates exactly one year ago, there has been a steady stream of visitors – both local and international – that have come to enjoy the 5-star accommodation, beautiful beaches, warm waters and world-class gambling facilities on offer here, in the heart of the Wild Coast. The recently completed N2 toll road has put the resort squarely on the map, within easy reach for a weekend trip from Durban or Port Elizabeth.



'It's the best thing that's happened here in years', says local Ilse Kotzee. 'Five members of my close family now work here, just like me. It's been a blessing.' This sentiment is echoed by many living in the surrounding communities. The resort's policy of employing only locals and running training programmes in neighbouring communities has resulted

The Pondoland Resort and Casino on the Wild Coast

in a sharp decrease in unemployment in the area. But not everyone is convinced. 'They're just pulling the wool over our eyes!' says Nombuyiselo Mazinyo, a local teacher. 'They don't care about the people – they took our land to build this thing and they are destroying our special plants and animals with their roads and quad bikes. They should be forced to leave this place!' These concerns were already voiced years ago when plans for the resort were first

Political stability and the completion of the N2 toll road through the Wild Coast in 2019 brings a steady stream of tourists to the province's nature reserves, such as the newly opened 'Pondoland People's Park'. Most reserves are co-managed by the provincial nature conservation authority and the local community, with extension

services provided to train locals in field guiding, hospitality and other supporting industries. While this facilitates the creation of local employment, tensions remain between local elites that have benefited from tourism and those parts of the community that have not. Poaching and illegal harvesting remains a problem.

In 2022, a study reveals that most South Africans are generally content with land reform measures. Many people with family ties in the Eastern Cape remain in the province, either on the land or in the many towns and villages scattered throughout the province. A vibrant rural economy has developed, and food and energy security have improved substantially. However, the study also highlights that the land reform process has favoured those who were already better resourced, making provision for productive small-scale farmers and businesses to expand into larger commercial enterprises. On the other hand, the poorest have become landless and dependent on jobs from more successful farmers and entrepreneurs. This hidden vulnerability is exposed by a global recession in 2025 when many of these people lose their jobs. A new pro-poor development strategy is subsequently introduced to improve skills and provide additional capital support and access to land to facilitate the upliftment of the remaining poor in society.

In line with international best practice climate adaptation policies, the government implements a programme in the late 2020s to assist land holders in coping with increasing water scarcity. When a major drought hits the area in 2032, it results in significant crop losses but does not have a catastrophic effect on food security.

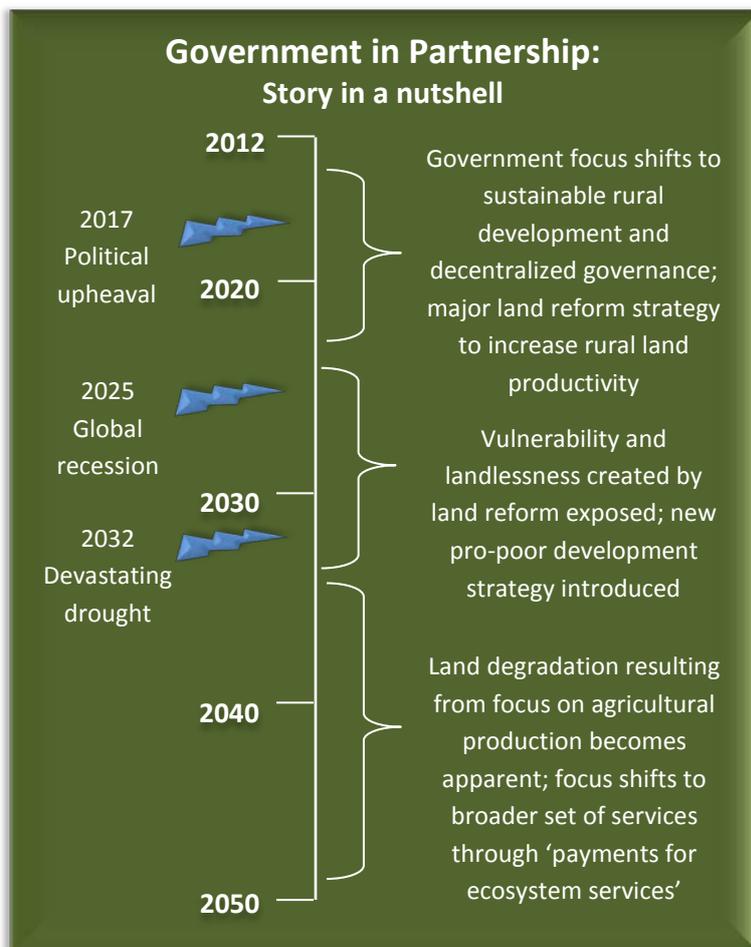
However, the crisis highlights the unintended consequences of the land reform strategy. The 'use it or lose it' approach to allocating communal land has resulted in high stocking densities and depletion of soil nutrients as farmers try to maintain high productivity with minimum input costs. It becomes clear that the land is slowly degrading, and the region may not be able to cope with another large drought. The land reform strategy is criticized for placing too much emphasis on agricultural productivity, and neglecting other key ecosystem services, such as regulating and supporting services.

In response, there is a call for a reform of land tenure policies to move away from the 'use it or lose it' approach, towards ensuring the resilience of ecosystem service provision in the province. The new reform strategy is passed in 2040 and dictates that land is managed in a way which ensures that a portfolio of ecosystem services is maintained in the province, especially critical regulating services. The new strategy makes provision for land to be used not only for agricultural production, but for 'unused' land to generate revenue



through 'payments for ecosystem services' (PES) (e.g. downstream water users pay upstream landowners to keep the catchment healthy). PES enables profitable clearing of alien vegetation, and wetland and soil rehabilitation throughout the province.

By 2050, PES schemes have begun to address the environmental degradation caused by a narrow focus on production, and have boosted the rural economy. While few people are extremely wealthy, the pro-poor development strategy has led to a fading of inequality. Most people enjoy a modest material quality of life, and family ties and cultural connections to the land remain strong.



## Conclusions

The scenarios presented in this report are fictional vignettes that aim to highlight and explore some very different ways in which the Eastern Cape could develop over the coming decades. The goal of the stories is not to predict the future, but rather to broaden thinking and understanding of the region by considering different plausible trajectories of development, given the drivers and social-ecological dynamics present today. In reality, the future will likely unfold in ways that have elements of several of these stories, as well as some unexpected elements that cannot be anticipated.

Nevertheless, the scenarios give insight into some of the key factors that are likely to shape the future trajectory of the Eastern Cape (Table 1). The effectiveness of government at different levels is perhaps the most important factor, and is likely to have a substantial impact on economic development in the province. Effective land reform and the engagement of civil society also appear to be important factors that will impact future growth and development. Levels of urbanisation are expected to increase under almost all trajectories of change, but in some situations could be very pronounced and lead to a near complete depopulation of the rural areas. However, the scenarios suggest that urbanization could also occur at a more local scale, so that a large and vibrant rural community remains in smaller towns and villages throughout the Eastern Cape. The extent and way in which urbanization occurs – whether planned or haphazard – is likely to be a key factor shaping the future of the Eastern Cape and the well-being of its citizens.

**Table 1:** Key factors that may drive social-ecological change in the Eastern Cape over the coming four decades along different trajectories. Arrows indicate the degree of change relative to 2012.

Features	Privatization and Urban Solutions	Bottom-up Resourcefulness	Rising Fences	Government in Partnership
Effectiveness of national government	↑↑↑	↓	↓↓↓	↑↑↑
Effectiveness of provincial and local government	↑↑↑	↓↓↓	↓↓↓	↑↑↑
Land reform	↑↑↑	↓	↓↓↓	↑↑↑
Economic growth in the province	↑↑↑	-	↓↓↓	↑
Rural economic development	↓	↑	↓↓↓	↑↑↑
Urbanization	↑↑↑	↑	↑↑↑	↑
Engagement of civil society	-	↑↑↑	↑	↑

The main purpose of the scenario exercise was to provide a collaborative platform for co-learning to deepen our understanding of the region and strengthen links amongst researchers and practitioners. Feedback indicated that the workshop achieved these aims, and that participants found the process enjoyable, creative and useful. Our intention is that the scenarios form a starting point for more in-depth research into ecosystem services and human well-being in the Eastern Cape, as well as potentially being a useful resource to draw on in current ecosystem management initiatives in the province.

## Appendix A: Scenarios Workshop Participants

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### List of abbreviations:

CSIR	Council for Scientific and Industrial Research
DEAET	Department of Economic Affairs, Environment and Tourism (provincial government)
ECPTA	Eastern Cape Parks & Tourism
SRC	Stockholm Resilience Centre

## Appendix B: Drivers of Change

### Macro-Economic Drivers

- Tourism
- Investor sentiments towards South Africa
- Globalization
- Macro-economic climate (global –local)
- Market access
- International markets (game/ tourism)
- Change values
- Neo-liberalism
- Shifting international relations (BRICS)
- Consumption (amount and type) global to local and increased per capita uses of resources

### Population and Health Drivers

- Health systems
- Infant mortality
- Structure of population (dependent population: young <15 years)
- Stabilisation of growth rates
- Human population growth (HIV/AIDS and other factors, migration)
- Population increase
- Population growth

### Political Drivers

- Corruption
- Political contestation and instability
- Political infighting in the ANC political power and policies (global – local)
- Decision maker capacity
- Government interventions
- Remittances
- Social support services (e.g. grants, housing)
- Women empowerment (old homelands)
- Social policies/grants

### Migration Drivers

- Urbanisation
- Migration -rural-urban, transnational, coastal

### Socio-cultural Drivers

- Land stewardship (co-management, local economic development, mini PES)
- Change in opportunities in rural areas (agricultural reform, land reform) – national to local
- Civil society engagement
- Connection to land
- Entrepreneurial activity: global – local
- Social cultural change
- Trust and social cohesion
- Wish for better lives
- Employment

### Biophysical Drivers

- Pollution
- Land degradation
- Biodiversity loss and degradation
- Land degradation (erosion, invasive species)
- Loss of biodiversity
- Alien invasive species
- Bush encroachment
- Natural resources availability
- Changes in land cover

### Abiotic Drivers

- Climate change/variability
- Elevated CO<sub>2</sub> levels
- Water quality and quantity
- Increased demand on water
- Water, quality and quantity problems
- Impacts of climate change
- Water supply
- Increased frequency of droughts severity

### **Social Drivers**

- Social insecurity
- Crime
- Poverty
- Health
- HIV/AIDS
- Access to information and awareness
- Education investment
- Education

### **Energy and Mineral Resources Drivers**

- Land use change e.g. biofuel, lifestyle resorts
- Rising energy prices
- Energy
- Mining of sand dunes (Wild Coast)
- N2 (Wild Coast and inland)
- Electricity (cash economy)
- Fracking
- Energy technology (global –local)
- Forestry and biofuel policy

### **Land-related Drivers**

- Land grabbing
- International interest
- Other countries buying land for farming
- Land tenure
- Land reform
- Land redistribution
- Land abandonment
- Land consolidation
- Agricultural policy
- Food security (former homelands and peri-urban areas)

## Appendix C: Wild Cards

### Stewardship Wild Cards

- Transkei produce becomes recognized as 'organic' and Woolworths (South African supermarket chain) will only source their beef, dairy and vegetables from there
- Conversion from cattle to game farming
- Socio-economic development in rural areas (sustainable)
- Massive drought – huge depopulation of rural lands
- Wild Coast biosphere reserve with increased levels of cooperation
- PES for grasslands (major)
- Forestry plantations cleared and invaded catchments cleared
- Degraded rangelands restored and ample supply of forage and water
- Natural resources are priced and markets are correct
- Lifestyle estates and coastal development banned
- Extreme drought
- Control of alien plants
- Alien plants 100% under control – Jobs, Free cash

### Socio-Economic Wild Cards

- Reduced inequality and reduced poverty
- Financial sector working for society and not the other way around
- Society based on real 'quality of life'

### Political Wild Cards

- Government bankruptcy
- Remove provincial government – national and local management
- Elimination of corruption
- Tripartite alliance is broken – decision making compromised, political instability
- Eastern Cape split between the Western Cape and KwaZulu-Natal = new regions
- Nationalization
- All land is nationalized
- Privatize all communal land

### Land Issues Wild Cards

- Land grabs of prime lands
- Communal land holders get tenure security
- Land invasions of protected areas
- Land reform complete and supported
- Land bought out by foreign 'investors' (e.g. China...)
- Forced take-over of protected areas by communities

### War-related Wild Cards

- Chinese army invades
- Civil war

- Third world war
- Uprisings over water scarcity and quality
- Ethnic civil conflict

### **Water-related Wild Cards**

- Water tax industry and pools (no pools)
- Desalination plants for water supply
- Catchment services restored and healthy

### **Economic Wild Cards**

- Eastern Cape becomes place to be – beauty plus opportunities, jobs
- Cash is not the only economy
- Southern African Development Community – single currency zone
- Overthrow of capitalism
- Economic collapse – local, global
- Collapse of entire economic sector
- Economic boom
- All remaining car manufacturers pull out of Eastern Cape
- Green Economy
- Tech-driven economy decoupled from natural resource base
- Power shifts – European Union and USA depend on BRICS – motor industry (VW subs Daihatsu/Tata)

### **Agriculture Wild Cards**

- Ban of genetically modified organisms (GMOs) and ban on Monsanto
- Fuel vs. Food
- New pathogen in agriculture – maize

### **Tourism Wild Cards**

- South Africa no go for tourists
- Huge resort/casino development in the heart of the Wild Coast attracting international tourists
- Suborbital flight increases tourism

### **Population and Health-related Wild Cards**

- Cure for AIDS/Malaria
- New disease
- A cure for HIV is developed
- HIV/AIDS vaccine/cheap cure
- Eastern Cape pioneers primary preventative healthcare and nurses and academic study
- Grant system re-adjusted to reduce reproduction
- Forced population control

### **Energy and Mineral Resources Wild Cards**

- Deepwater Horizon at the Eastern Cape coast
- Nuclear power disaster at Cape St Francis
- Eastern Cape pioneers energy demand changes e.g. industry

