

REPORT TO ECOWAS

**BEYOND 2020:
CRISIS DRIVERS IN
WEST AFRICA'S FUTURE**

HUMANITARIAN FUTURES PROGRAMME
KING'S COLLEGE LONDON



Contents

Executive Summary	2	Dimension 2 — Community Security:	
		Borders, Identity and Authority	27
Introduction	6	BOX – Scenario 2: An ECOWAS of peoples	30
1. Why Research the Future?	6	Dimension 3 — Personal Security:	
2. Structure and Methodology	6	Violence, Crime and Terror	31
2.1 Structure: ECOWAS and Human Security	6	BOX – Scenario 3: The 'failed city'	34
2.2 Methodology I: Probability and Possibility	7	Dimension 4 — Environmental Security:	
2.3 Methodology II: Scenario Development	8	Balancing the Flows	35
3. Institutional Change – Questions for ECOWAS	8	BOX – Scenario 4: Toxic descent	39
PART 1: The Future Structure of Human Security in West Africa	10	Dimension 5 — Food Security:	
Five Contextual Parameters	10	Sustainable Agriculture	40
1. Demographic Change, Migration and Urbanisation	10	BOX – Scenario 5: Whose Food is it anyway?	44
2. Climatic and Environmental Change	12	Dimension 6 — Economic Security:	
3. Economic Change and Development	16	Employment, Resources and Systems	45
4. Political Change and the International System	19	BOX – Scenario 6: Systemic collapse	48
5. Technological change	20	Dimension 7 — Health Security:	
PART 2: Future Dimensions of Human Security in West Africa	21	New and Old Toxins	49
Seven Dimensions of Future Crisis	21	BOX – Scenario 7: Pandemic	52
Dimension 1 — Political Security:		Endnotes	54
Governance, Human Rights and the State	21		
BOX – Scenario 1: Return of the military	26		



Executive Summary

Purpose

- 1 The complexities, interrelationships, and dimensions of humanitarian threats over the next two decades will require an approach for anticipating and responding to crises that is significantly different from that of the present. West Africa will be at the sharp end of global change this century as its climate, environment and population change faster than in almost any other world region. ECOWAS has made enormous progress since 1990 in developing conflict response, management and prevention mechanisms, an emergent Policy for Disaster Risk Reduction (DRR), and a crisis early warning system. As part of endeavours to implement and integrate the Policy for DRR with the Conflict Prevention Framework (ECPF), the HFP has been invited to work in collaboration with the Departments of Humanitarian and Social Affairs and of Political Affairs and Security to develop a package of activities to assess and develop ECOWAS' capacities for strategic planning against future humanitarian crises. This report presents the initial findings of research conducted by the HFP in 2008-09 on the potential drivers of humanitarian crises, including violent conflict, in the ECOWAS sub-region during the 2020s.

Complexity and uncertainty

- 2 In order to plan strategically 'from the future' ECOWAS needs to think about crisis drivers in the longer term and speculate systematically about their interrelationship and humanitarian consequences. The key concepts are complexity and uncertainty. This means thinking in probabilistic terms about what appears to be most likely to happen based upon past and current data trends but also in possibilistic terms about what could happen. Embracing speculation as a planning tool alongside probabilistic analysis will help ECOWAS to reach a fuller understanding of the parameters of future crises. Developing imaginative scenarios will help ECOWAS to understand how various crisis drivers overlap and interrelate and thus how cross-departmental collaboration within the Commission will be crucial for anticipating and managing future crises. Part 1 of this report adopts a largely probabilistic methodology to project key structural parameters of West Africa's humanitarian context in the 2020s. Part 2 groups 26 individual crisis drivers under seven dimensions of human security and adopts a more speculative approach to assess their potential impact and interrelationship.

PART 1: FUTURE STRUCTURES OF HUMAN SECURITY

- 3 Five parameters will shape West Africa's context in the 2020s and serve as cross-cutting issues in the analysis of crisis drivers in Part 2. The first two are defined as structural 'meta-drivers' of crisis specific to the sub-region; that is, factors that are likely to impact upon and potentially multiply other crisis drivers. Data can be used with some wariness to make upper and lower projections of these factors into the 2020s. The remaining three are global contexts in which only speculative assessment is possible. These relate to change – political, economic, technological – at the global level and how this will impact upon the ECOWAS region.

Demographic change, urbanisation and migration

- 4 The number one factor that will condition West Africa's vulnerability to humanitarian crisis over the next generation is demographic expansion, even as the rapidity of this process is likely to ease. Its impact will be apparent in terms of demands for finite resources – natural (water, land, food,

fuel) and social (health, education, security) – that ECOWAS member states are likely to have great difficulty in satisfying. Developmentally, the continuation of a population structure skewed heavily towards children and young adults will place huge pressure on education and employment policies as well as maternal and paediatric health resources. Migration of population from rural to urban areas and from homeland to diaspora is likely to engender a population both better integrated with global trends and more impatient for the standards of living perceived in the wider world.

Climatic and environmental change

- 5 Harder to predict but potentially as powerful a force in shaping West Africa's humanitarian context over the next 20 years will be climatic and associated environmental change. In the longer term it is likely to overtake demographic growth as the defining challenge to regional human security. By 2030, average temperature increases may be expected to be less extreme, perhaps in the order of 1°C to 1.5°C

above 2006 temperatures. In a plausible worst case scenario model, average temperatures could increase by 1.5°C to 2.8°C across the region by 2030. This is likely to be accompanied by more extreme weather events, including drought, extreme summer temperatures and flash flooding. Global warming will modify the West African environment through processes such as sea level rise, oceanic warming and acidification, desertification and changes to the epidemiological environment. Human pressures, including demographic growth and coastal urbanization will exacerbate these trends to increase human vulnerability.

Poverty and aid dependence

- 6 The economic and developmental context of ECOWAS in the 2020s is likely to be one of poverty and ongoing acute social development challenges. This poverty will condition the full range of drivers of crisis in the region as well as placing severe constraints on the resources available to mitigate them. While continued real growth is expected, this is likely to continue to be erratic and heavily influenced by international commodity prices and the productivity of rain-dependent agriculture. Headline growth is also highly likely to be moderated by continued strong demographic growth, reducing per capita impact and placing a very heavy burden on social development resources. Economic development trends outside the region will also have a major impact on the sub-regional risk environment. The rise of such new powers as China, India and Brazil will impact upon West Africa via the sub-region's dependence on development and humanitarian aid and inward investment.

Global change and fluid multi-polarity

- 7 At the global level, the international system of the 2020s should not be taken for granted. ECOWAS' own integration agenda will inevitably be pursued in a context of structural change at the global level that will feed back to challenge its environment and assumptions. The rise of the 'developing powers' to rival the influence of the Western or ex-colonial powers will be but one component of changes in the international system that will impact upon crisis manifestation, preparedness and response in the ECOWAS region. Other challenges will include ECOWAS' relations with member states, surrounding regions (especially North Africa and the EU) and the larger supranational aspirations of the AU. The UN-based post-1945 world political and economic order that has largely framed and supported ECOWAS endeavors faces major challenges this century and may look very different in the next decades.

Technological change, interdependence and vulnerability

- 8 Globalisation and West Africa's technological integration with the world will be a crucial determinant of crisis in the longer-term, contributing new opportunities as well as potential threats as the region develops polluting industries, becomes more reliant on extra-regional electronic information and control systems and more vulnerable to the contagion of pandemic disease or economic collapse.

PART 2: FUTURE DIMENSIONS OF HUMAN SECURITY

- 9 Dimensions of future crisis used in this report correspond in slightly modified form to the seven categories of the UN's human security concept. While the first three dimensions may appear to have greater linkages to violent conflict and the latter four to humanitarian disasters, the intention is explicitly to highlight the inter-relationships between dimensions and drivers of crisis as well as the five 'meta-drivers' of crisis identified in Part 1. The latter are employed as cross-cutting variables to speculate upon the impact of change on each dimension and 26 associated crisis drivers.

Political security:

Governance, human rights and the state

- 10 Governance is both a dimension of human security and a meta-driver of crisis, especially violent conflict. It reaches to the fundamental level of control of the state and its resources. Failure to manage inevitable political conflict effectively risks the failure of the state itself. As such, the threat of political insecurity is not only of deterioration into armed conflict but degradation of the entire context in which the state responds to or manages all other types of crisis. The main factors threatening political security in the 2020s will continue to be unconstitutional political change (including military coups and manipulated elections), human rights abuses and systematic exclusions, and corruption. Urbanisation, migration, the rise of non-democratic

economic powers, and changes to information technology and its distribution will all shape political insecurity in new ways.

Community security: Borders, identity and authority

- I1** ECOWAS is a region of extremely complex identities (ethnic, linguistic, religious, political) and borders. While the nation-building project has proved relatively successful and few international boundaries are in question within the Community, boundaries within states are increasingly contested, along with the rights of the perceived indigenous and exogenous peoples and the authority of traditional rulers. Formation of radical and exclusive communal identities will pose a challenge to the state and its institutions. Such tensions will multiply as pressure upon land and water resources increase, where the value of key natural resources rises, where the state is unable to enforce effective arbitration, and subject to uncertain global pressures. Urbanisation and intra-regional migration will have enormous impact upon communal relations, not least as urban population density is expected to double by 2030. Mass displacement and associated forced migration resulting from catastrophic or irreversible environmental change is a possibility by the 2020s and a probability in the longer term.

Personal security: Violence, crime and terror

- I2** Too many citizens of ECOWAS suffer chronic personal insecurity, subject to a paucity of state security and rule of law across very large areas. The growing power of ingenious organised and sometimes violent criminal groups exploiting this relative security and regulatory vacuum will be a major threat both to individuals and to the state, with negative effects on governance, health and economic stability. How the state responds in terms of managing its policing and security resources will be key for future security; the proliferation of authority to informal, private or vigilante security actors will matter as much this century as the proliferation of weaponry in the last century. Urbanisation and migration are likely to drive expansion of criminal activity, while changes in the regional and international regulatory environment will determine the relative attractiveness of West Africa for criminal activity.

Environmental security: Balancing the flows

- I3** For the future, the key environmental security issue for West Africa will be water: too little water from rain, rivers and aquifers; too much water

from concentrated rainfall; unsafe water because of inadequate waste management and pollution. Sea level rise will be of critical concern in the longer term but its impact is already being felt in the most low-lying settlements and there is the possibility that intensified storms or a major seismic event at sea could trigger surges with devastating impact along the heavily populated coast by the 2020s. Coupled with the uncertainties of climate change on precipitation, evaporation and sea level rise, demographic growth and associated economic development, including irrigated agriculture, is likely to be the critical determinant of water insecurity, especially the concentrated demand for water in already stressed urban areas. This is a question not only of water demand but of waste management and will have major consequences for health and food security.

Food security: Sustainable agriculture

- I4** The current backwardness of West African rain-fed agriculture means that the sub-region is peculiarly vulnerable to shifts in climate and demand but has the potential to increase food production at a rate greatly exceeding demographic growth. However, this presupposes the availability and adoption of capital and technical inputs and a climate that does not deteriorate significantly. Until this potential is realised, the booming urban population will remain increasingly susceptible to shifts in global food prices, likely to rise sharply as global increases in population and affluence combine with climatic pressure on existing surplus-producing zones. A volatile regional climate characterised by cyclical drought and increasingly extreme temperature and rainfall events, as well as exposure to pests will threaten food security chronically and acutely. Regional warming of the magnitude envisaged over by the IPCC is likely to shift the productive agricultural frontier significantly southwards and destabilise crop cycles in the productive southern zone. Oceanic, lake and river fish stocks, already under pressure, face potential collapse in response to over-exploitation, pollution and climate associated changes to marine ecology.

Economic security: Employment, resources and systems

- I5** Access to gainful employment is likely to be the key driver of economic insecurity for West Africans in the 2020s even as the current 'youth bulge' begins to slacken. Constraints on the rural economy, the rapid transformation of the population from rural to urban dwellers, changes to international migration patterns, including potential in-migration to West Africa, and the pervasive awareness of socioeconomic opportunities outside ECOWAS



are already transforming the context and impact of unemployment and economic resentment. Inequalities of access to infrastructure, especially electric energy, will fuel these resentments until ECOWAS is able to complete its interconnectedness agenda. New information technologies have the potential to leap-frog some of developmental disparities but will also make the globalised region increasingly vulnerable to the impact of synchronous failure of critical electronic communications infrastructure. The rise of Asia and Latin America, the end of G7 economic hegemony and the likely demise of the 'Washington consensus' on development and aid will all introduce critical uncertainties into the global economy.

household and industrial waste and becomes the focus of large scale toxic dumping from the rest of the world. Most critically, a global epidemic such as virulent influenza or a terrorist generated or released pathogen is likely within 20 years and could overwhelm state and communal coping mechanisms and precipitate localised or state-wide breakdown of authority.

Health security: New and old toxins

- 16** While the ordinary context of future health insecurity in West Africa is likely to be determined by existing endemic diseases and a paucity of health workers and medicines, at least four dynamic new factors could cause mass casualties. Endemic diseases are increasingly developing drug resistance as well as changing their prevalence zones in association with climatic and environmental change. Organised crime, poor quality manufacturing facilities and lax sales regimes mean that drugs for sale in West Africa are increasingly fake, unsafe or misprescribed, endangering rather than curing consumers. Pollution will present major public health hazards as the sub-region struggles to manage its own

Introduction

1. Why Research the Future?

Over the past generation no regional organisation has experienced so great an exposure to humanitarian crises as the Economic Community of West African States. From the Sahelian droughts of the 1970s and 1980s through the Mano River regional conflict of 1989–2003 to the great floods of 2007, West Africa has all too often been defined by disaster and displacement. In response, perhaps no regional organisation has made as rapid progress as ECOWAS in developing conflict containment, resolution and prevention strategies. The ECOWAS Conflict Prevention Framework (2008) builds upon the Mechanism of 1999 and the Protocol on Democracy and Good Governance of 2001 to put in place one of the world's most comprehensive strategies for regional security and conflict management. Latterly, ECOWAS has also addressed humanitarian crises through its Policy for Disaster Risk Reduction (2007) and begun to formulate policies that seek to prevent not just manage future food and environmental insecurity.

Yet the humanitarian environment that ECOWAS needs to prepare for in the next generation, and the conflicts that this is likely to precipitate, will not be the same as that of the past. Rather than being on the periphery, West Africa will be at the sharp end of global change this century. The accelerating pace of climate change will combine with the ongoing challenges of demographic boom, mass migration, rapid urbanisation and pervasive poverty to transform the West African environment, rural and urban. By 2025, ECOWAS will have over 400 million citizens, the majority living in cities, overwhelmingly in overcrowded slums. Globalising forces are likely to deepen the region's exposure to shock factors from the wider world, potentially including new forms of pollution, pandemic disease, organised crime, information systems failure and economic instability, as well as reinforcing the population's awareness of its deprivation and marginalisation.

These are long term processes in an extremely dynamic region. ECOWAS has already demonstrated its commitment to extending its planning horizons via the Strategic Plan, 2007–2010 and the Strategic Vision 2020.¹ In order to understand them and to deploy its early warning, conflict prevention and disaster risk reduction resources effectively, ECOWAS needs to transform its strategic horizon from five or even 12 years to at least 20 years. Failure to do so will result in short term solutions being applied to problems of indefinite duration and impact. But extending ECOWAS' strategic horizon will be no easy task for a small organisation already engaged in comprehensive restructuring and preoccupied with immediate term responses to chronic poverty and recurrent political and humanitarian crises in member states.

The aim of this report is to contribute to the extension and integration of ECOWAS' long-term crisis warning system by stimulating thinking about which factors are likely to drive humanitarian crises and conflicts in the region in the next two decades. It responds specifically to Component 13 of the ECPF,² on Humanitarian Assistance, and its undertakings to: build up capacities for humanitarian strategic planning; enhance the capacity of the Early warning System to relate political, socio-economic and geophysical trends to humanitarian crisis propensities; and to mainstream humanitarian crisis prevention, preparedness and response activities into the ECOWAS peace and security architecture.³ It also responds explicitly to the Policy for DRR's recognition that "Disasters and conflict are linked and are mutually reinforcing" and its prioritisation of expanding, coordinating and harmonising ECOWAS early warning systems to incorporate humanitarian issues.⁴

While aiming to be as comprehensive as possible, the focus is upon dynamic factors whose relative pertinence will increase in line with the changing context of the future, especially climatic, environmental and demographic change. It is also about complexities – the ways in which these drivers of crisis will interact and reinforce one another to produce simultaneous and sequential crises – as well as critical uncertainties that will change the way that ECOWAS plans for future crisis. It asks questions of ECOWAS as to how it is currently prepared for these crises and is designed as part of a package of HFP support to ECOWAS to provide suggestions for developing agile response capacities.

2. Structure and Methodology

2.1 Structure: ECOWAS and Human Security

In attempting to define and analyse West Africa's long-term drivers of crisis, the structure this report adopts is based upon threats to human security. This approach is in line with the ECOWAS Strategic Vision 2020 concept of an ECOWAS of Peoples rather than the existing ECOWAS of States and is integral to both the Conflict Prevention Framework and any approach to DRR.⁵ While the State may neither be expected to atrophy nor to lose its importance as a unit for management of crisis, the determinants of crisis may be expected to become more transnational as the complexity of the West African and global environment increases in coming decades. The essence of this report is identifying the destabilising influences to which the ECOWAS region is vulnerable and whose destructive potential is likely to increase over time. In the spirit of conflict prevention and disaster risk reduction, at least as much attention is given to 'slow-burn' and 'multiplier' drivers as to the immediate precipitants of crisis.

In Part 1, an overview is provided of five parameters that will shape West Africa's context in the 2020s and that will be used as cross-cutting issues in the analysis of crisis drivers in Part 2. The first two are defined as structural 'meta-drivers' of crisis specific to the sub-region; that is, factors that are likely to impact upon and potentially multiply other crisis drivers. These are identified as: demographic change, urbanisation and migration; and climatic and environmental change. Data can be used with some wariness to make upper and lower projections of these factors into the 2020s to establish parameters. The remaining three are global contexts in which only speculative assessment is possible. These relate to change – political, economic, technological – at the global level and how this will impact upon the ECOWAS region.

In Part 2, seven dimensions of crisis are proposed, corresponding in slightly modified form to the seven categories of human security identified by the 1994 World Development Report:⁶ political security, governance and human rights; community security and identity; personal security, violence and crime; environmental security; food security; economic security; and health security. While 26 individual crisis drivers are identified within these seven dimensions, there is no attempt or intention to rank these. While aiming to be as broad ranging as possible and to identify emergent, non-traditional factors, this report cannot hope to incorporate every driver of crisis of the next two decades. Rather, the purpose at every point is to stress the linkages and interdependence of these drivers.

2.2 Methodology I: Probability and Possibility

There are, of course, no hard answers to what the future will look like; no research tool is a crystal ball or a time machine; all data is unobserved, projected, estimated or speculative. There are thus two ways by which one may approach researching the future.

The first is to project the patterns of the past into the future using trends analysis. In its conventional form, trends analysis supposes the future will behave a lot like the past and detaches statistics from the other factors that influence them. Such models are useful in the medium and longer term assuming that the data used is reliable, complete and not subject to major anomalies (i.e. relatively consistent). The trouble with history in the long run is its tendency to demonstrate how often disaster, crises, boom or bust intervene to undermine linear progression. This is perhaps doubly true of poor, vulnerable regions like West Africa.

In more complex models, projections may be modelled in non-linear progressions, albeit still relying on historical data. Such models factor in a range of trend data, projecting their influence and feedback into the future. These may be useful in making estimates about when radical change may occur within a sequence or a 'tipping point' reached. Climate change modelling is an example

of this. However, such models are still necessarily limited in the range of variables that they are able to include and may still struggle to make sense of input data that is essentially non-linear, not least human agency. In allowing the modeller the selection of variables, such models are intrinsically speculative about future contexts while attempting to produce predictive data.

The second alternative is to embrace speculation as a research methodology and ask not only the probabilistic question of what is most likely to happen but also the possibilistic question of what could happen in the future. This is the approach most associated with scenario modelling and allows for an almost infinite selection and interaction of variables. Such an approach potentially tells us very little about the likelihood of any given event but does allow us to imagine the consequences of a given combination of events or drivers, permitting us to 'plan from the future' to assess how we might take steps either to avoid that event or to reduce our vulnerability to it.

In scanning the horizon of West Africa's future for potential drivers of humanitarian crisis, this report has utilised a methodology combining aspects of trends analysis, sometimes using non-linear data projections, with more speculative imaginings of West Africa's future. In the first instance, an effort has been made to gather observed and projected data for structural factors that will condition West Africa's future. This includes demographic, climatic, environmental and economic data but acknowledges the severe limitations on the availability and reliability of such data on the ECOWAS region, not only in the future but into the past. Part 1 thus sketches some structural parameters of West Africa's probabilistic context in the 2020s and beyond. These structural forces are the cross-cutting variables which will condition all other drivers to some extent.

In the second instance, having established these parameters, research has focused upon interviews with experts on as wide a range of potential drivers of crisis as possible. These experts included ECOWAS functionaries at all levels, national government representatives from member states, scientists and social scientists in West Africa and Europe, disaster management agencies, security forces, representatives of humanitarian NGOs, conflict resolution and prevention practitioners and the representatives of UN agencies and other intergovernmental organisations. Interviews were conducted in Ghana, Mali, Nigeria, Senegal and Sierra Leone and in and by telephone from the UK, as well as drawing on the HFP team's past research experience in another seven ECOWAS states.⁷ Interviewees were encouraged to think about what they considered the probable evolution of West Africa's political, economic, social and humanitarian environment as well as what they considered best and worst case scenarios. Responses provided both data to elaborate crisis drivers already provisionally identified and suggested ideas for other drivers or combinations of drivers not previously

conceived. These non-structural drivers are set out in Part 2 of the analysis, arranged under the seven dimensions of human security.

2.3 Methodology II: Scenario Development

Probabilistic modelling is necessary but not sufficient in attempting to predict the shape and impact of crisis drivers in the coming decades. Indeed, we know that whatever degree of probability (or certainty) we attribute to a future course of events, we will never be able to predict with complete accuracy. If we are to prepare for the future it is necessary to go beyond probabilistic forecasting and to speculate upon possibilistic scenarios that imagine alternative courses of events and impacts over the long term. Such scenarios need not be pessimistic. It is equally important to consider what solutions and mitigations the future may bring. Yet it is always wise to at least consider what a worst case scenario might look like in order not to be under-prepared.

Globalisation and Change

Beyond the cross-cutting structural effects of climate, environmental and demographic change within West Africa, Part 2 also takes a more speculative approach, envisaging a range of scenarios in relation to changes at the global (extra-regional) level and suggests how these may impact upon each crisis driver. These are broken down into scenarios for globalised political or geopolitical change, economic change, and technological change.

Global political changes that will affect West Africa in the next generation include the consolidation or collapse of the global governance and regulation system under the UN, the rise in political and economic influence of China, India and other latent powers outside of the West, and the commitment of old and new external powers to fund development and humanitarian projects in the region. The most likely source of far-reaching change in these external variables would be a major interstate war, including a severe cold war. Effects on West Africa might include surges in commodity prices, diversion of external assistance, changes to the regime of sovereign non-intervention, new threats from externally funded or organised terrorists or insurgents, or even the catastrophic environmental consequences of nuclear or biological warfare.

Economic globalisation will likely be tied closely to the kinds of changes in the political environment already discussed, not least the rise of non-Western economies. Indeed, such changes may be deeply felt within the sub-region.⁸ Impacts in West Africa are likely to be conditioned heavily by global commodity prices as well as access to markets and foreign aid. In the sub-region, these have as often occasioned catastrophic slumps as booms. Moreover, half the region will be chronically vulnerable to shifts in the value of the euro until the CFA franc and Cape Verde escudo can be merged into an ECOWAS-managed currency. Even then, and especially if

it continues to develop and integrate globally, the sub-region will not be able to isolate itself from shocks such as the 2008–09 credit crunch.

Future technological change will inevitably shift the context of West Africa's crisis environment in ways hard to envisage from the present day, providing both threats and opportunities. Examples from the recent past would include the way in which, within one decade, cellular phones and the internet have transformed the sub-region's moribund telecommunications system and connections to the rest of the world. Future transformations could include the development of cheap, renewable fuel sources, the discovery of a vaccine for HIV or the eradication of malaria from the region. Conversely, technological change could introduce new human or animal pathogens, undermine global demand for West African natural resources and will certainly engender ever greater dependence on electronic systems vulnerable to hacking and systemic failure.

Shocks and Triggers

For each crisis driver identified in this report, a number of shock events are proposed. These are events with the potential either to trigger a crisis of this type, to multiply the humanitarian consequences of an existing crisis driver towards a 'worst case' scenario or radically to restrain or mitigate a crisis driver. These are by no means comprehensive and ECOWAS is encouraged to brainstorm its own 'shocks' that should be borne in mind when planning future disaster and conflict management strategies. Again, these are credible risk scenarios within the West African context but no attempt is made to assess the probability of each. In a few cases, such as pandemic disease or a major earthquake, selected crisis drivers are shock events in their own right but, for most, it is the inter-relation or simultaneity of several crisis drivers that will determine West Africa's disaster risk environment.

Scenarios of the Near Future

Since the kinds of crisis that the world, and the ECOWAS region in particular, is likely to face in the next generation are multidimensional, simultaneous and synchronous, this report also includes a number of scenario boxes in which some of the most pertinent crisis drivers are picked out and subject to the cross-cutting or synchronous impact of other drivers in creative but credible imaginings of the future. The purpose of these scenarios is not to suggest that events will unfold in such a way but to stimulate thinking about how ECOWAS and member-states might be positioned to respond to crises of different types and magnitudes in the future and how they can act now to address any deficiencies.

3. Institutional Change – Questions for ECOWAS

One crucial assumption that underlies all of the analysis in this report is that ECOWAS continues to exist as a

BOX 1: TERMINOLOGY

Complexity – intense inter-relationship among two or more crisis drivers that will increase effects of any single humanitarian crisis exponentially. Inter-relationship among crisis drivers will require more holistic, less sectorally isolated approaches to crisis prevention and preparedness as well as response. Complexity is to a significant extent a creation of human behaviour and institutions.

Crisis drivers – factors that expose human-beings to life-threatening hazards. These are comparable to what the ECPF defines as ‘Accelerators’. An alternative selection of what the ECPF terms ‘Structural Factors’ is here termed **crisis meta-drivers**.

Non-linear change – change not based on a simple proportional relationship between cause and effect. Likely to be abrupt and difficult to predict, non-linearity is often linked to ‘tipping points’, when a small change in an input variable may suddenly produce a major change in outcome relative to historic trends.

Planning from the future – the “from the future” perspective seeks to guide policy-makers and strategy-makers to speculate about “what might be” rather than trying to envision the future by extrapolating from the past (i.e. trends).

Scenario development – consistent with “planning from the future,” a technique to get people “to think differently”. Scenario development involves exercises that test peoples’ visions of the future by testing their assumptions about “what might be” in the context of different worlds.

Sequential crises – linked to concept of complexity, sequential crises describe the dynamics resulting from one crisis driver triggering another crisis driver or multiple crisis drivers. Increasingly so-called natural crisis drivers (e.g. drought) will lead to man-made crisis drivers (e.g. conflict) or vice versa. It is the intensifying inter-relationship between a series of crisis drivers that will mark a growing number of future threats.

Simultaneous crises – major humanitarian crises will occur at the same time, more than likely in different parts of the sub-region or wider world and quite possibly the result of different types of crisis drivers. A principal concern is that the conventional humanitarian response sector will not have the capacity to meet two or more such crises occurring at the same time.

Synchronous failures – full scale collapse of systems leading to unravelling of entire social, economic and geographical sectors. Such systems collapse can be triggered by a range of factors such as cyber-hacking into economic systems (e.g. banks), electricity failures that cripple infrastructures (e.g. flood barriers) and radiation poisoning (e.g. exposure of nuclear waste sites).

Trends – analysis of short and long-term futures based upon extrapolation of past patterns. By definition new variables cannot be directly factored into trends analysis because there are no previous patterns to compile into meaningful data to analyse.

meaningful regional actor into its second half century. This looks a probable scenario in 2009 but regional coherence and continued integration should by no means be taken for granted. ECOWAS has managed its pragmatic transformation from a wholly economic integration body to a complex political and security community with relative success but it will face at least as great a challenge in managing its transition from a community of nation states to a supranational union of peoples.

While ECOWAS will be the guiding force in regional integration over the next two decades, more will depend upon the stability of member states and the willingness of their governments to forge compromises. Without coherent policies on conflict and disaster prevention and mitigation of the sort that ECOWAS has forged over the past decade and which remain at the implementation stage in 2009, the region and its states are unlikely to be able to tackle crises at the national level. Inevitably, in many fields progress will be uneven and far greater importance will be attached to the standards set by such larger states as Senegal, Ghana, Côte d’Ivoire and Nigeria.

In particular, the performance of Nigeria, home to the majority of the sub-regional population and responsible for up to 60% of its economic output, will matter crucially. Crises in the smaller states and even in Côte

d’Ivoire, which has a dominant importance within the UEMOA bloc, have been handled and contained through regional collective action since the 1990s. Nigeria has more or less managed its own multiple crises since the 1999 transition but faces a future full of challenges to its stability. Thus, while the dimensions of crisis analysed in this report should be seen to apply to the region as a whole, the magnifying effect of their impact upon Nigeria, the only member state powerful enough to have an impact across the region, must always be borne in mind.

Another assumption of this report is therefore that the ECOWAS of the 2020s will not be the same as the ECOWAS of 2009. The dynamics of integration and crisis will ensure that the Community continues to adapt. In support of other project outputs providing recommendations on how ECOWAS can continue to adapt, this report aims to identify what some of the humanitarian challenges of the long-term will look like and asks questions of ECOWAS at every stage as to how it is preparing now to address these challenges.⁹ In this sense it should serve as a stimulus to future research on the critical uncertainties that will determine the region’s future stability.

PART I: The Future Structure of Human Security in West Africa

Five Contextual Parameters

Consideration of five structural factors is crucial for understanding the contextual parameters in which ECOWAS will operate in the 2020s and beyond.

1. West Africa will continue to experience a population explosion and youth bulge that will place enormous strains on its resources and undercut development objectives. Migration to cities and across regional and continental boundaries will present new threats and opportunities.
2. Climate change is likely to increase temperatures by an historically significant extent, alter the variability of rainfall and growing seasons and lead to an increase in extreme weather events, including floods and droughts. In the longer term, sea level rise, ocean warming and acidification, desertification and changes to the epidemiological environment will pose major challenges to West African development.
3. Economic underdevelopment and pervasive poverty are likely to define the sub-region and its vulnerability to crises well into the 2020s, even assuming optimistic sustained high-level growth scenarios.
4. Though by no means certain, evolutionary or radical change in the international system – not least within ECOWAS itself and the African Union – will impact upon the functioning of states and the level of responsibility at which humanitarian crises are managed and manifested.
5. Technological change cannot be easily predicted from the past but all strategic planning must incorporate the flexibility to respond to a humanitarian context that will be more uncertain, complex and change more rapidly than ever before.

For these reasons, demographic change and urbanisation plus climatic and environmental change have been selected as cross-cutting ‘meta-drivers’ of crisis at the regional level, the impacts of which all other selected drivers will be exposed to.

Economic change or poverty has not been selected as a ‘meta-driver’ at the regional level as, while it will certainly condition all other factors, West African relative poverty is likely to be an essentially static context, not a dynamic factor. However, at the global level, scenarios

for change in the economic and strategic balance of power is a cross-cutting variable for most crisis drivers, particularly as such shifts affect the availability of external resources to what is likely to remain a highly aid-dependent region.

As we shall see in Part 2, governance could also be ranked as a dynamic ‘meta-driver’ at the state or regional level. However, wide variations across time and between states suggests that there is little structural or pre-determined about the quality of West African governance, which will depend heavily upon the agency of local decision makers. This may increasingly be the case in the future if conditionality regimes for ‘good governance’ – structural adjustment, poverty reduction strategies, anti-corruption interventions – wane along with the predominance of Western aid provision. In terms of cross-cutting variables, this report is concerned with scenarios of political change at the global level. As with technological change, this may be speculated if not predicted with any great confidence from historical trends. Rather, recognition needs to be made of these factors as dynamic, global structures whose evolution or radical change will frame West Africa’s exposure and response to future humanitarian crises.

I. Demographic Change, Migration and Urbanisation

The number one factor that will condition West Africa’s vulnerability to humanitarian crisis over the next generation is demographic expansion, even as the rapidity of this process is likely to ease. Its impact will be apparent in terms of demands for finite resources – natural (water, land, food, fuel) and social (health, education, security) – that ECOWAS member states are likely to have great difficulty in satisfying. Developmentally, the continuation of a population structure skewed heavily towards children and young adults will place huge pressure on education and employment policies as well as maternal and paediatric health resources. Migration of population from rural to urban areas and from homeland to diaspora is likely to engender a population both better integrated with global trends and more impatient for the standards of living perceived in the wider world.

Population Growth and Youth Bulge

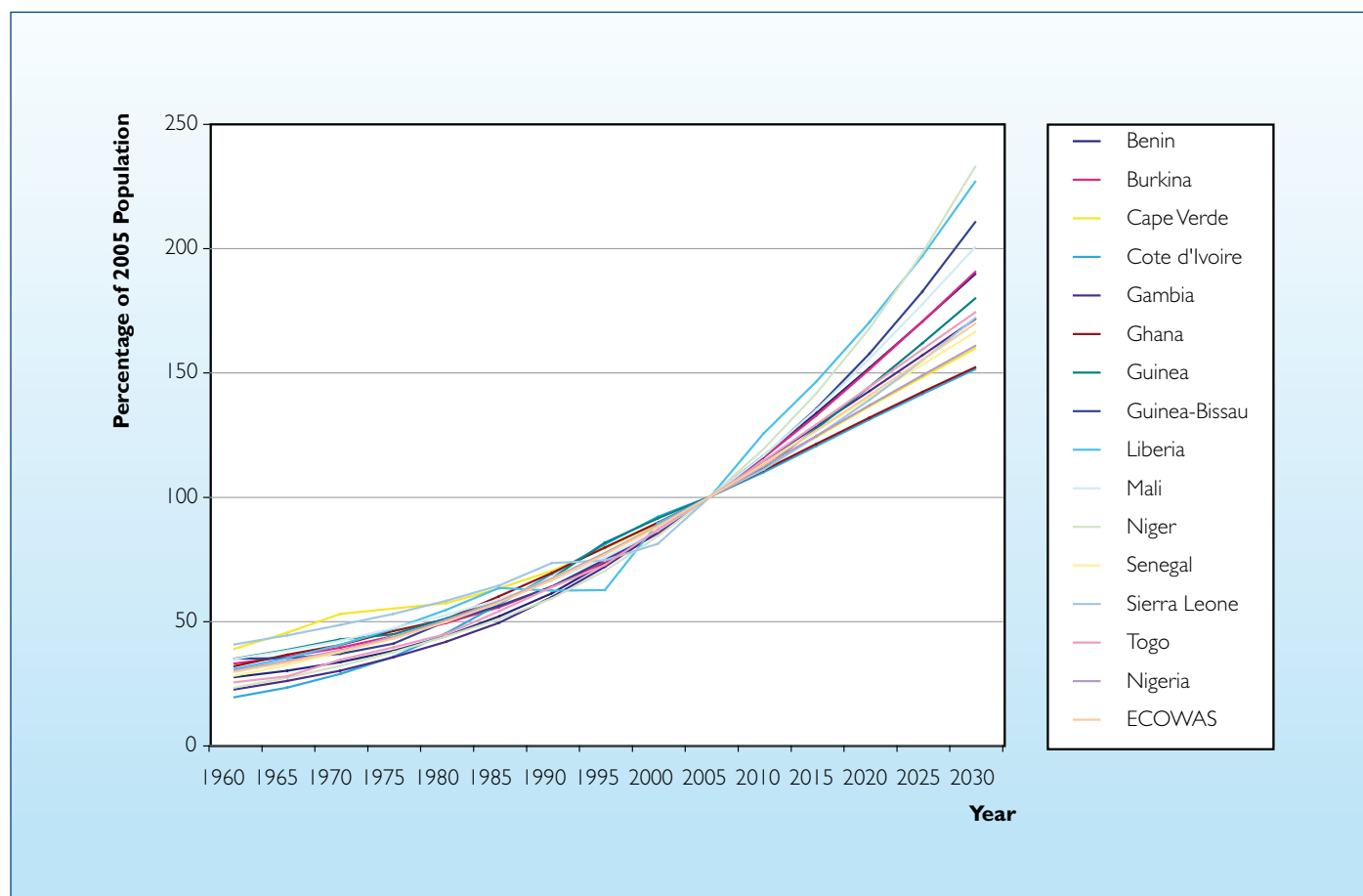
In the half century since Ghana and Guinea made their transition to independence the population of West Africa has almost quadrupled. While the region’s rate of overall

Table 1: Regional Population Estimates and Medium Variant Projections, 1980–2030 (thousands)

	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030
Benin	3709	4394	5179	6209	7227	8490	9872	11331	12874	14460	16076
Burkina	6827	7709	8871	10271	11882	13933	16097	18457	21034	23729	26505
Cape Verde	289	319	355	401	451	507	567	628	690	750	808
Côte d'Ivoire	8344	10506	12780	14986	17049	18585	20375	22343	24315	26233	28088
Gambia	671	795	962	1159	1384	1617	1845	2072	2301	2534	2770
Ghana	11390	13479	15579	17887	20148	22535	24890	27294	29672	31993	34234
Guinea	4575	5185	6033	7323	8203	9003	10028	11449	12966	14547	16170
Guinea-Bissau	793	892	1017	1191	1370	1597	1853	2160	2513	2913	3358
Liberia	1868	2171	2137	2143	3071	3442	4311	5032	5849	6771	7797
Mali	6069	6794	7669	8736	10004	11611	13506	15655	18034	20589	23250
Niger	5784	6709	7822	9287	11124	13264	15791	18754	22222	26250	30842
Nigeria	71065	81598	94454	109010	124773	141356	158313	175715	193099	210129	226855
Senegal	5871	6796	7896	9054	10334	11770	13311	14878	16442	17999	19554
Sierra Leone	3236	3582	4087	4143	4521	5586	6185	6929	7747	8639	9592
Togo	2784	3354	3961	4516	5403	6239	7122	8045	8984	9925	10856
ECOWAS	133275	154283	178802	206316	236944	269535	304066	340742	378742	417461	456755

Source: UN ESA Population Division, World Population Prospects, 2006 Revision of Database.

Figure 1: Population as Percentage of 2005 Population (medium variant projections)



Source: UN ESA Population Division, World Population Prospects, 2006 Revision of Database, medium variant projections beyond 2005.

population growth peaked in the 1980s, West Africa will continue to be in its demographic transition stage throughout the next two decades or more, meaning that the birth rate will decrease more slowly than the death rate. Thus the population is expected to continue to expand at over 2.0% annually until the 2020s, leading to a 50% expansion of the current population of over 290 million within the next 20 years. Despite further slowing, the UN's Population Division estimates that the regional population will reach 610 million by 2050.¹⁰ Faster rates of growth are likely to be experienced in the very poorest countries – Niger, Guinea-Bissau, Liberia, Mali, Burkina Faso – where pressures on land and other resources are often at their most intense.

In terms of population structure, these ongoing high rates of growth mean that there will be no early end to the youth bulge that characterises West African society and thus little respite in pressures on health, education and employment. While the proportion of the working age population relative to (overwhelmingly young) dependents is likely to ease steadily overall and in such major member states as Nigeria, Ghana, Côte d'Ivoire and Senegal, this process will not be apparent in such states as Guinea-Bissau, Liberia, Mali, Niger and Sierra Leone, where birth rates have not yet declined appreciably, until the 2020s.

Urbanisation and Migration

Multiplying pressures for access to employment, social and energy provisions, West Africa is expected to become a majority urban-dwelling region within ten years. UN Habitat projects that the percentage of West African urbanites will increase from 42% in 2005 to over 54% by 2025, when over 70% of Liberians and Cape Verdeans and over 60% of Gambians, Ghanaians and Nigerians are expected to live in cities. In numerical terms, this means a doubling of West Africa's current urban population of some 130 million by 2030, even as overall urban population growth moderates. Lagos alone may reach a population of 20 million by the 2020s, with another 30 cities exceeding one million inhabitants. Every member-state except Cape Verde, The Gambia and Guinea-Bissau is likely to have at least one city of over two million inhabitants. With overcrowding in West African urban areas already the worst of any world region,¹¹ this is highly likely to mean an increase in urban population density and in the percentage of urbanites dwelling in slums. If West Africa follows overall trend projections for Sub-Saharan Africa, this percentage is likely to increase from 61% to 71% by 2020. Thus, in the 2020s, up to 40% of the total regional population may be dwelling in informal urban neighbourhoods deficient in sanitation, social welfare, energy and security provision and thus increasingly vulnerable to flooding, epidemics, pollution and crime.

Urbanisation is one manifestation of the migration that is likely to characterise West Africa to greater and greater

extent as pressures upon the land and environment increase in response to changes in demography, climate and economy. Millions are likely to continue to relocate from rural to urban areas for economic advancement or survival. Within rural areas there is likely to be an ongoing southward relocation of population, including pastoralists and their livestock, from the Sahel zone, where birth rates are highest, towards the forest and coastal zones, where economic opportunities are better. Consequent overcrowding and conflicts of economic interests may lead to land disputes, the promotion of exclusive identities and xenophobic violence. Given its commitment to free movement of peoples and the high mobility of the sub-regional workforce, ECOWAS may consequently face increased tensions at the inter-state level.

Finally, population pressures relative to regional economic resources are likely to push ever more young West Africans to seek to migrate beyond the region. Hundreds of thousands will continue to seek opportunities in Europe and North America but the relative economic advancement of Asia, the Middle East and North Africa, and Latin America will also attract thousands of new migrants. If facilitated abroad, such migration has the potential to serve as a significant pressure valve for West African discontents and to boost very significantly the investments available from remittance incomes. However, if richer regions continue to place major impediments in the way of this migration or their labour market's demand for African labour contract sharply, the frustrations of West Africa's stock of young would-be migrants are sure to rise.

An alternative scenario is that by the 2020s, the West African diaspora has begun to repatriate its skill base and capital to the sub-region through a process of reverse migration. The experience of India demonstrates that the economic level of the 'homeland' does not have to come close to that of Northern countries but rather that there is a sort of tipping point once a certain level of stability and economic dynamism has been reached. Indeed, there may be in-migration to West Africa in the next twenty years on a scale not previously seen. More so than European sources of investment, China, India and other rising powers have very large populations eager for economic opportunities in other developing countries. Their presence could be a source of skills, capital but also of resentment if they are seen to profit at the expense of local groups.

2. Climatic and Environmental Change

Harder to predict but potentially as powerful a force in shaping West Africa's humanitarian context over the next 20 years will be climatic and associated environmental change. In the timeframe beyond 20 years it is likely to overtake demographic growth as the defining challenge to regional human security. Scientists continue to

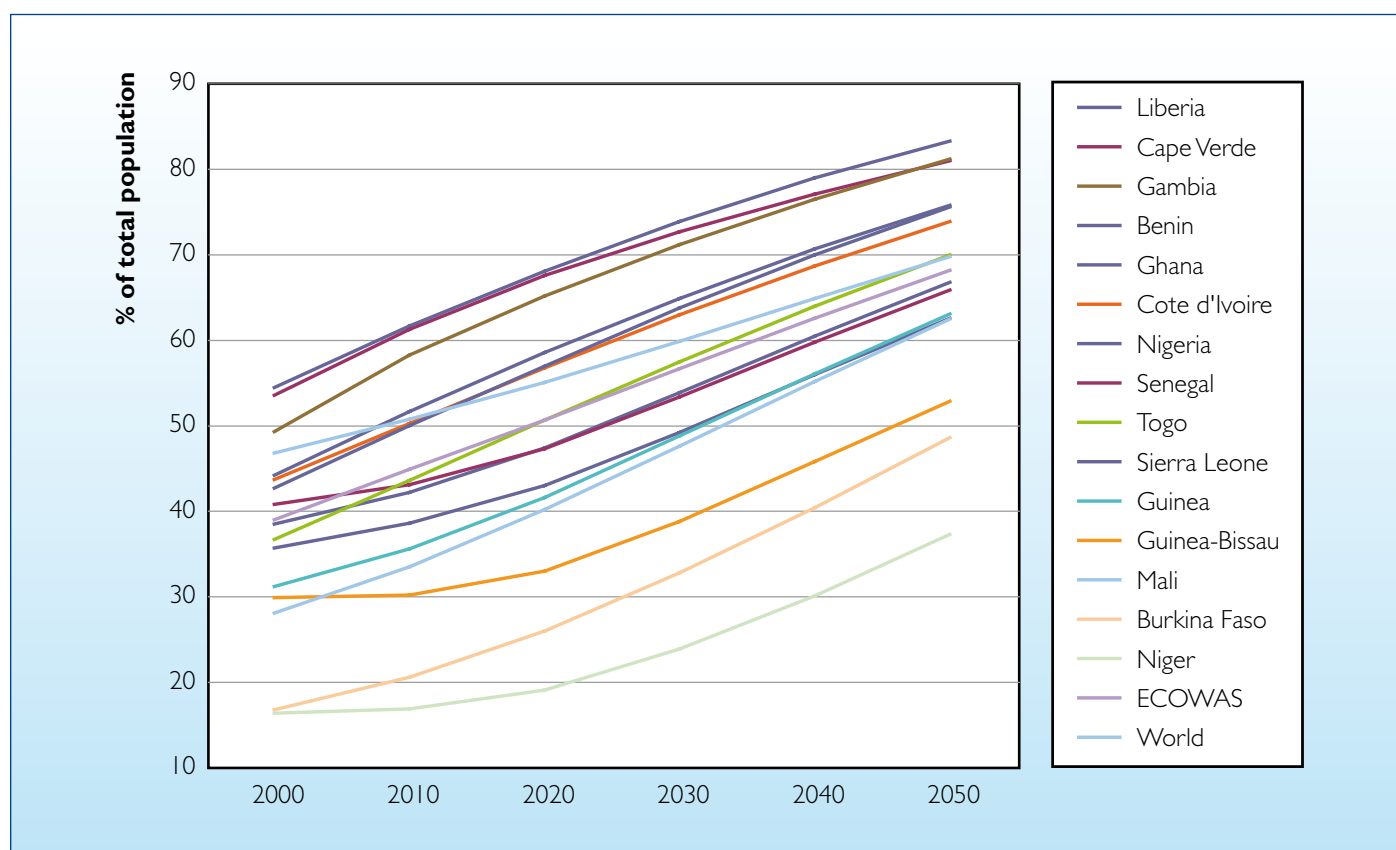
Table 2: ECOWAS Urban Population Projections, 2000–2050

Urban Population (% of total)						
	2000	2010	2020	2030	2040	2050
Benin	38.3	42.0	47.2	53.7	60.3	66.6
Burkina Faso	16.6	20.4	25.8	32.6	40.2	48.4
Cape Verde	53.4	61.1	67.4	72.5	76.9	80.8
Côte d'Ivoire	43.5	50.1	56.6	62.8	68.5	73.7
Gambia	49.1	58.1	65.0	71.0	76.3	81.0
Ghana	44.0	51.5	58.4	64.7	70.5	75.6
Guinea	31.0	35.4	41.4	48.6	55.9	62.9
Guinea-Bissau	29.7	30.0	32.8	38.6	45.6	52.7
Liberia	54.3	61.5	67.9	73.7	78.8	83.1
Mali	27.9	33.3	40.0	47.4	55.0	62.3
Niger	16.2	16.7	18.9	23.7	29.9	37.1
Nigeria	42.5	49.8	56.8	63.6	69.8	75.4
Senegal	40.6	42.9	47.1	53.2	59.6	65.7
Sierra Leone	35.5	38.4	42.8	49.0	55.8	62.4
Togo	36.5	43.4	50.5	57.3	63.8	69.8
ECOWAS	38.8	44.7	50.5	56.5	62.4	68.0

Source: Population Division of the UN DESA, *World Urbanization Prospects: The 2007 Revision*

Note: ECOWAS Social and Indicators figures for 2000 (no projections) are broadly comparable to UN figures excepting Liberia and Senegal (significantly more urbanised in ECOWAS estimates) and Nigeria and Sierra Leone (significantly less urbanised in ECOWAS estimates).

Figure 2: Urban Population Projections, 2000–2050 (% of Total Population)



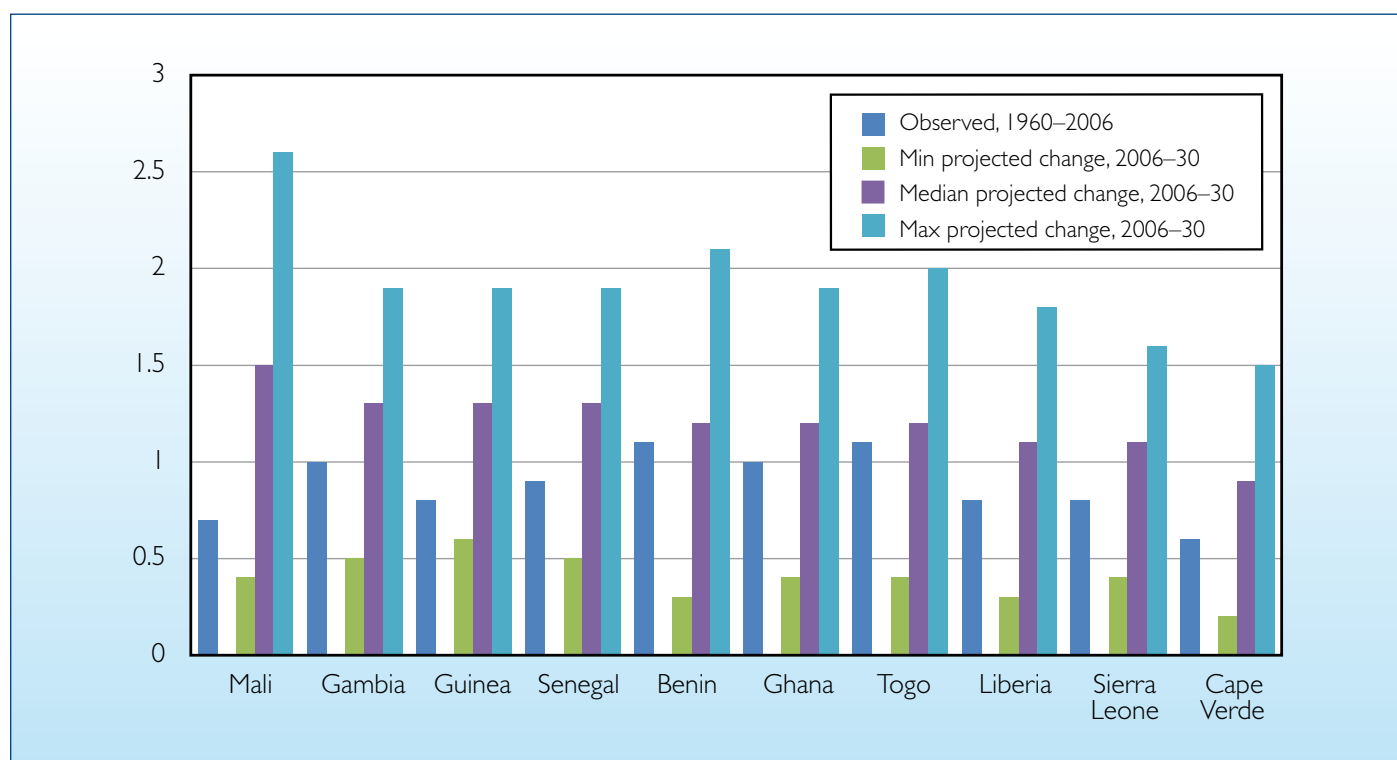
Source: Population Division of the UN DESA, *World Urbanization Prospects: The 2007 Revision*

Table 3: Median temperature change projections, 1960-2090s

Country	Observed change in mean annual temp., 1960-2006 (°C)	Projected change in mean annual temp., 2006-2030s (°C)	Projected change in mean annual temp., 2006-2060s (°C)	Projected change in mean annual temp., 2006-2090s (°C)
Benin	1.1	1.0 to 1.4	1.5 to 2.6	1.9 to 4.3
Cape Verde	0.6	0.8 to 1.1	1.3 to 1.9	1.5 to 3.0
Gambia	1.0	1.0 to 1.6	1.6 to 2.7	2.0 to 4.4
Ghana	1.0	1.0 to 1.4	1.5 to 2.7	1.9 to 4.3
Guinea	0.8	1.0 to 1.5	1.6 to 2.7	2.0 to 4.5
Liberia	0.8	0.9 to 1.4	1.4 to 2.3	1.7 to 3.9
Mali	0.7	1.3 to 1.9	1.9 to 3.4	2.4 to 5.4
Senegal	0.9	1.0 to 1.5	1.7 to 2.6	2.0 to 4.5
Sierra Leone	0.8	0.9 to 1.3	1.4 to 2.3	1.7 to 3.8
Togo	1.1	1.0 to 1.5	1.5 to 2.7	1.9 to 4.3

Source: UNDP Climate Change Country Profiles. All projection figures are medians from 15 model/scenario combinations. Comparable figures for Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Niger and Nigeria not available.

Figure 3: Observed and projected increases in mean annual temperature, 1960-2030 (°C)



Source: UNDP Climate Change Profiles (Oxford University School of Geography and the Environment). Accessed online at <http://country-profiles.geog.ox.ac.uk/> on 04 February 2009. Median projection figures are means of median results produced by 15 modelled scenarios.

hold divergent views on the causes of climate change observed since the mid-20th century and its propensity to change the global environment radically over the coming decades. However, there is now consensus that the world has become markedly warmer since the 1960s and that the period since 1990 has witnessed a marked increase in and severity of extreme weather events, including cyclones, flash flooding and temperature extremes.

The International Panel on Climate Change (IPCC) has come to represent the mainstream of climate scientists, attempting to reconcile the results of diverse modelling techniques that frequently point in different directions and, particularly in relation to West Africa, have often failed to coincide with observed data. It has concluded that global warming is a reality that is likely to accelerate through the 21st century and affect tropical regions

Table 4: Maximum temperature change projections, 1960-2090s

Country	Observed change in mean annual temp., 1960–2006 (°C)	Projected change in mean annual temp. 1960–2030s (°C)	Projected change in mean annual temp. 1960–2060s (°C)	Projected change in mean annual temp. 1960–2090s (°C)
Mali	0.7	3.3	5.2	7.5
Benin	1.1	3.2	4.5	6.8
Togo	1.1	3.1	4.6	6.8
Gambia	1.0	2.9	4.5	6.7
Ghana	1.0	2.9	4.4	6.6
Senegal	0.9	2.8	4.3	6.4
Guinea	0.8	2.7	4.0	6.3
Liberia	0.8	2.6	3.9	6.1
Sierra Leone	0.8	2.4	3.7	5.8
Cape Verde	0.6	2.1	3.3	4.7

Source: UNDP Climate Change Country Profiles. All projection figures are maximums from 15 model/scenario combinations. Comparable figures for Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Niger and Nigeria not available.

more severely than temperate regions. Over the course of the century, mean temperatures across almost all of West Africa are predicted to rise by between 1.9 and 4.5 degrees centigrade. Coastal and forested regions are predicted to be least severely affected (1.5 to 3.9°C gain) while Sahel and Saharan regions are likely to see the greatest increase, projected to range well above 5°C in northern and western Mali by 2090, with Senegal, Gambia and northern Guinea not far behind.

By 2030, average temperature increases may be expected to be less extreme, perhaps in the order of 1°C to 1.5°C above current temperatures. Taking into account regional warming of between 0.7°C and 1.1°C between 1960 and 2006, the change to most of the region by 2030 is in the order of a 2°C increase in about six decades. If we consider a plausible worst case scenario, climate change models suggest that average temperatures across the region could increase by 1.5°C to 2.8°C within the next two decades and by over 5°C across the entire mainland region by 2090. In the case of the hottest region, the Sahel, average annual temperatures would rise by up to 7°C to reach the mid-30°C, rendering agriculture and ordinary existence all but impossible.¹²

Best case projections foresee average temperature rises of 0.3°C to 1.3°C across West Africa by 2030. At the most optimistic, this means a 1.1°C to 2.2°C increase since independence.¹³ In historic terms this is thus still a very substantial increase. As with the warming since the 1960s, this may be expected to be accompanied by more extreme weather events, including drought, extreme summer temperatures and flash flooding, as has been recurrent across the region this decade. Climate scientists do not expect global warming to progress in linear fashion, getting hotter each and every year. More likely are greater variations in absolute temperatures, which

may include unprecedented winter low temperatures,¹⁴ while long term temperature averages increase. Feedback mechanisms not yet fully understood may create tipping points in warming, where environmental conditions suddenly change very quickly. Uncertainty is the key.

Overall precipitation is equally difficult to estimate as existing data shows significant annual and medium-term fluctuations but little definitive evidence of long-term regional drying. As with temperatures, the most vulnerable region is likely to be the Sahel, where average annual observed rainfall reduced by 20–40% between 1930–1960 and 1970–90 but appears to have recovered to broadly long-term average levels this century. While still uncertain, climate models suggest the highest regional probability of significant drying in The Gambia and northern Senegal before 2030. There and elsewhere, it is the variability of rainfall or its increasing concentration that is of concern, shortening the growing cycle and increasing potential flood damage. Across all the region except the desert and islands, models project an overall weak tendency to increased concentration of rainfall.

Environmental change

As the IPCC points out in its latest report, understanding the extent and consequences of climate change is at least as much about complex and localised environmental feedback mechanisms as global meta-processes: “The complexity of the interactions precludes ‘simple interpretations’; for instance, the role of human-induced factors (e.g. migration), together with climate, can contribute to changes in vegetation in the Sahel that feed back into the overall physical system in complex ways.”¹⁵ Thus, to what extent changes to precipitation and temperature will manifest themselves and affect West Africa will depend greatly on such uncertainties as dust

movements from the Sahara as well as human behaviour, including deforestation, overgrazing and depletion of surface water sources. As such, continued demographic expansion, with attendant pressure on agricultural and grazing land, energy, fuel wood and water resources will be one of the key determinants in West Africa's vulnerability to climate change.

Global warming may be determined mainly by carbon emissions beyond Africa or its ability to control them, but it is local and regional responses that will largely determine its environmental consequences. Chief among these environmental consequences for urban West Africa is likely to be sea level rise, predicted by the IPCC over the current century at up to 0.56 metres,¹⁶ excluding exceptional tidal or ocean movements, which could breach some lagoons by the second quarter of the century. Indeed, data gathered since 2005, when the last IPCC data gathering occurred, and a better understanding of feedback mechanisms suggests that the rate of sea level rise may be almost twice as fast as these predictions. The low lying geography of the West African coast and the location of virtually all its cities on lagoons or peninsulas make its population peculiarly vulnerable to rising sea levels. The fact that most coastal cities will undergo exceptional stress as populations relocate there from formerly agricultural areas in the interior will exacerbate the problems of coastal inundation, as is already being seen in such cities as Freetown, Monrovia, Cotonou and Lagos. Adaptation can address the problem via coastal defences and population relocation but the costs will be huge compared to local economic resources.

Across the region, and particularly in the northern Sahel belt, it is likely that altered temperatures and rainfall patterns will correspond to changes in the epidemiological environment for both man and animal. This is likely to have variable effect. In some areas, drying is likely to inhibit the breeding of malarial mosquitoes and improve human health, while other areas are likely to become more attractive to the insects that spread malaria, sleeping sickness or, affecting livestock, Rift Valley fever. More demonstrably, extreme weather events like flooding and extreme heat have strong potential to trigger epidemiological responses by creating temporarily attractive new zones for the establishment of disease vectors like mosquitoes or tsetse flies. Similarly, meningitis in the Sahel is closely correlated with dust movements from the Sahara, which may become more prevalent or unpredictable. Exceptional events such as excessive or unseasonal rainfall can also lead to outbreaks of agricultural pests, including locusts and army worms/caterpillars. While such species are endemic to West Africa, it is the potential for sudden shifts or expansion in their range or prevalence that poses the greatest threat to regional coping mechanisms.¹⁷

Habitat destruction is also likely to have an increasingly impact on food and economic security as a result of

both climatic and demographic change. On land, changes in temperature and precipitation will have negative consequences for remaining forests relied upon for fuelwood and game, though pressure from expanding human population is likely to be far greater. Farmland across the Sahel will come under increasing pressure from desertification as temperatures increase, especially if the land is overused. Flash floods, loss of vegetation and inappropriate farming practices will continue to cause soil and gully erosion. At sea and in rivers, fish stocks will become increasingly vulnerable to pollution, dumping and shifts in productivity and activity occasioned by warming water temperatures, possible shifts in currents, destruction of mangroves (as a result of rising seas and pollution) and a process of acidification as oceans absorb atmospheric carbon dioxide.

3. Economic Change and Development

At the beginning of the 21st century, West Africa was the world's poorest region, including twelve of the 26 countries officially categorised by the UNDP as of low human development (2008) and eleven of the 47 countries officially classified as Least Developed. Every ECOWAS member state bar Nigeria and Cape Verde was among the world's poorest 50 countries per capita in both nominal and purchasing power parity terms. The absolute majority of the regional population lived on less than one dollar per day, with over 80% living on less than two dollars per day. Indeed, this relative placement at the bottom of the global pile has not changed in any substantial way since ECOWAS was founded in 1975, even as Asian and Latin American states have pulled away from Africa in absolute terms.

Within ECOWAS, there are few real outliers from this pervasive poverty. Only Cape Verde, Ghana, Côte d'Ivoire and Nigeria are classified as above Least Developed Country status, with the former two plus Senegal ranking as of medium human development. While there are substantive economic and developmental differences between such countries and the poorest regional states – Liberia, Sierra Leone, Guinea-Bissau and Niger – it is only the geographically distinct Cape Verde that stands obviously above the threshold of extreme poverty. This is the only member-state currently classified by the World Bank as Lower Middle Income and the only one to have a 'Special Partnership' with the EU.

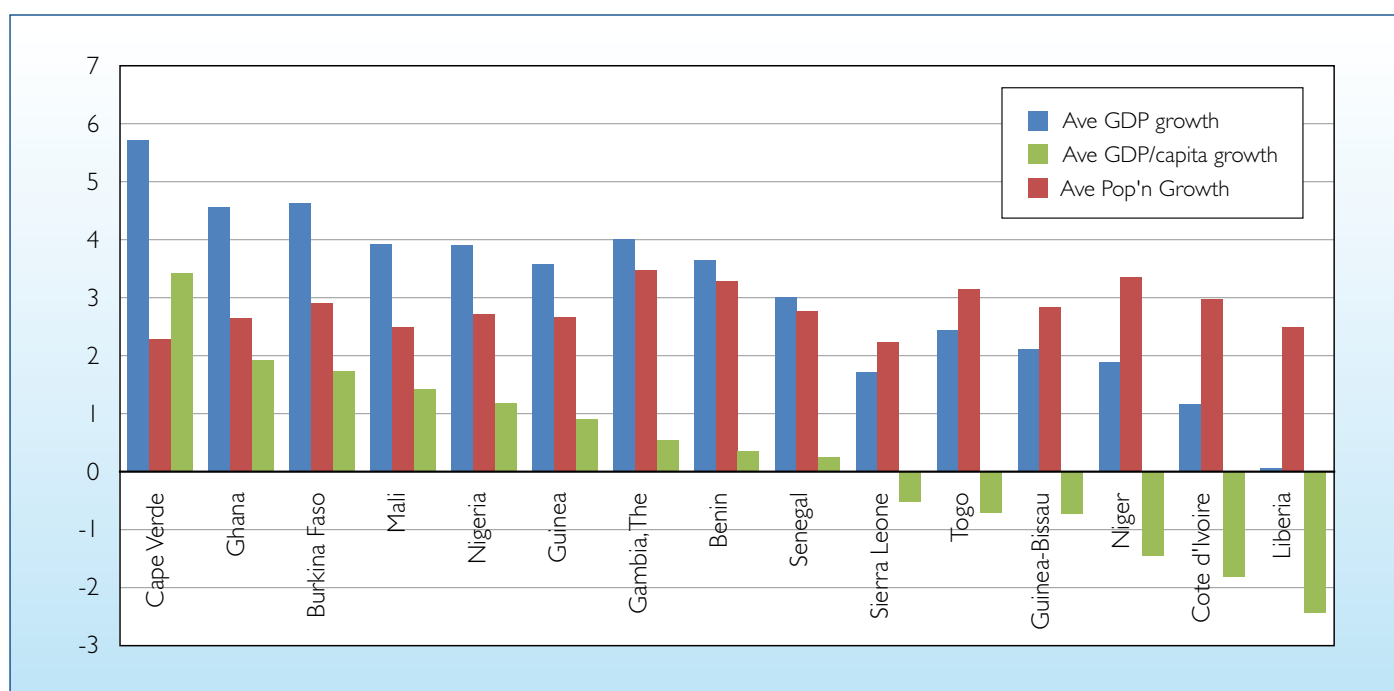
In probabilistic terms this situation is unlikely to change significantly in the next two decades. While continued real growth is expected, this is likely to continue to be erratic and heavily influenced by international commodity prices and the productivity of rain-dependent agriculture. Headline growth is also highly likely to be moderated by continued strong demographic growth, especially in the poorest countries, reducing the per capita impact relative to regions of demographic

Table 5: Average annual GDP and Population Growth Rates within ECOWAS, 1983–2007

	GDP Growth (1983–2007 annual mean)	Population Growth (1983–2007 annual mean)	Per capita GDP Growth (1983–2007 annual mean)
Benin	3.7	3.3	0.4
Burkina Faso	4.6	2.9	1.7
Cape Verde	5.7	2.3	3.4
Côte d'Ivoire	1.2	3.0	-1.8
Gambia	4.0	3.5	0.5
Ghana	4.6	2.6	2.0
Guinea	3.6	2.7	0.9
Guinea-Bissau	2.1	2.8	-0.7
Liberia	0.1	2.5	-2.4
Mali	3.9	2.7	1.2
Niger	1.9	3.4	-1.5
Nigeria	3.9	2.7	1.2
Senegal	3.0	2.8	0.2
Sierra Leone	1.7	2.2	-0.5
Togo	2.4	3.2	-0.8

Source: World Bank, World Development Indicators.

Figure 4: Average annual GDP and Population Growth rates within ECOWAS, 1983–2007



stability and placing a very heavy burden on social development, including education and maternal and paediatric healthcare.

In possibilistic terms, West Africa could break away from its chronic poverty and underdevelopment to become a region of medium economic and human development within two decades. This would be most likely in a context of booming production and/or prices of a

key global commodity such as oil or gas. However, the large populations of most contemporary West African states relative to their resource endowments make such developmental leap-frogging look unlikely except at a country-specific level in the smaller states. Even then, experience of the 'resource curse' within and without West Africa highlights the range of associated problems for development and governance that this kind of boom can bring.

Table 6: Official Development Assistance to ECOWAS member states

	Development aid as % of GNI (1997–2006)	Development aid as % of GNI (2006)	Development Aid total (US\$ million, 2006)
Benin	9.2	8.1	375
Burkina Faso	13.7	15.1	870
Cape Verde	17.7	12.2	138
Côte d'Ivoire	3.4	1.5	251
Gambia	12.8	14.8	74
Ghana	11.0	9.2	1,176
Guinea	7.1	27.9	82
Guinea-Bissau	37.5	5.0	164
Liberia	32.2	54.4	269
Mali	14.4	13.4	825
Niger	14.4	11.0	401
Nigeria	3.6	11.1	11,434
Senegal	9.4	9.3	825
Sierra Leone	27.8	25.7	364
Togo	4.6	3.6	79

Source: OECD Development Coordination Directorate and World Bank

Notes: OECD figures include all OECD members, major IFIs and some Arab states but exclude some significant Asian, South American and Middle Eastern states, notably China, India, Brazil, Iran and Libya.

GNI = Gross National Income, comparable to GDP or national output

2005-06 aid to Nigeria was exceptional, reflecting massive debt relief. Nigerian ODA is typically 0.6% of GNI.

In 2006, Côte d'Ivoire, Guinea and Togo were all affected by aid suspensions or restrictions from major donors.

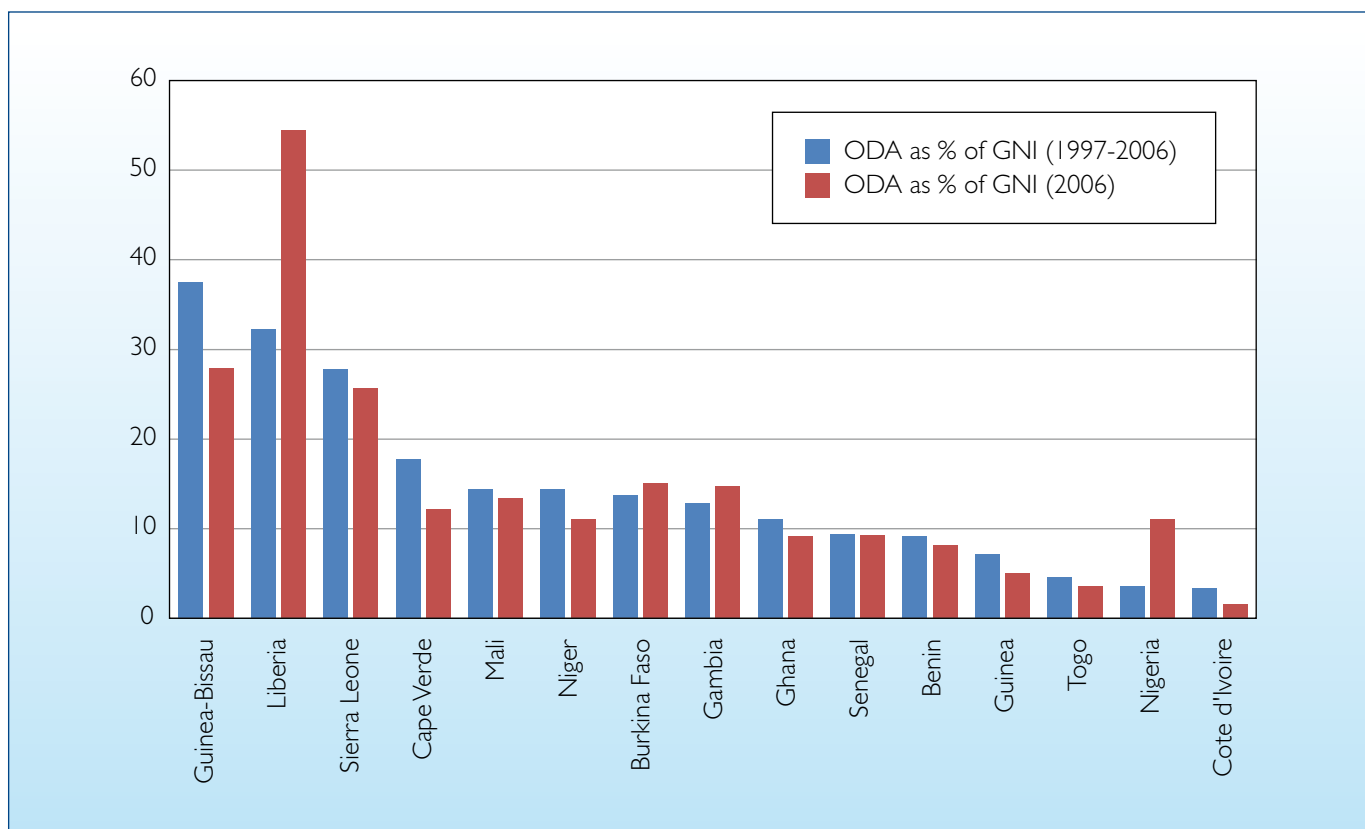
Following the steady path out of poverty of such long-term high growth extra-regional economies as Botswana, China or India¹⁸ is certainly a possibility for all ECOWAS members but the experience of such states demonstrates how long it takes to transcend poverty when starting from such a low base. ECOWAS' poorest four states will have to more than triple their current per capita income to reach the threshold for lower middle income status and another four must more than double theirs. With an average per capita annual growth rate of 5% – equivalent to 7% overall, minus West Africa's high population growth rate – it takes almost 15 years for a country to double its per capita income and 23 years to triple it. With a per capita annual growth rate of 3% – comparable to the average rates achieved by the region's best performers (Nigeria, Cape Verde and Ghana) over the current decade of strong growth – it will take 24 years, a full generation, to double per capita income and some 38 years to triple it. To match the rate of growth experienced in East Asia over the past three decades will require sustained annual per capita economic expansion of almost 7%.

Following growth predictions in the opposite direction, there is unfortunately no safe downward projection of how far living standards could fall if the sub-region is

confronted by a cataclysmic crisis such as widespread war or collapse of state structures in major populated areas. The experience of Liberia between 1980 and the 1990s illustrates how a mutually reinforcing combination of appalling governance, corruption, falling commodity prices and eventual civil war reduced one of the sub-region's fastest growing and diversified economies to the world's poorest.¹⁹ Similarly, the experience of Nigeria in the 1970s and 1980s shows the likely error of projecting future growth based upon performance in a short-run commodities boom.

The economic and developmental context of ECOWAS in the 2020s is thus likely to be one of poverty, if not the extreme poverty of the turn of the millennium, and ongoing acute social development challenges. This poverty will condition the full range of drivers of crisis in the region as well as placing severe constraints on the resources available to mitigate them. For this reason, at the regional level poverty has been considered a constant in the analysis and, unlike in some global horizon-scanning analyses such as the UK's DCDC Strategic Trends, global or regional inequality has not been factored in as a cross-cutting issue.

Figure 5: Official Development Assistance to ECOWAS member states



Aid dependence and the rise of non-Western economic powers

However West Africa's economy performs in the long term, economic development trends outside the region will also have a considerable impact on the sub-regional risk environment through changes in the geostrategic and economic balances of power. While by no means guaranteed, it is highly likely that the largest 'non-Western' economies will continue to catch up with the OECD economic powers and overtake them in total output if not per capita income terms. In the case of India and China, sheer weight of population almost assures that they will be major global economic actors in the 2020s and China could even overtake the US as the leading global economy by 2030. Other high population middle income countries like Russia, Brazil, Mexico and perhaps Indonesia, Turkey, Iran and Argentina are likely to be major economic players in the 2020s, rivalling the European and Asian powers for interests in Africa. Nearer to home, hitherto unrealised progress in Maghreb or Gulf Arabian unity could engender new economic and diplomatic powers with strong interests in West Africa.

The reason this rise of the 'developing' powers will most certainly impact upon West Africa is the sub-region's dependence on development and humanitarian aid, something that for reasons explained above is unlikely to change very significantly over the next two decades. Excluding Nigeria, which historically has very low aid dependence, the region's median share of national income received from official development assistance (ODA) is about 15%, globally second only to the African

Great Lakes region. In several states, ODA provides the majority of public sector revenues. As during the Cold War, a greater number and diversity of major donors and donor interests is likely to lead to changes to the politicisation of aid provisions and perhaps greater rivalry between donors in their search for regional influence.

There may also be significant changes to the structuring of the Bretton Woods institutions, altering their mandate and permitting new economic powers like China a far greater say in allocation of funds and priorities. The alternative would be for China to use its vast reserves of hard currency as an alternative monetary fund. Such changes will provide both opportunities and obstacles for ECOWAS in its quest for external support for its development and humanitarian agenda. Past experience of multilateral competition suggests that under such circumstances a few states may benefit at the expense of the many and of regional integration and stability in general.

4. Political Change and the International System

The rise of the 'developing powers' to rival the influence of the Western or ex-colonial powers will be but one component of changes in the international system that will impact upon crisis manifestation, preparedness and response in the ECOWAS region in the 2020s. At least as important may be the way that regional integration affects the nature of the state as it has been understood

in the 50 years since independence. On one level, ECOWAS aims to be an overtly supranational institution that, like the European Union, takes on many of the traditional functions of its relatively weak component states. On another level, the African Union also aspires to ever greater continental integration, eventually taking on some of the roles that ECOWAS has begun to assume, including a common currency, integrated economic space, democratic political institutions and perhaps a unified military.

Progress in these regards is by no means assured, even by the 2020s. ECOWAS' efforts at integration were continually undone in its first quarter century by state and bloc rivalries and the distractions of sub-regional crisis management. The AU has made rapid progress in its transition from the OAU in the last decade but is beset by strategic differences, replicated between ECOWAS member states, over the pace at which integration should happen. However, the fact that integration is underway regionally and continentally does introduce new tensions, challenges and opportunities into West Africa's political environment. Either these projects will succeed and new forms of co-dependence and cooperation will evolve to track, manage and mitigate crises or tensions between elites at the international, state and sub-state levels or they will risk a radical reaction against integration that actually engenders conflict and crisis. As witnessed in Yugoslavia and the former Soviet Union, confederations have enormous potential for destructive as well as constructive outcomes.

At the global level, the international system of the 2020s should not be taken for granted. ECOWAS' own integration agenda will inevitably be pursued in a context of structural change at the global level that will feed back to challenge its environment and assumptions. The international order of the post-1945 world was built upon the liberal assumptions of the great powers that emerged victorious from the Second World War, modified by the apparent triumph of liberal capitalism in the Cold War and sustained by the hegemonic economic influence and commitment of the US. In the face of the rise of non-Western economic powers, nuclear proliferation among non-Security Council members, demographic shifts from the old North to the young South, environmental threats to unrestrained industrialisation and consumerism, crisis of the global financial system, deadlock of the World Trade negotiations, and perhaps the overextension of liberal interventionism,²⁰ the sustainability of the UN-regulated system should be questioned in the long term.

A reaction against this order could see the reform of international institutions more favourable to developing world and African interests but it could also precipitate a rapid collapse of the existing regulatory order. Effects could range from the precipitate withdrawal of peacekeeping forces, through the collapse of aid and

trade arrangements to the redrawing of international boundaries and the return of significant inter-state conflict, including the use of weapons of mass destruction. It is thus likely to have major humanitarian implications, not least because organisations like the World Food Programme, Office of the High Commissioner for Refugees, and International Strategy for Disaster Reduction are integral to UN organisation and funding structures. Moreover, the evolved UN concept of peace support operations inherently trains and provides military forces as humanitarian actors.

5. Technological change

Finally, a word about technological change. Globalisation and West Africa's technological integration with the world will be a crucial determinant of crisis in the longer-term, contributing new opportunities as well as potential threats as the region develops polluting industries, becomes more reliant on extra-regional electronic information and control systems and more vulnerable to the contagion of pandemic disease or economic collapse. These are difficult to predict developments that may mark radical shifts away from anything experienced in the past. As with climate change, the issue is to recognise not so much what will happen but that the uncertainty and rapidity of change that an increasingly globalised and technologically complex world brings will have profound consequences for the way humanitarian crises emerge, evolve and inter-relate.

It needs to be stressed that technological development remains the best answer to the spectrum of potential crises that the world faces. This is true in terms of monitoring and predicting crisis drivers as well as responding to them. This report will offer some speculative scenarios of how technological change may drive or restrain crises. The emphasis is on the need for ECOWAS to engage with scientists within and without the sub-region to keep itself informed of technological threats and opportunities.²¹ These may be technologies that are already recognised but are currently deemed too expensive to harness or respond to, existing innovations whose humanitarian application or threat has not yet been recognised, or over-the-horizon technological issues that may be prepared for even before their impact is felt.

PART 2: Future Dimensions of Human Security in West Africa

Seven Dimensions of Future Crisis

In the following sections, seven dimensions of crisis are proposed, corresponding in slightly modified form to the seven categories of human security identified by the 1994 World Development Report: political security; community security; personal security; environmental security; food security; economic security; and health security. 26 individual crisis drivers are identified within these seven dimensions.

While the first three dimensions may appear to have greater linkages to violent conflict and the latter four to

humanitarian disasters, the intention here is explicitly to highlight the inter-relationships between dimensions and drivers of crisis as well as the five ‘meta-drivers’ of crisis identified in Part 1. The latter are here employed as cross-cutting variables to speculate upon the impact of change on each dimension and driver. Sections 5 and 6 then discuss briefly the way that drivers inter-relate and produce cascading risks, including violent conflict, and what the potential shock events or triggers might be to precipitate crisis.

DIMENSION 1 - POLITICAL SECURITY: GOVERNANCE, HUMAN RIGHTS AND THE STATE

Political security is the ability of an individual to live in a society that respects his or her basic human rights and liberties, including the right to participate in governance through democratic elections. As a driver of crisis, political insecurity is defined by the denial or abuse of individual political rights, including through authoritarian and non-participatory governance.

The entirety of the sub-region is potentially affected by political insecurity at multiple levels: sub-state, state and intergovernmental. ECOWAS, as an aspiring supranational institution, is inherently vulnerable to political crisis at the intermediary level between the state and the international. As the only federal state within ECOWAS, Nigeria has a greater potential for political insecurity at the sub-state level, though there is potential for such instability in all member-states, as discussed further under **Dimension 2: Community Security**.

I. Overview and context

Governance may be thought of as a meta-driver of crisis, especially armed conflict, within West Africa. It reaches to the fundamental level of control of the state and its resources, including supposed monopolies on revenue collection and application of violence. Conflict is fundamental to politics within all societies but the failure to manage this conflict effectively through institutions and codes of conduct risks the failure of the state itself. As such, the threat of political insecurity is not only of deterioration into armed conflict but degradation of the

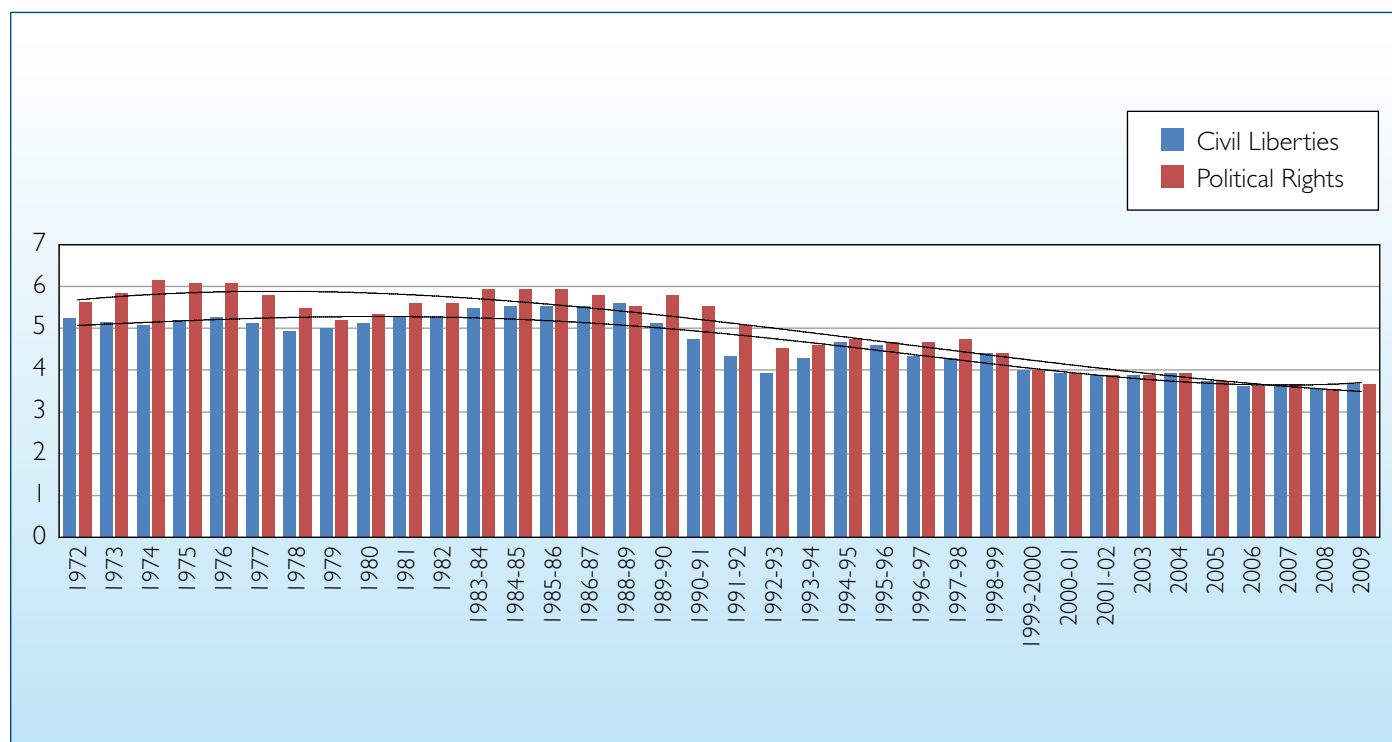
entire context in which the state responds to or manages all other types of crisis.

However, unlike climate, demography or economy, there is little data that can be used to project West Africa’s governance situation into the future. Metrics for measuring quality of governance are notoriously subjective, while the desirability of democracy or even some ‘universal’ human rights remains contested. Certainly there has been progress on democratisation of constitutions and official governance structures. All ECOWAS member states except Senegal made a formal transition from single-party to multiparty rule and held competitive elections during the 1990s.²²

Incumbency remains a powerful advantage but the issue of ‘presidency for life’ has been tackled in the great majority of member states. As figure 2 shows, the tenure of West African heads of state, once assumed to be for life, fell from over 13 to 7.5 years between 1990 and 1994 and has remained broadly at this level for 15 years as most states have imposed and respected two-term limits on executive power. Significantly, victories of opposition presidential candidates against incumbents or candidates of the incumbent party, once almost unknown in West Africa, have occurred in several states, including twice in Ghana and three times in Benin.

Progress against military intervention in politics is more mixed. ECOWAS has taken a strong policy line against extra-constitutional changes of executive, including against Guinea-Bissau and Guinea, and it is no longer

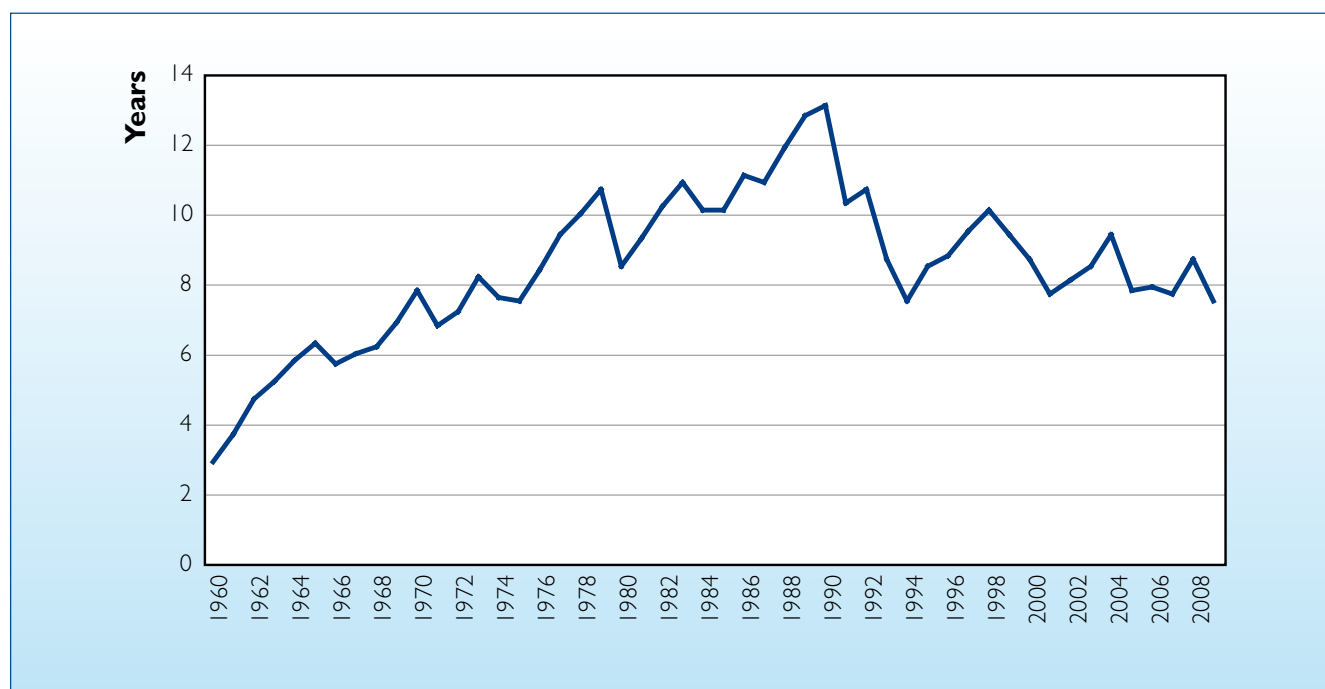
Figure 6: Freedom House ratings of Rights and Liberties, ECOWAS-15 mean scores, 1972-2009



Note: Countries are scored out of seven with higher scores representing less respected rights and liberties.

Source: Freedom House, Freedom in the World data. Accessed online at <http://www.freedomhouse.org/template.cfm?page=439> on 6 February 2009.

Figure 7: Average tenure per serving head of state, ECOWAS-15

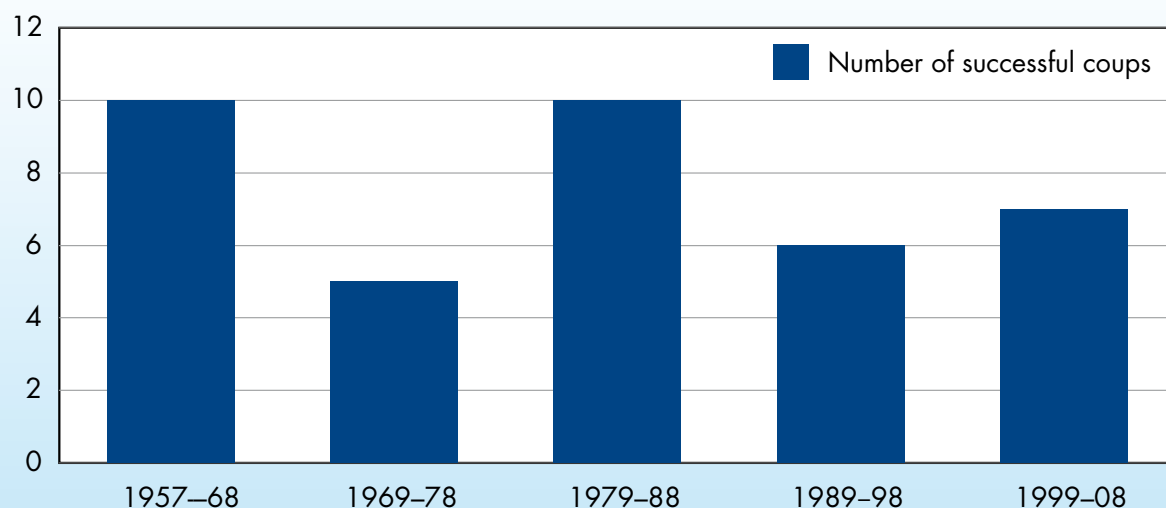


acceptable for overtly military leaders to institutionalise their power. However, as figure 2 demonstrates, the actual prevalence of coups d'état within the region shows only the slightest downward trend over the long term.

Whether or not these slight improvements in indices related to democratic observance have resulted in better governance or respect of human rights, it is unclear that democratic institutions have correlated with improvements in political security. Tensions

unleashed in the first decade of political liberalisation have contributed to armed conflicts and mass displacements in many member states. Elections in several countries have not been credibly democratic and rates of democratic participation have faltered or fallen since the 1990s as many potential voters have grown disillusioned with the limited economic and social gains that the democratic era has brought.

Figure 8: Incidence of successful coups d'état by decade, ECOWAS-15



2. Future drivers of crisis

In the long term there are no areas of the world which are immune from deficiencies in governance precipitating crisis or conflict. While the risk appears to be more acute in countries of recent or prolonged armed conflict such as Liberia, Sierra Leone, Guinea-Bissau or Côte d'Ivoire, in a 20 year timeframe there is no country that can expect to avoid crises of governance. Experience from the UK (Northern Ireland) to Somalia demonstrates how political crises can escalate into widespread violence despite extraordinarily different historical or socioeconomic context.

Drivers of change that are likely to generate political crises with destructive humanitarian consequences in West Africa in the next two decades include the following:

1. Anti-constitutional political change

This includes military interventions in politics (coups d'état) but is not limited to interventions by actors constitutionally outside of politics. It may also include manipulation of institutions against the letter or spirit of the constitution by elected officials. This could mean an executive president dissolving a sitting legislature or suspending a supreme judicial body or it could mean a legislature attempting to unseat an executive president. It also means the manipulation of electoral procedures and results, perhaps the most persistent precipitant of violent political conflict within the region. Beyond the potential to generate violent responses, such abuses of democratic politics, at least in theory, undermine the accountability of the state to the people and thus its incentive to meet the humanitarian challenges faced by the population.

2. Systematic abuse of citizen rights and liberties

This includes both active persecution of particular groups and their exclusion from the ordinary benefits of citizenship, including democratic participation, employment and receipt of social goods like education and healthcare. In some cases it may be perceptual or unintended, where the state lacks capacity to serve its citizens in certain regions; in others it may result from deliberate exclusionary policies. Equally, at a local level, there is often a problematic reliance on traditional authorities to act as the state and ensure the rule of law, particularly concerning local justice and entitlements.

3. Corruption

This is a particular form of exclusion in which the supposed servants of the state, whether elected, recruited or self-appointed, unfairly accumulate public resources to themselves instead of distributing them to the citizenry. Equally, when there is a level of distribution to the citizenry, it is often done on the basis of political needs, not for reasons of government policy or development programmes. Ubiquitous patron-client relationships, based on the exchange of state goods for political support, are grossly unfair and dependent upon key personalities for their sustainability even if they create a semblance of political stability in the short term. Corruption in all its forms is closely connected to disputes over control of natural resources and the financial resources they generate. Whether or not it provokes a violent protest response, corruption will certainly undermine the resource capacity of the state to mitigate and respond to threats to its citizens' human security as well as damaging the region's overall developmental environment.

3. Cross-cutting issues

3.1 Demographic change, urbanisation and migration

Demographic growth will have a less direct impact on political resources than on many other types of human security but its impact is likely to be equally profound. On the one hand, population growth is an asset, increasing the potential for economic and revenue expansion and increasing economies of scale as the state seeks to serve previously isolated regions and communities. On the other, the state will continue to be faced with a rapidly expanding market for its services, exacerbated by the disproportionately young nature of the population and its demands for healthcare and education.

Urbanisation will manifest a fundamental political change in most West African states in the next two decades as the majority of the population for the first time resides in urban areas. This will lead to new types of mobilisation strategy by politicians and may lead to increasing ignorance in political life of the rural constituency, including large peripheral regions. The cultivation of unemployed urban youth and student groups by political factions has already been seen in several countries and is likely to become more prevalent and potentially violent as urban areas become the primary zones of political contestation. While this development may tend to exacerbate existing communal divisions, the longer term process of urbanisation and social mixing may conversely lead to a lessening of such 'tribal' politics over time.

Migration beyond member states will also have a profound impact, especially if ECOWAS citizens are to be given the right to participate in national elections wherever they reside. Such 'internal ex-patriates' would form a very important constituency in such countries as Côte d'Ivoire and The Gambia, increasing the potential for exclusionary or xenophobic political reaction. On the extra-regional level, the diaspora may be expected to play an ever greater role in financing, participating in and holding to account national political life. Notoriously dependent on donor funding, West African civil society groups will bolster their legitimacy and impact as such African sources of revenue become more available. This may be a double-edged sword, as a disproportionately strong civil society in a context of continued weak state capacity could actually undermine governance.

3.2 Climatic and environmental change

The links between climate change and future political security are uncertain. Climate induced environmental change is likely to create sizeable new political constituencies, including the displaced, that spur politicians to take responsible decisions on pre-emptive adaptation and preparedness. However, the discourse of climate change also provides the opportunity for

politicians to disguise the negative consequences of their own actions, or more often inactions, behind a veil of incapacity in the face of global forces. It is therefore all the more important for a scientific disaggregation of the local and global causes of environmental change.

4. Global Change

4.1 Political change

Governance and human rights in West Africa have been fundamentally affected by external political drivers in the past – undermined by Cold War patronage in the 1960s-80s, pressured towards 'good governance' in the 1990s – and such influences may continue to have great impact into the future. This is a question not just of external pressure to maintain liberal democratic institutions but of provision of the aid that many states depend on for their very survival.

Shifts in the global balance of economic influence towards the 'developing powers' will impact on the regime of political conditionality that has governed the provision of aid and loans to African governments since the 1980s. In a more multipolar world, there is likely to be more competition among donors for influence in West Africa and thus a lessening in political conditions imposed by external partners. As in the Cold War, proxy political leaders may be cultivated among a corrupt elite to avoid the vagaries of more transparent or competitive political cultures. There may be more external assistance available but less concern that it is spent effectively.

Two further external political factors could increase the propensity towards military interventions in politics and the securitisation of the state, with potentially negative consequences for governance and rights. One would be the context of a major international conflict, hot, cold or asymmetric, as witnessed in several military interventions during the early years of the current 'war on terrorism'.²⁴ Another would be the demise of the regime of sovereign non-intervention that the UN has largely upheld since before independence.²⁵ Fears of invasion by or conflict with states outside the region, absent from most states since at least the 1970s, would tend to increase the political importance of the military and divert resources away from social and humanitarian projects. The return of the military to political rule in Nigeria or several other major regional states could set a precedent that would be very difficult for the rest of ECOWAS to oppose.

4.2 Economic change

Global economic change will have consequences for the quality of governance in West Africa for two additional reasons. First, crisis in the international economy will periodically damage most states' revenues and thus their capacity to deliver the services that citizens demand of them. Vulnerability to such global economic shocks will be acute as long as most governments remain dependent

on foreign aid, diaspora remittances and/or export prices of a few key commodities.

Second, the meteoric rise of non-democratic economic superpower China and other illiberal polities in Asia and the Middle East will have a demonstration effect that undermines the supposed correlation between economic and political liberalism. Thus, donors or the multilateral institutions, in which China, Russia and others may increase their influence, may no longer be willing or able to insist on 'democratic' governance reforms for the allocation of aid.

However, such changes may not drive crisis by themselves. There is no reason to believe that China or other non-Western states are not interested in enforcing anti-corruption provisions around the spending of aid money they supply. Moreover, a government that is able to deliver high levels of growth, employment and poverty reduction is likely to be popular regardless of its constitutional origins. This has been demonstrated not only by the disillusionment of many West Africans in the poor economic returns of democracy, but also in the generally positive popular reception of coup leaders in Guinea and Mauritania in 2008.

4.3 Technological change

The technological change that has and will continue to revolutionise governance in West Africa is information communications technology that allows citizens to keep better track of the situation within their own countries and compare them across the region and internationally. Cellular telephones are already ubiquitous in all countries, including as tools for political and civil society mobilisation, and the next decade will likely see West Africa catch up with internet usage levels as fibre optics, wireless connections and lower cost computers become widely available. The information and communication revolutions should make it far more difficult for a government to disguise election rigging or human rights abuses and increase pressure for greater accountability of public spending.

Conversely, in a context of considerable poverty, many states will find it harder and harder to keep up with the cost of technologies demanded by their citizens. An educated and informed population may also be more dissatisfied and more easily mobilised against institutions.

5. Cascading risks and links to conflict

Whereas West Africa was distinguished by its peace during the 1970s and 1980s, decades of largely totalitarian rule, the absolute majority of member states witnessed highly destructive violent political conflicts in the decade to 2001.²⁶ It is difficult to simplify the causality of these conflicts but a legacy of bad governance, exclusion, persecution or neglect

was certainly contributory to each. Likewise, it is difficult in the region to prove a causal link between democratisation and the prevention of armed conflict. However, Ghana and Mali provide some insight into how a democratic government may manage conflict situation with relative success and, if one looks beyond elections to basic quality of the rule of law, there is a clearer correlation between peace and good governance.

The challenge of corruption is particularly wide-ranging in that it erodes the capacity of state political and social institutions to respond to humanitarian threats. At its extreme, this means the effective abandonment of entire regions to fend for themselves without state provision of health, education, water, energy, security or political representation. The logical conclusion is failure of the state, exacerbated by violent rebellion, as witnessed in the Mano River Union in the 1990s. Military mutiny or coup as a result of the state being too weak to pay salaries to its security forces has been a repetitive trend in West African politics and represents a feedback loop by which the degeneration of state stability and capacity is amplified.

6. Potential shocks

- Global war
- Collapse of the UN system
- Return to military rule in Nigeria or several large ECOWAS states simultaneously

7. Questions for ECOWAS

- What do you see as the principal gaps or deficiencies in ECOWAS' existing policy on political security?
- Which commissions, departments, units and agencies within ECOWAS need to collaborate to implement policies to mitigate political insecurity?
- Who should be ECOWAS' primary external partners to implement policies to mitigate political insecurity?

SCENARIO 1: RETURN OF THE MILITARY

This scenario envisages a future West Africa in which the parameters of governance have altered radically away from the post-Cold War consensus on democracy and individual rights back to authoritarianism, statism and military rule. It speculates on how the overt demise of 'good governance' in a large number of ECOWAS member states might put pressure on institutions and reactivate tensions between states.

Coup-making was a problem that never went away from West Africa, though during the 2010s – when the incidence of successful military interventions fell to just four over the decade – there was hope that ECOWAS' zero tolerance policy had succeeded. This was all very well while regional economic growth approached double figures but the collapse in value of the euro, and with it the CFA franc, in the global slump of 2021 was a shock to which much of the sub-region succumbed just as it was preparing a smooth transition to the single currency zone.

The shock was naturally felt worst in the UEMOA states, where imports of rice, fuel and many consumer goods from Asia doubled in price overnight, sending citizens out onto the streets in protest against their governments and their failure to sever ties to Europe earlier. Dakar felt the protests most acutely due to its extreme concentration of population in the Cap-Vert conurbation, the dependence of the population on imported rice and diesel-fired electricity, and the high concentration of French commercial and military interests. At first the army reinforced police and gendarmes in blocking movement of protesters from suburbs along the peninsula to the city centre. After French troops fired on protesters outside their facilities, their morale crumbled and the Senegalese high command opted to depose the president, impose martial law and expel the French troops.

As the only member-state of mainland ECOWAS never to have experienced a military intervention previously, the coup in Senegal was a huge shock for the sub-region and had a rapid demonstration effect. After the military intervened in Côte d'Ivoire two weeks later, five more states experiencing the shock devaluation succumbed in rapid succession. By end of year, ECOWAS was almost equally divided between states under civilian and military rule. Unlike in most of the military interventions since the 1990s, these military regimes refused to hand over power to civilian transitional teams or to set dates for new elections. While the EU made its usual pledges to cut development assistance, this was seen as an empty threat given the economic crisis within Europe and the availability of superior aid and private investment from Asia and Latin America.

For ECOWAS the choice was more dangerous. Faced with the challenge of so many member states suffering unconstitutional changes of government, the Community was forced to suspend its Protocol on Democracy and Good Governance to avoid suspending the majority of its member states. For the first time in two decades, uniformed officers began to reappear at ECOWAS summits and offer their alternative views on Community priorities.

Within the member states, the onset of military rule offered few easy options beyond the pursuit of short-term populist policies. In most cases these succeeded in shoring up immediate support for the colonels but created problems in the longer term when the old concerns about corruption and violence began to re-emerge. Whereas 20th century military regimes had been able to control their own context by restricting media coverage, civil society organisation and physical movement, this was no longer possible. National political and single issue protest groups organised themselves in the diaspora, harnessing its money and ubiquitous international media and communications. The

military found that the youths and activists they feared were already living inside the capital and major towns, where it was all but impossible to restrict their movement and organisation, especially as the security forces had not kept pace with population growth. The only way they were able to suppress them was with heavy violence, which only seemed to generate greater violence after a pause.

Unable to suppress effectively a rise in urban protests demanding economic reforms and action against corruption, the junta in Senegal responded with nationalism, arguing that economic problems were the result of the presence of so many migrants from across the sub-region taking Senegalese jobs. The head of state argued that the suspension of the Protocol on Democracy had set a precedent for the region in a time of emergency and that it was entitled to suspend free movement of peoples. Hundreds of thousands of resident 'foreigners' began to be rounded up and deported across Senegal's frontiers.

In Mali, where the greatest number of migrants was dumped, the government responded by suspending its cooperation in the Senegal River Development Organisation, refusing to transmit any more power from the Manantali dam to its neighbour. In Gambia, the arrival en masse of the deportees was occasioned by widespread acts of retaliatory violence against the large Senegalese resident population, tens of thousands of whom fled out of the country. Banjul argued that Senegal's suspension of the right of free movement entitled it to close the new bridge across the River Gambia that Senegal relied on for connections with Casamance. Both situations prompted Dakar to mobilise its troops on the borders, exacerbating the problem of riot control in coastal cities, where electricity cuts and trade blockages were exacerbating discontents.

DIMENSION 2 - COMMUNITY SECURITY: BORDERS, IDENTITY AND AUTHORITY

Community security is the ability of communal groups to enjoy their culture and traditions free from persecution by the state or other groups, including freedom from inter-ethnic or inter-religious violence. ECOWAS, as a diverse region of three major religious traditions, several hundred ethno-linguistic groups and thousands of non-state traditional political entities has a major stake in maintaining community security and resisting the formation of radicalised communal interests.

1. Overview and context

West Africa is one of the most culturally diverse regions of the world. Of ECOWAS' 15 member-states, only Creole Cape Verde stands apart by having a relatively homogeneous population that might fit the nation-state model exported from Europe in the 20th century. All inter-state and many intra-state boundaries remain those drawn by European colonisers at or before independence. Overlaying these and the political institutions built around them is a myriad of communal groups identifying themselves at the local and transnational levels, often in competition with each other as well as the state.

Efforts at strengthening national and sub-regional identities over several decades have not failed but neither have they replaced older identities nor prevented the emergence of multiple alternative identities. In some cases the development of concepts of national identity has produced new tensions around which groups are labelled native or foreign to the land they occupy.²⁷ This is particularly the case where regional migration has

led to the settlement of large numbers of people with origins in neighbouring countries. Free movement of peoples within ECOWAS is a legal reality but it has not always guaranteed the regional migrant safety at the border or on the land they dwell upon.

Thanks to UN and OAU conventions and the work of ECOWAS mediators, international frontiers have remained by and large uncontested within the region and at its extremities but often this has not been the case internally, where state and traditional political boundaries are frequently in opposition. This may be exacerbated by exclusionary governance (see Dimension 1), conflicts over control of resources (see Dimensions 2 and 6), economic crisis (see Dimension 6) as well as the mass movement of displaced persons.

2. Future drivers of crisis

As ECOWAS moves towards becoming a better integrated community of peoples, the complexity of population structures and identities is only likely to intensify and will have to be managed very carefully to avoid conflicts. No mainland state has completely avoided outbreaks of inter-communal violence in the last two decades and even culturally homogenous Cape Verde is likely to face tensions in future as its relative economic success makes it the focus of increased in-migration from mainland ECOWAS.

Drivers of change that are likely to generate inter-communal crises with destructive humanitarian consequences in West Africa in the next two decades include the following:

Table 7: Population of Resident Foreigners as % of Total Population, 2005

	Resident Foreigners (Total) as % of Total Population	Resident Foreigners (ECOWAS) as % of Total Population	Resident Foreigners (non-ECOWAS) as % of Total Population
Côte d'Ivoire	25.8	24.5	1.3
Liberia	17.0	4.4	12.6
Gambia	8.4	7.8	0.6
Ghana	4.1	2.4	1.7
Guinea	3.3	3.2	0.1
Benin	2.1	2.0	0.1
Niger	1.8	1.2	0.6
Nigeria	0.5	0.5	<0.1

Source: ECOWAS Social and Economic Indicators, 2006 (figures for 2005)

Notes: Figures for non-ECOWAS resident foreigners appear to include official refugees from ECOWAS states (e.g. Liberia and Ghana).

Figures for Burkina Faso, Cape Verde, Guinea-Bissau, Mali, Senegal, Sierra Leone and Togo not available.

1. Inter-state boundaries

There have been few incidences of inter-state conflict over boundaries within ECOWAS²⁸ but there remains significant potential for this as pressure increases upon land and water resources and new mineral resources are discovered beneath the soil and sea. Most boundaries are not fully demarcated, including at sea, where exploration for oil and gas reserves is concentrated. ECOWAS and member states have a good record of resolving boundary disputes, including those where civilian groups have come into conflict, through consensual mechanisms that avoid conflict.²⁹

2. Intra-state borders

Disputes over boundaries within states have been relatively common, both in terms of sub-state units control of its natural resources and the ethnic or religious balance within a region. This has been most acute in Nigeria, where the complex federal and local government divisions replicate boundary disputes at multiple levels. However, such disputes will tend to generate violence only when they involve other questions such as chieftaincy or indigeneity.

3. Chieftaincy and authority

This includes disputes over control of land and natural resources as well as replicating many of the political security issues discussed at the state level in Dimension 1. Since traditional leaders exercise often considerable local judicial powers in many states, there are issues of rights and justice involved, particularly regarding the key concerns of land, local citizenship and marriage. Succession issues may also generate localised conflict as factions contest for influence. Decades of state reform has not significantly weakened the power or authority of chiefs in West Africa and there is little reason to believe that structural change in the next 20 years will diminish their influence as political and economic brokers. At the same time, if, through the processes of shifting populations or changes in family structures or the encroachment of other sorts of rights, there is an undermining of chiefly authority, it could be that local organisation is damaged and state authority further diminished.

4. Indigeneity, land and resources

The intolerant discourse of indigenes against foreigners has been recurrent in West Africa since at least the colonial period and is likely to escalate as pressures from demographic growth and migration intensify. Intrinsically linked to boundaries and often to chieftaincy disputes over land, the persecution of non-indigenous groups will manifest itself within the same country and across inter-state boundaries, in rural areas as well as in cities. Areas with high concentrations of productive natural resources, whether mineral, agricultural or

even touristic, will be particularly vulnerable where those resources attract potential workers from other regions and states and the local area is perceived to benefit little.

5. Radical identity formation

Conflict between insider and outsider groups occupying the same territory is one way in which radical communal identities are fostered and reinforced, as seen in northern Mali, Côte d'Ivoire and Nigeria in the last two decades. Once formed, such opposing identities can be extremely difficult to dismantle and can bring into question the legitimacy and viability of the state they share. At a different level, more radical and mutually hostile expressions of the major religions may develop in West Africa as there is already a tendency towards more fundamentalist versions of Islam and Christianity, especially but not only within Nigeria. Rather than emulating extra-regional trends associated with the 'war on terrorism', West African religious radicalism has exhibited distinctly local characteristics, including within the same religious tradition. While most groups eschew violence, religion has become increasingly politicised with the aim of capturing state institutions and policy. In the future, this is likely to have a more polarising effect on political contestation, supplementing or even replacing ethnicity as a means of political mobilisation. In the urban context, such patronage and youth mobilisation has often meant stimulating inter-communal violence. Terrorism, whether political, religious or ethnic in motivation, is certainly a possibility for the future, though West Africa has no real tradition of such activity.

3. Cross-cutting issues

3.1 Demographic change, urbanisation and migration

Demographic change will have enormous impact upon community security in West Africa in the next two decades through the twin motors of migration (national and regional) and increased pressure on land (rural and urban). Rural population density is projected to increase by a further 40% across the region by 2030, and by significantly more in the poorest, most agriculturally dependent states. Urban population density is likely to increase at double this rate, including migration from rural areas to cities. Expansion of population relative to cultivable land, pasture or water resources is likely to increase tensions between neighbouring groups in many over-populated rural areas. Land, not thus far seen as an especially urgent issue, is rapidly becoming a key problem, particularly given the poor condition of records, the ambiguity in demarcations and the tensions in the dual system of private and communally owned land. In some urban areas, common experience will tend to reduce cultural differences between migrant groups;

in others, patronage political and economic systems are likely to seek to mobilise new migrants along ethnic lines, increasing communal tensions.

Migration between ECOWAS member states also has a high potential to generate conflict within the context of intense competition for resources, not least employment and housing, and the logic of indigeneity. Given the pressures upon agricultural land and the relative depression of agricultural commodity prices, this kind of migration has been a declining issue in rural areas since at least the 1980s. However, if external powers should target West Africa as an offshore centre of bulk food production, as has begun to happen in East Africa, recruitment and migration of outsiders into the sub-region's rural areas could again become a reality (see Dimension 5, Food Security). Therefore, both urban and rural areas may become increasingly vulnerable to disputes between local and foreign groups and the attendant rise of exclusive and radical identities.

3.2 Climatic and environmental change

The impact of climate change on community security will depend on the uncertain variable of population displacement attributable to climate-induced environmental change. Human activity and settlement is acutely vulnerable to changes in climate and even a small change in temperature or rainfall may have far-reaching human consequences. By the 2020s it is by no means sure that mass displacement will have resulted from catastrophic change like desertification or sea level rise but it is possible that warming, flooding events and unreliable rainfall will have further damaged agricultural potential and contributed to rural-urban migration, including across state frontiers. Coupled with demographic growth, environmental pressures in the Southern Sahel are likely to push pastoralist groups further southward across borders in search of better pasture. This is likely to bring them into conflict with other herders or settled agriculturalists. Similar processes have already been seen across the belt from central Nigeria to southern Mali and, in the context of major cyclical drought, were major determinants of the 1990s conflicts in northern Mali and Niger as Tuareg herders were displaced from the most marginal desert pastures.

4. Global Change

4.1 Political change

The global regime of international law and respect for human rights has been a significant restraining force against community insecurity since the 1940s and perhaps especially since the Rwandan genocide of 1994. UN peacekeepers deployed in Côte d'Ivoire, for example, have the prevention of inter-communal violence as a key part of their mandate. However, were the international consensus around protection of minority rights wane or collapse, ECOWAS' commitment would still be entrenched both morally and legally via

the African Charter on Human and People's Rights. While rising powers like China may have a weak commitment to protecting minority rights against the state, they take a very clear position against secessionism and international boundary change that would tend to act as a restrainer. While secessionism has not historically been a major problem for West African states, outside of the Biafran War and the Casamance region of Senegal, there is tension in the post-World War II idea of self-determination and further attempts at secession are not out of the question.

4.2 Economic change

Community insecurity appears to be correlated to economic insecurity (see Dimension 6), especially in rural areas dependent on international commodity prices. Major shifts in the value of export crops such as cotton, cocoa or coffee would tend to increase inter-communal tensions in producing regions, either as higher prices attract migrants into productive regions or as lower prices increase tensions between existing communities working the same land. Similarly, areas in which mineral resources are located will see increases in tensions between communal groups or between those groups and the state government when those resources increase in value internationally.

4.3 Technological change

Tensions around pressure upon land are to a significant extent related to West Africa's technological backwardness. Agriculture is largely devoid of technological inputs and therefore relatively unproductive. The potential for productive land use would increase massively if farmers had access to greater capital, infrastructure, mechanisation, irrigation and improved crop types. Access to these inputs, already widely available outside the region, would tend to make agriculture more efficient and lessen competition for land and water resources. However, an African agricultural revolution from labour to capital intensive production would produce significant social upheaval and could worsen the lot of ordinary farm workers.

5. Cascading risks and links to conflict

Community security is very closely linked to inter-communal violence, though this is by no means the only or most likely outcome of conflict between different communities occupying the same space. Inter-communal violence within West Africa has certainly been widespread and recurrent but, given the extreme diversity of the sub-region and competition for resources, it has been notable by its relatively low incidence. Côte d'Ivoire's civil war and associated local conflict is perhaps the major recent exception. Outside of Nigeria, violent sectarian confrontations are virtually unknown. There has been a very low incidence of trans-border conflicts given the complex and contested nature of the many post-colonial borders.

SCENARIO 2: AN ECOWAS OF PEOPLES

This scenario speculates upon the impact on identity and authority within West Africa of institutional change at the internal and external levels. Taking Niger as a speculative case study, it looks at the pressures that the unequal economic development of state and sub-region might exact upon national unity, especially at the boundaries of ECOWAS.

The fortieth anniversary of ECOWAS' founding was celebrated in 2015 with a new Charter of Rights for the Community, extending the right to full education, governance and justice in national languages and the creation of an ECOWAS Parliament second chamber explicitly representing ethnic groups. African Union plans for continental unity had not recovered from the ideological confrontations of the early 2010s and the schismatic pressures exerted on North Africa by the pursuit of the EU's Mediterranean Union project. ECOWAS looked forward to the day that other regional economic communities would be sufficiently integrated and committed to realising the continental dream. In the meantime it had not wasted time in deepening its integration and unity. By 2020 it already enjoyed a common market, customs union, integrated energy market and free movement of peoples.

However, these gains were not shared equally between regions, countries and peoples within West Africa. The heady economic growth that followed the prolonged global financial readjustment and commodity slump of 2008-12, when ECOWAS was isolated from its old patronage and trade networks and driven to develop its internal market, had disproportionately benefited the old core of 'coast and cocoa' cities between Côte d'Ivoire and Nigeria, where trade, services and manufacturing all flourished, interconnected by new road and rail links, the West African Gas Pipeline and Power Pool. At last, West African resources were being redirected to the development of the sub-region.

From the interior and the borders of ECOWAS, things looked different.

Long accustomed to marginality, the Saharan regions of Niger and Mali had become suddenly central to the world economy in 2020, when the Third Gulf War – a transnational Sunni-Shia conflict spreading from Iraq across Arabia and Iran – closed the Persian Gulf to commercial shipping. With oil and gas prices quadrupling in Europe, the Mediterranean Union was rapidly consolidated to tie the hydrocarbon resources of the Arab-Maghreb Union into the EU market. Simultaneously, the new Euro-Mediterranean Union (EMU) pushed its plans to diversify energy sources, expanding its nuclear facilities and the development of massive solar generating plants in the Algerian Sahara. Between 2023 and 2024, Algeria's gas and Libya's oil pipelines arrived in northern Mali and northeast Niger respectively. These complemented the Trans-Sahara Highway, finally completed in 2018 to carry Nigerien uranium to Algerian reactors and ports, to link the ECOWAS Sahara decisively to the Mediterranean economy.

Few were surprised that the boom in the trans-Saharan economy was accompanied by a revival of the rebellion by indigenous Saharan peoples in Mali and Niger. More surprising was the EMU's new willingness to provide a 'peacekeeping' force using troops from the new Maghrebian member states. Citing a responsibility to protect civilians where Niger's military government and ECOWAS had failed, EMU intervention forces moved to occupy the northern parts of Niger, including the main oil and uranium production facilities and all key points on the trans-Saharan routes popular with illegal migrants. Neither Algeria, Libya nor the EMU made any claim on these territories but did argue that they would exercise de facto sovereignty until such time as Niamey respected its Saharan minorities' right to establish autonomous regions within a federal state.

This federalisation debate caught the imagination of many southern Nigeriens. Since 2015, the development of vernacular language education had reinforced economic integration to bring the 75 million-strong Hausa

community of the sub-region more closely together. The Niger elite began to educate themselves in northern Nigeria's better resourced Hausa language universities and to stay to work in its cities. Humiliated by the foreign military occupation of the north and Niamey's sudden loss of uranium and oil revenues in 2025, many Nigeriens began to question the benefits of their fragile statehood and to lobby for union with Nigeria.

Within Nigeria, this debate had highly polarising consequences. The economic boom of the previous decade had accelerated the development of the south relative to the north and acted as a pull factor for increased migration for northerners. Push factors included pressures on land, rural and urban, occasioned by the north's disproportionately high birth rate and the rapid onset of desertification during the extreme heat summers of the 2010s. Southerners complained increasingly about the presence of these incomers as well as the need to redistribute government revenues to the less productive northern states. Whereas the federal republic had long maintained a balance between its roughly equal northern and southern populations, the campaign to unify with Niger threatened to tip this equilibrium decisively towards the Muslim north.

While tit-for-tat violence and displacements had been sporadic across urban Nigeria throughout the 2010s and 2020s, the trigger for more intense violence came in the run up to the 2027 elections as Nigerian politics was again polarised between presidential candidates from north (advocating admission of Niger to the federation) and south (rejecting union and advocating a looser federation of the existing states). With southerners convinced that federal power was about to return definitively to the north, there was communal violence on an unprecedented scale in cities across the north and south, endangering not only personal and community security but also the economic progress and food surplus that the country had built over the previous quarter century.

In other violent conflicts where ethnicity or religion appears to have been a major consideration, notably in northern/central Nigeria and Togo's electoral violence, communal identity has been manipulated by politicians. This will continue to be of concern in the future, especially as the relative weight of young, urban populations increases. There is therefore a clear link between community, political and personal insecurities as drivers of future crisis. Any environment in which the state or humanitarians are not able to operate because of endemic violence is inherently a major threat to human security.

The rise of radical or neo-traditional religious identity in numerous areas of the world has been accompanied by a backlash against science and technology. This has, for example, been the case in northern Nigeria, where efforts to complete inoculation of the population against polio have been undone by campaigns labelling the vaccination campaign anti-Islamic. Thus, community insecurity has become a driver of health insecurity and a more general restrainer of scientific responses.

6. Potential shocks

- Radical shifts in key commodity prices
- Introduction or abandonment of federal systems within member states
- Discovery and exploitation of valuable mineral resources on communal lands

7. Questions for ECOWAS

- What do you see as the principal gaps or deficiencies in ECOWAS' existing policy on community security?
- Which commissions, departments, units and agencies within ECOWAS need to collaborate to implement policies to mitigate community insecurity?
- Who should be ECOWAS' primary external partners to implement policies to mitigate community insecurity?

DIMENSION 3 - PERSONAL SECURITY: VIOLENCE, CRIME AND TERROR

Personal security is the ability of individuals to live free from physical violence and crime. At its extreme it includes war, insurgency, terrorism and violence perpetrated by state security forces. This section is concerned with lower levels of violence and crime – not necessarily violent – that may eventually generate higher levels of conflict and/or humanitarian emergency. It is concerned with the future effects of violence and crime on individuals as well as on institutions that manage humanitarian crisis.

1. Overview and context

West Africa suffers from significant though hard to quantify levels of crime, including localised violent crime and transnational organised crime. Rule of law is extremely weak in most jurisdictions owing to a lack of human and financial resources. In many countries, elements of the security forces and members of the judiciary are not only incapable of tackling crime but are complicit in it. Formal agents of the state are often absent from large areas of the country, especially remote rural areas but also some informal urban areas, leaving de facto security and judicial functions to informal 'traditional' or vigilante groups.

Coupled with the presence of tens of thousands of ex-combatants, the extensive regional proliferation of small arms and light weapons resulting from the prolonged

conflicts in Liberia, Sierra Leone, Guinea-Bissau, Mali and Niger as well as proximity to insurgencies in Algeria, Chad and Central Africa and poor oversight of national stockpiles has created a volatile basis for future violent crime and potentially insurgency. Indeed, the types of armed conflict that have emerged in West Africa in the 21st century – Niger Delta, northern Niger and Mali, western Côte d'Ivoire – increasingly combine insurgency with organised criminal activity. The consequence is not only major threat to the life and property of the populations in zones of conflict or violent crime but also the inability of humanitarian actors to operate in these zones. For example, most humanitarian actors have been unable to operate north of Agadez in Niger's conflict zone and thus have been unable to address issues of food security, healthcare or flood relief.

2. Future drivers of crisis

Since the 1990s ECOWAS has distinguished itself in its attention to peace support operations and attempts to control the movement of small arms and light weapons into the sub-region. Where it has so far made less impact is in improving member state capacities at policing, the rule of law and crime reduction. Whether or not there is any expansion in insurgency in the region over the next two decades, the growing concentration of population in massive urban centres will pose a major challenge to policing and the dynamics of the international criminal

economy will pose a major risk to physical and health security in the region.

Drivers of change that are likely to generate threats to personal security in West Africa in the next two decades include the following:

1. **Violent crime** This includes all forms of crime committed with violence or the threat of violence, from banditry and robbery through rape and domestic violence to murder. It is in itself a form of conflict against the individual and society but towards its extreme it is a driver of a different order of crisis in rendering inhabited areas beyond the ordinary capacity of the state to deliver services. This may be a remote area too prone to banditry for state agents to operate with any security, as has been the case over a prolonged period in Saharan areas of Mali and Niger. Or it may be a slum area of a major city, where criminally connected vigilante elements have taken over many of the functions that the police and bureaucracy are unable or unwilling to fulfil. Both are examples of ungoverned spaces.
2. **Policing and vigilantism** How the security forces respond to this sort of chronic insecurity could be a crisis driver in itself. Resource constraints already mean that most West African police forces have failed to keep up with population growth and typically have population-to-police ratios of over 1,000, about twice the ratio considered safe in peaceful countries.³⁰ Most police forces lack sufficient vehicles, fuel and equipment to maintain mobility and operational readiness. Given the large physical expanses and poor infrastructure of most member states, these will struggle to meet rural security needs, especially as the policing requirements of urban areas increase. The temptation has been to substitute disproportionate force, including use of firearms and military back-up, for trained police manpower. There may also be a temptation to cede security responsibilities in the most difficult to police areas to unaccountable, self-financing groups such as politically linked vigilantes and 'traditional' militia. Allowing this to happen will both weaken the state and potentially provoke a more wide-ranging violent response. There are strong links here to the issues of community security raised in Dimension 2, including chieftaincy, indigeneity and radical identities. Policing requires funding sufficiently and sustainably if the security forces, formal or informal, are not to be part of the problem.
3. **Organised crime and the state** Organised criminal groups have become entrenched across West Africa with activities ranging from advance fee fraud to trafficking of cocaine to dumping of toxic waste to manufacture of fake pharmaceuticals. In all cases, some elements of the state and security

forces will be complicit in criminal activities. In extreme cases, proceeds from the criminal economy may rival or outstrip public revenues, creating powerful states within the state. Security forces, judges and politicians may lose all incentive to combat criminal activities. In such circumstances, criminal groups need not challenge the state itself but use its institutions as a front for their activities. The influence of criminal group corruption and intimidation could be to hollow out entire states, whose institutions would continue to exist but without capacity or responsibility to meet the social or humanitarian needs of the population.³¹

4. **Arms proliferation and storage** This includes the circulation of weapons already within the sub-region, the importation of weapons into the sub-region and the manufacture of small arms and ammunition by regional artisan producers. This latter is likely to be the most dynamic element of future small arms proliferation as producers in West Africa, especially Ghana, increase their expertise and output capacity. Much will also depend upon the dynamics of existing insurgencies and disarmament exercises in Côte d'Ivoire, the Niger Delta, the Sahara and surrounding states. It also relates to the dispersal and storage of arms and explosive devices, including landmines. State arsenals often threaten personal security in being poorly regulated, permitting the theft, loan or sale of weapons to criminal or insurgent groups, and poorly stored close to civilian habitation. Explosions in regional arsenals have provoked mass casualties in the last decade, notably the Ikeja Barracks explosion of January 2002, in which over 1,000 deaths were reportedly caused by the explosion, burning of civilian neighbourhoods and especially the trampling and drowning of civilians in panicked flight. 20,000 were reportedly displaced.³²

3. Cross-cutting issues

3.1 Demographic change, urbanisation and migration

Rapid urban expansion is likely to pose the greatest challenge to personal security and policing in the future. Neither demographic growth nor the ongoing youth bulge will by themselves tend to increase incidences of violence. However, this assumes that the state is able to expand policing ratios and formal sector employment opportunities at the same rate as population growth. This has not been the case in the past but there is no structural reason this should not be the case in the future.

International migration is likely to be a driver of the criminal economy, both in terms of organised criminal groups diversifying their presence outside their home territory and in terms of illegal migration and people

trafficking providing a highly lucrative form of criminal activity. Migration and globalisation will work both ways, with West Africa continuing to be vulnerable to the activities of extra-regional criminal groups as well exporting its own criminals.

3.2 Climatic and environmental change

By the 2020s, climatic and environmental change is unlikely to reinforce threats to personal security in West Africa significantly.

4. Global Change

4.1 Political change

Organised criminal activity in West Africa is in part determined by regulatory environments in Europe and North America. For example, cocaine is trafficked to Europe through West Africa in an effort to avoid detection not because West Africa contributes anything substantive to the trade. Cigarettes are smuggled across the Sahara because duties imposed in North Africa and Europe are far higher than in West Africa. Criminal money is laundered through West African banks because their oversight is considered less thorough than in North America. Migrants are smuggled across the Sahara or Atlantic because they are denied working visas in the EU. Toxic waste is dumped in or off West Africa because there is minimal regulation to prevent it. Changes in the regulatory environment in Europe may thus have major impacts on criminality in West Africa. If cocaine was legalised in market and producer countries, there would be no incentive for trafficking groups to use West African for trans-shipments. Harmonisation of international duties on cigarettes, of visa regulations or of international financial regulation could similarly reduce incentives for criminal activity in West Africa.

5. Cascading risks and links to conflict

Connections between crime and conflict are highly variable. At one extreme, violent crime is a form of conflict against the individual while insurgency is a type of violent crime en masse that may or may not target the state over the individual. The activity of vigilante groups or militia in locations where the state has effectively ceded control of security to unaccountable proxies threatens to pit violence against violence. Similarly, the use of military force by the state in its fulfilment of policing functions is often disproportionate violence and risks an escalation of conflict in response.

At the other extreme, organised crime is rarely intrinsically violent and groups will often depend upon the same characteristics of peace and functionality as legitimate business: banks, transport infrastructure, telecommunications. They may operate independently of the state or they may seek to subvert it and destroy its capacity to respond to criminal or other threats. They may fight among themselves within a state for control

of its criminal resources, as seen in Somalia, Chechnya or the drug producing regions of Afghanistan, Myanmar and Colombia. In many cases the valuable resources that they compete for violently will be humanitarian. Thus, both violent and organised crimes at their extremes nurture ungoverned spaces in which state institutions are incapable or uninterested in responding effectively to humanitarian concerns.

The UN Office on Drugs and Crime (UNODC) has identified numerous organised criminal activities in West Africa that contribute to a wide range of associated threats to human security. Cocaine traffickers have begun to target markets within West Africa, particularly via highly addictive crack cocaine, threatening the health security of regional users and potentially reinforcing the personal insecurity of those around them. Fake pharmaceutical products have been identified as a major growth industry for organised crime, including manufacturing plants in Nigeria and imports from Asia. These products may directly damage rather than restore the health of consumers or they simply kill because the patient has been given a placebo instead of a genuine, curative medicine.

UNODC has also noted increased dumping of toxic waste off the coast of West Africa, an industry that may increase over time as northern regulations on costly waste reprocessing become stricter. Such dumping of toxins will threaten both the health and food security of populations along the coast. Forestry and artisanal mining activity in many countries is also highly criminalised to avoid regulations. Organised crime thus contributes to environmental insecurity and potentially even to localised climate change.

6. Potential shocks

- Outbreak or cessation of major insurgency
- Legalisation of cocaine in the EU
- Open migration policy for ECOWAS migrants to developed states
- Collapse of state authority within a significant territory

7. Questions for ECOWAS

- What do you see as the principal gaps or deficiencies in ECOWAS' existing policy on personal security?
- Which commissions, departments, units and agencies within ECOWAS need to collaborate to implement policies to mitigate personal insecurity?
- Who should be ECOWAS' primary external partners to implement policies to mitigate personal insecurity?

SCENARIO 3: THE 'FAILED CITY'

This scenario envisages the security and humanitarian consequences of the collapse of state authority over a major urban area. It examines both the consequences for personal, economic, environmental and health security within that 'failed city' and the collective implications of such a collapse for humanitarian provisions. It asks not only how is humanitarian aid delivered but who are the humanitarians?

For the first two decades of the 21st century Tamale continued its reputation as the fastest growing urban area in West Africa. In 2023 it became the third city in Ghana to exceed one million inhabitants, though it still lagged far behind its southern rivals, Accra and Kumasi. Whereas these two cities had attracted migrants on the bases of their prosperous trade, services and agriculture, migration into Tamale had been determined increasingly by push factors from rural areas.

Removal of US subsidies on cotton production in the 2011 GATT breakthrough had boosted the northern agricultural economy and over the next decade encouraged Chinese firms to establish textile manufacturing plants in Tamale. However, the cotton boom proved short lived. Production did not recover from the drought of 2015-18 and by the beginning of the next decade all of the local textile plants had closed. Farmers from the surrounding district substituted back into subsistence crops but these also suffered badly from the poor rainfall and extreme summer heat, prompting many thousands to relocate to the city in search of work in trade, government service or the many international NGOs that established hubs in the city.

Another push factor from the countryside was the revival of communal conflict across the Dagomba region after the succession crisis of 2021. Initially, Tamale appeared to be a safe haven from the violence that saw villages and farms burned.

However, with the informal settlements of the regional capital increasingly organised according to ethnic and clan affiliations, communal tensions and often violence became increasingly part of the city's life. Indeed, such divisions became an entrenched part of city politics as rival political parties and candidates mobilised their supporters among youth organised according to clan connections.

With the demise of the mainstream textiles and food processing industries, economic activity in Tamale became rapidly criminalised, with the socio-political clans taking charge. Manufacturing did not die but instead turned to the production of counterfeit consumer goods for the global market and precursor chemicals for the manufacture of synthetic drugs. Blacksmiths from rural areas who had mastered the craft of artisanal production of assault rifles and light weapons during the first two decades of the century had increasingly moved to town and mobilised their guilds towards semi-industrial but still secret production to supply the conflict zones of Eastern Europe. The isolated new international airport, which had become a significant regional hub, began to gain a bad reputation for shipment of contraband across West Africa. Securing the old airport was all but impossible due to its position entirely within the city.

Policing this metropolis had long been a major challenge, not least because of the Ghanaian government's desire not to take sides in the local conflict. In reality, the militia or vigilantes organised by local mafias controlled all "off-tarmac" areas beyond the city centre. Immediately after the closely fought general election of 2024 tensions between the city clans flared into open conflict between the neighbourhood factions, forcing the police to withdraw from the city. Army reinforcements regained control of the city but when they raided an illicit chemicals factory and killed several workers the urban insurgents found common cause and rallied their well armed militia to force

the army out of its Kamina barracks and back to the international airport.

The army's initial strategy was to lay siege to the city. However, this proved impractical as the city insurgents controlled the main road link between all of the north and Burkina Faso and the coast as well as the recently completed Coast-Sahel rail and fibre optic cable links to Ouagadougou. Thus, goods continued to flow through the city – 'taxed' by the militia that controlled roadblocks – and the remaining residents were able to supply themselves much as before. Indeed, without the forces of the state, the illicit manufacturers of the city were able to step up their production and distribution of drugs and weapons by land and air. ECOWAS sent military observers but refused to sanction an offensive against the city, remembering the difficulties that ECOMOG had encountered in Monrovia and Bissau in the 1990s.

The various factions that controlled Tamale were not interested in diverting their criminal proceeds to social services. Schools and colleges closed, most administrators fled with the police and only the most rudimentary healthcare survived. While the government was obliged to maintain the flow of water to the city, it cut mains power supplies and without this electricity the city's sanitation system rapidly collapsed. Flows of raw sewage as well as the now entirely untreated effluent from the drugs factories was dumped into the local watercourses and within weeks was having a significant effect on fish stocks in the already shallow and hot waters of Lake Volta.

Within the city, control of water resources became another source of financial gain for the militia and was the source of recurrent violence between local mafias. Already controlling food resources according to their transport links, they began to establish 'voluntary committees' for distribution of food to their sectors, reinforcing their patronage control by styling themselves

as humanitarians. Among the first to flee the city had been the international humanitarian groups based there; they set up camps around the city for the quarter million displaced residents and were forced to form working arrangements with the city militia for the 'safe' distribution of emergency food and medical supplies.

The 'siege of Tamale' lasted for nineteen months, during which a growing proportion of the city's population abandoned it for the relative safety of camps, villages or towns in the south. Hundreds were killed in the 'turf wars' between factions within the city but no faction was able to gain complete control. Ultimately, the collapse in urban resistance came during the unusually

intense wet season of July-September 2026, when cholera took hold of the city, killing ten times more than the fighting. Restoration of urban services and infrastructure cost hundreds of millions of ecus. The legacy of violence, disease and toxic waste dumping blighted confidence in the city, which took decades to restore its economic base.

DIMENSION 4 - ENVIRONMENTAL SECURITY: BALANCING THE FLOWS

Environmental security is the ability to live in a physically safe environment that includes access to adequate safe land, water and air. It envisages a reasonable degree of protection from 'natural' hazards such as flooding, landslides and earthquakes. As a driver of crisis, environmental insecurity is defined by such biological, meteorological and geophysical hazards as well as purely anthropogenic threats to the sustainability of the environment, including pollution. As with global climate change, for the future such environmental threats in West Africa will increasingly be compounds of such hazards. Availability and usability of water will be the key issues, though drought and environmental threats to food production are considered under Dimension 5 (Food Security). The disease environment, including water as a vector for epidemic, is considered under Dimension 7 (Health Security).

1. Overview and context

West Africa is a region of environmental extremes, from the arid Sahara desert to the monsoon rainforests of Liberia. Human settlement has long been among the densest on the African continent, with the population roughly quadrupling over the past fifty years to transform the physical environment. The sub-region's physical geography is defined by water: the Atlantic coast and a series of river basins draining into it and Lake Chad.³³ History and colonial geography have divided these basins between peoples and states such that cooperation for water security is a necessity for almost every member-state of ECOWAS. Despite dramatic changes in rainfall and river flow levels and strong economic incentives to harness great rivers for electricity generation and irrigation, the region has been defined far more by its cooperation in water management than by conflict.³⁴

Extreme rainfall-induced flooding has become one of the most pressing humanitarian concerns, with all countries

of the sub-region subject to sporadic inundation with serious consequences including displacement, destruction of property, crops and livestock, loss of livelihood and land degradation. Climate models are uncertain on the prospects for greater or lesser total precipitation across the region in the longer term but observed patterns at the beginning of the 21st century suggest that rainfall is becoming more unpredictable and more concentrated. Other meteorology-associated perennial hazards include dust storms from the Sahara, especially during the harmattan season, and wildfires, both particularly affecting the Sahel/Savannah belt.

Strictly anthropogenic threats to environmental security are increasingly associated with pollution (see Dimension 7: Health), whether the long term effects of human waste or the discharge of toxic chemicals or fuels into air and water. Accidents and sabotage appear to be increasingly common, especially surrounding the oil fields of Nigeria and wider oil distribution infrastructures. Mining of uranium reportedly creates radioactive dust pollution in Niger and toxic run off from gold and other mines pollutes communal water sources across the sub-region. Deliberate, criminal dumping of toxic chemicals is also noted on land and at sea, while the attractiveness of the sub-region's poorly regulated environment to legal but high risk industries like electronic waste reprocessing poses an increasing risk to health.

2. Future drivers of crisis

For the future, the key environmental security issue for West Africa will continue to be water: too little water from rain, rivers and aquifers; too much water from concentrated rainfall; unsafe water because of inadequate waste management and pollution (see also Dimension 7: Health). Sea level rise will be of critical concern in the longer term. Its impact is already being felt in the most low-lying settlements and there is the possibility that

Table 8: Participation in river and lake basin management organisations

	Basin Management Organisation						
	ALG	LCBC	MRU	NBA	OMVS	OMVG	VBA
Benin				X			X
Burkina Faso	X			X			X
Cape Verde							
Côte d'Ivoire			X	X			X
Gambia						X	
Ghana							X
Guinea			X	X	X	X	
Guinea-Bissau						X	
Liberia			X				
Mali	X			X	X		X
Niger	X	X		X			
Nigeria		X		X			
Senegal					X	X	
Sierra Leone			X				
Togo							X

Key: ALG = Liptako-Gorma Authority; LCBC = Lake Chad Basin Commission; MRU = Mano River Union; NBA = Niger Basin Authority; OMVS = Organisation pour la mise en valeur du fleuve Sénégal; OMVG = Organisation pour la mise en valeur du fleuve Gambie ; VBA = Volta Basin Authority. MRU is not primarily a water management agency.

intensified storms or a major seismic event at sea could trigger surges with devastating impact along the heavily populated coast.

1. Water security

Access to fresh water will be a critical issue for West Africa throughout this century regardless of any effects that climate change has on precipitation patterns and the retention of water. Population pressures, agricultural development and hydroelectric generation will all place greater strains on river water in a context where most fresh water resources flow through multinational basins. Water scarcity will thus impact at the level of the individual and community but also at the inter-state level, with competition over access to water driving tensions between states as well as within them. Areas likely to suffer extreme water stress by the 2020s include the Cape Verde archipelago (chronic stress), the central basin and Cap-Vert peninsula of Senegal, the Lake Chad basin of northeast Nigeria, and the coastal conurbations of southwest Nigeria, Benin, Togo and Ghana. Water stress will also be high throughout the Volta and Senegal basins.³⁵ The Niger basin is anticipated to experience lower levels of stress due to the relatively low population density and development of the upper basin. However, this is the most complex basin area, involving seven

member states and several schemes to dam the great river are likely to generate international tensions, especially with Nigeria. Such tensions may as likely be generated by water contamination events as by water usage issues.

2. Hydro-meteorological hazards

This includes all manifestations of extreme wet weather hazard, including floods and related mudslides, rain and wind storms and storm surges, as well as dry weather associated hazards such as drought, desertification, wildfires, temperature extremes, and sand or dust storms. Catastrophic flooding since 2005 has focused attention on the Sahel and dry savannah belt from northern Senegal through Mali, Burkina Faso, Niger and the northern regions of Ghana, Togo and Nigeria. These areas are mainly semi-arid and have great difficulty absorbing high volumes of water, especially where tree cover has been stripped. They are also the areas that have the greatest exposure to dry and hot weather extremes, including dry season dust storms, wildfires and extreme temperatures, all of which are likely to exacerbate in proportion to regional warming. However, all areas, including the monsoon forests are at risk of flash flooding. Coastal areas are doubly vulnerable to flooding from storm surges at sea, exceptional tides and the gradual rising of

sea levels, exacerbated by coastal dredging and associated erosion. Flooding can become a source of inter-state tension where dams are involved as these have the potential to be breached or to release water suddenly towards a downstream country. Dust storm related siltation of dams and a lack of maintenance increase the potential for dam failure during a catastrophic flood.

3. Geophysical hazards

In the West African context these are primarily related to earthquakes and associated high volume releases of water: a tsunami or dam collapse. The island of Fogo in Cape Verde is the only active volcano in the sub-region and poses a low and geographically circumscribed risk to human security.³⁶ Because of the infrequency of seismic activity on the mainland, monitoring and warning capacity is notably weak and little has been done to reduce vulnerability to shock events.³⁷ There is a risk of catastrophic flooding due to seismic activity and gas build-up in the Cameroon highlands (outside ECOWAS), with downstream threats across the Katsine Ala/Benue river valley should the natural dam constraining Lake Nyos collapse. Threats also exist in relation to man-made dams, with several massive hydroelectric dams constructed or planned in areas of seismic activity in Ghana, Côte d'Ivoire and Guinea. Most at risk of earthquake damage is the Ghanaian coast. Accra-Tema, a conurbation of well over two million residents, lies almost on the Akwapem fault line and is expected to experience a major quake (>6.0 Richter) every 60-70 years. Events of this magnitude were recorded in 1882 and 1939, with the latter (6.5 Richter) destroying much of the urban centre. A major offshore earthquake could theoretically generate a tsunami that would inundate the coast all along the intensely populated strip from Côte d'Ivoire to Nigeria. The most devastating earthquake in recorded history in West Africa occurred near Gaoual, northwest Guinea in December 1983, killing up to 643 people (6.3 Richter). Data does not appear to exist to predict the frequency of major quakes in this area.

3. Cross-cutting issues

3.1 Demographic change, urbanisation and migration

Demographic growth and associated economic development, including irrigated agriculture, is likely to be the critical determinant of water insecurity in the next two decades, particularly because it will concentrate demand for water in already stressed urban areas like the Lagos-Accra coastal strip, southwest Nigeria and Senegal's semi-arid Cap-Vert peninsula. This is a question not only of water demand but of waste management as most urban areas are likely to be deficient in proper

drainage and sanitation to carry polluted water away from settled areas. This will have consequences for health and food security. Latent demand for energy will exacerbate tensions as various countries seek to build hydroelectric dams to harness the region's shared rivers, though in some cases reservoirs will improve local availability of water for human, fishery and agricultural use.

Population growth in both rural and urban areas will increase vulnerability to flooding as long as human settlements continue to encroach upon low-lying areas in proximity to watercourses, swamps and lagoons. Urban development will channel rainwater run-off in potentially dangerous ways in the absence of proper sanitation and channelling. Restricting this settlement growth in urban areas may be impracticable for lack of other available land while resettling the hundreds of thousands already at risk will be a very high cost option, as will attempts to build defences against floods or rising sea levels. Mass displacement is therefore an increasingly likely scenario if flash flooding increases in frequency and coastal inundation becomes a reality. For displaced urban communities this displacement may not be short-term.

Human activity is highly unlikely to drive or trigger geophysical events but urban growth will make the sub-region more vulnerable to the inevitable seismic activity. The 1939 earthquake destroyed much of Accra, then a small town composed mainly of low-rise wooden buildings, but the modern city of over two million has been rebuilt from less flexible materials and without consideration for earthquake proofing. Another earthquake on the same scale will be a mass casualty event and could render many thousands homeless. In the worst case scenario of an offshore earthquake generating a tsunami, the entire urbanised coast from Abidjan to Lagos could be affected.³⁸

3.2 Climatic and environmental change

The effects of climate change on precipitation are still highly uncertain. For the most part, data is insufficient or too contradictory to make reliable projections. In the western Sahel there appears to be a higher probability of drying, which will place greater stress on the Senegal and Gambia river basins. In the eastern Sahel, projections are more favourable to increased precipitation that would tend to increase water security in the Lake Chad Basin and perhaps the Benue system. However, increased temperatures will have a negative impact on water security through increases in evaporation, especially if irrigation and river damming are increased. Rain that falls in concentrated bursts instead of during a sustained wet season not only causes flooding but is negative for overall water security, moving more quickly through river systems or overflowing to evaporate from stagnant pools, breaching dams and generally extending the dry season.

Climate change associated sea level rise clearly poses a major threat to West Africa's coastal cities in the long term. Within the 20 year horizon and IPCC predictions of a slow rise in mean sea levels it is uncertain how much impact sea level rise alone will have, for example when separated from anthropogenic subsidence and erosion of the coast. However, in association with a modified climate that includes a higher frequency and intensity of storm surges, the impact of even a very small rise in mean sea level could do significant environmental damage by the 2020s. Indeed, IPCC predictions of moderate sea level rise this century have been increasingly challenged as overly conservative and are likely to be revised upwards based upon latest data on the rate of polar ice melt.

4. Global Change

4.1 Political change

Political change at the global level is most likely to impact West Africa's long term environmental security in regards to policies that reduce greenhouse gas emissions and thereby mitigate the effects of global warming. Even if the upward trend in such emissions is curtailed, the impact is only likely to be a moderation of the impact of climate change scenarios, not their reversal. In other words, a lack of political change at the global level is likely to exacerbate the environmental insecurity of West Africa. Catastrophic global political events like the use of nuclear, biological or possibly chemical weapons could also have a shock effect on the environmental security of West Africa.

4.2 Economic change

In terms of pollution, West Africa will be influenced by the regulatory environment of the wider world as well as ECOWAS. A weaker regulatory environment within ECOWAS will encourage the transfer of polluting industries to the region or even of toxic waste to be reprocessed, stored or dumped there.

4.3 Technological change

Many of West Africa's environmental problems can be mitigated by the application of relatively simple technology or regulations and prevented from generating crises. Technologies that would be of great benefit would include varieties of crops or seeds that require less water for cultivation, simple water purification and sanitation systems and safe reprocessing facilities for the toxic by-products of industry and mining. Technological development within West Africa is likely to see the development of potentially polluting industries, possibly including nuclear energy, with the need for safe reprocessing or waste storage facilities.

5. Cascading risks and links to conflict

Competition over access to water resources has high potential to generate conflict within and between states, although there is limited evidence that such conflict has yet become violent on a large scale even when, as with Lake Chad or the Aral Sea, one state's use or pollution of common water resources is clearly disproportionate. The Darfur conflict certainly has competition over water resources as one of its many causes and lack of investment in water provision, if not competition with other groups for the same water, was cited by Malian Tuareg insurgents in their 2006 uprising. At the micro level, numerous small scale local clashes have also pitted communities against each other for environmental resources from water to pasture to forests. In these examples, water insecurity is closely tied to food security and agriculture, which may be the only basis of economic security in a given region. Increases in population, temperature and irregularity of rainfall will combine pressures towards conflict in the Sahel in the future, while Guinea, Mali, Burkina Faso and Niger are the most likely states to face pressure from downstream states over their plans to dam or divert the headwaters of the region's great rivers.

Pollution has also been cited as a direct cause of conflict within the ECOWAS region. Persistent oil spills and gas flaring, polluting land, fisheries and drinking water, are among the causes of the Niger Delta insurgency and there are other examples where communities have come into confrontation with companies from the extractive sector that have similarly destroyed their environmental security. The rebellion in northern Niger has cited the pollution of its region by spoils from the uranium mining industry. Violent protests in Abidjan in 2006 followed the mass casualty dumping of toxic chemical waste around the lagoon. In these examples, environmental security is linked closely to health security as well as economic and food security.

Other than initial casualties, the most likely humanitarian consequence of a future sudden onset environmental catastrophe – an earthquake, widespread flooding, collapse of a dam, poisoning of a major watercourse – would be displacement, followed by increased potential for disease and food insecurity. Governments and other humanitarian agents will certainly be held to account by the displaced population for the effectiveness of their response if not for their negligence in failing to address risk before the disaster.

SCENARIO 4: TOXIC DESCENT

This scenario envisages a humanitarian crisis occasioned by the earthquake induced collapse of a dam in Guinea's Fouta Djallon highlands and its cascading consequences for downstream areas of the Niger basin. It examines the inter-relation of geophysical, hydrological and environmental factors in causing such a collapse and the potential for health, food and economic insecurity that could follow.

During the 2010s the Fouta Djallon highlands were the target of extensive development for their hydroelectric generating potential in association with the River Gambia Development Organisation (OMVG) and by 2020 were providing much of the electricity consumed in Guinea, Guinea-Bissau, Gambia and Senegal. These new dams were built with cognisance of the 1983 Gaoual earthquake, albeit in close proximity to the main north-south fault line running through the centre of the highlands. Less attention was paid to the older, smaller dams built by the Chinese in the first decades of Guinea's independence, which had ceased to be of major importance.

In September 2026 an earthquake measuring 6.1 on the Richter scale struck just north of Mamou, Guinea. Though it damaged many buildings in Mamou and Dalaba and caused landslides to block the central road and rail connections, the quake did no damage to the nearby Souapiti dam. However, slightly further east the quake critically weakened the smaller Tinkisso dam, built in 1974, which collapsed the following day. While the dam was 100 km from the quake epicentre, the volume of its reservoir was close to its end of monsoon peak. Investigators also found that the dam wall had suffered from a very heavy build-up of silt, likely related to the increased intensity of the harmattan dust storms as well as a lack of maintenance.

Because the dam did not collapse immediately the Guinean authorities were able to conduct a relatively

orderly evacuation of Dabola's 30,000 residents as well as most of those in the towns and villages downriver. While human casualties were reported in the hundreds rather than thousands, the collapse of the dam caused enormous physical damage, destroying much of Dabola and downstream villages, displacing some 40,000 people and destroying the herds, crops and land quality of tens of thousands of others before the waters dissipated in the horseshoe bend wetlands around Siguiri. It destroyed the road and rail bridges linking east and west Guinea, hampering the government's efforts to relieve the victims.

However, the real damage unleashed by the torrent was the cocktail of lethal chemicals it released into the Niger system as it swept through the gold fields of the Tinkisso valley. These were primarily mercury, which artisanal producers had stored at numerous points, and especially cyanide. Reservoirs of cyanide waste had been stockpiled in unsafe conditions by a major commercial facility, which was overwhelmed by the flood. Cyanide had an immediately lethal effect on waters downstream of Dinguiraye, spreading across submerged fields and villages over a large area. Cattle and poultry not killed by the flood waters rapidly succumbed to the poison and many villages became uninhabitable, forcing the resettlement of the population. The Tinkisso as well as the Niger as far downstream as Bamako and Ségou in Mali became temporarily undrinkable, affecting some three million people, many of whom were evacuated to areas of safe water. With longer term consequences, fish stocks were destroyed over a large stretch of water, damaging the food supply of northeast Guinea and Bamako over the next five years.

Mercury poisoning was a slower but ultimately more dangerous poison. Whereas the flood waters and the relatively high seasonal flow of the Niger had done much to speed the flush of cyanide through the river, the same momentum carried mercury

further, concentrating in the flooded rice fields of Mali's inland delta and endangering the water supply of millions all the way to the Taoussa Dam. Millions around Bamako and Ségou had no choice but to continue drinking the river water despite its continued unsafe mercury content. Fish that survived the cyanide or repopulated the river accumulated very high levels of mercury but continued to be relied on as food. Similarly, most Malians continued to rely on delta rice produced in the very fields where the mercury had accumulated, though the grain appeared not to have absorbed much mercury.

Health consequences for Mali were dramatic in the medium term. While there were few immediate casualties, a huge increase in kidney disease, skin complaints and cancers over the following decade was traced to the mercury poisoning. Economic consequences were similarly dire as Mali was unable to market its rice crop abroad. Food prices increased across West Africa, which had come to depend on Malian grain produced under the rice revolution. Malian production plummeted, new machinery rusted in the fields.

6. Potential shocks

- Collapse of Lake Nyos barrier dam and attendant flooding of eastern Nigeria.
- Major earthquake offshore Accra and attendant tsunami
- Major chemical leak, explosion or dumping incident
- Collapse of a major man-made dam and reservoir
- Construction, without approval, of a major upstream dam in a shared river basin.
- Sudden increase in sea levels
- Poisoning of a major river system

7. Questions for ECOWAS

- What do you see as the principal gaps or deficiencies in ECOWAS' existing policy on environmental security?
- Which commissions, departments, units and agencies within ECOWAS need to collaborate to implement policies to mitigate environmental insecurity?
- Who should be ECOWAS' primary external partners to implement policies to mitigate environmental insecurity?

DIMENSION 5 - FOOD SECURITY: SUSTAINABLE AGRICULTURE

Food security refers to a population's ability to access food physically and financially at all times; in other words, to live without hunger, malnutrition or fear of starvation. It is not necessarily the same as food self-sufficiency, in which a country is expected to produce sufficient gross or net foodstuffs to meet its population's needs. A country or region can be relatively food secure without producing any foodstuffs as long as it has adequate funds from other sources and efficient supply networks to distribute that food. Food security at the national level can also mask significant differentials in food security between regions and communities.

1. Overview and context

West Africa is an overwhelmingly agricultural region with relatively favourable land, water, climate and oceanic resources that has nevertheless been subject to periodic, localised famine and chronic malnutrition among a large segment of its population. Partly this is due to the devotion of much of the best land to production of cash crops, including foodstuffs, for consumption outside the region. More significantly it is due to the lack of capital and inputs –mechanisation, irrigation, improved seeds and livestock, fertilisers – to work the land or harvest fish efficiently and a lack of infrastructure to bring products to market. Economies of scale further disadvantage the small farmer. Cyclical drought, outbreaks of animal disease and infestations by pests have also undermined long-term food security. Domestic food production is often undercut by cheaper imports from more efficient or subsidised mass producers beyond the region. Urban consumers are increasingly dependent on imported food staples, especially rice, leaving them vulnerable to price fluctuations on the international market.

2. Future drivers of crisis

The current backwardness of West African agriculture means that the sub-region has the potential to increase its food production greatly over the next twenty years at a rate greatly exceeding demographic growth, but this presupposes the availability and adoption of capital and technical inputs. Until this potential is achieved, the booming urban population is likely to remain highly susceptible to shifts in global food prices. A volatile climate and exposure to pests will also threaten food security chronically and acutely. Oceanic, lake and river fish stocks, already under pressure, face potential collapse in response to over-exploitation, coastal or riverine pollution and climate associated change to marine ecology.

Drivers of change that are likely to generate threats to food security in West Africa in the next two decades include the following:

1. Variability of rain

This includes both the inherent unreliability of rainfall in the Sahel and Savannah regions that has led to periodic drought and famine for centuries as well as more recent variations in rainfall patterns associated with anthropogenic climate change. The latter will have significant impact on growing and herding cycles as long as regional agriculture remains rain dependent. Flooding and gully erosion associated with increased frequency of extreme rainfall and removal of vegetation will also damage agriculture and livestock.

2. Infestations

This includes pests that threaten crops and granaries

(e.g. locusts, caterpillars, vermin, birds) as well as animal diseases communicated by insect vectors (e.g. mosquitoes, tsetse). These infestations are a chronic threat but may become more unpredictable and virulent in association with radical changes in climate and environment.

3. Collapse in fish stocks

This concerns availability and sustainability of fish and other edible marine resources (e.g. squid, prawns, shellfish) from West African waters, including the Atlantic Ocean, rivers and lakes. The region is particularly vulnerable to collapse in fish stocks because of its high relative dependence on fish protein and the increasing concentration of population along the coast. Collapse in available fish stocks may be occasioned by overfishing (local, artisanal or foreign, industrial), by destruction or pollution of habitat such as mangrove and lagoon breeding grounds, by changes to water temperature and acidity, or by changes in oceanic currents and upwellings that divert shoals elsewhere.

4. Food price volatility

Inefficiency of local production and distribution resources and the disproportionate share of income spent on basic foodstuffs make West Africa exceptionally vulnerable to increases in imported food prices. Increases in global population and demand for food, the rise of biofuels and the power and influence of speculators are likely to mean that international food prices remain high and increasingly subject to shocks as climate extremes or volatility undercut production in major surplus producing regions.

3. Cross-cutting issues

3.1 Demographic change, urbanisation and migration

Demographic growth is a major pressure on food security as local food production has to increase at between 2 and 3% annually to keep pace with population growth, even assuming that there is no overall shift in consumption patterns of the type that increased affluence may bring. These would include greater per capita food intake and increased demand for meat translating to conversion of arable land to pasture. In the past, rural population growth has helped to boost agricultural production by boosting the labour force necessary for capital scarce small scale agriculture, including opening up new land for production. However, with the quadrupling of West Africa's population in the second half of the 20th century, productive land in many areas has already reached the frontier of its exploitability without greater technological inputs. It is being subdivided between more and more people to produce ever smaller returns on scale and thus less surplus to reinvest in technological inputs. Pressure

on energy resources (wood and charcoal) fosters deforestation and the destabilisation of soil and water resources through erosion. In pastoralist areas, increased density of herds fosters the rapid spread of epizootic disease. Migration of herders into contact with formerly separate groups also acts as a vector for epizootic transmission.

Rural to urban migration will remove some of this economic pressure from the land but will not relieve pressure on food security. Indeed, urban dwellers tend to consume more per capita and to consume more 'convenience' foods such as rice or wheat bread that rely on imports.³⁹ Given the increasing concentration of population around port cities and the paucity of internal transport infrastructure, it will often be cheaper to import foods, including meat, produced thousands of kilometres away to these population centres than to transport food from domestic or sub-regional suppliers. This leaves urban consumers increasingly vulnerable to international food price hikes that domestic producers, because of deficient infrastructure and economies of scale, are often unable to capitalise upon. Widely seen as a form of inward investment, remittances from the diaspora are often merely transfers to cover the cost of imported food.

Coastal populations are also ever more dependent upon fish as a source of protein and on fishing as a source of employment, stressing the marine environment. Urban expansion along the coast destroys mangroves and discharges human and toxic chemical waste directly into lagoons and coastal waters, killing fish and shellfish, destroying their spawning grounds or fostering the build-up in them of toxins and bacteria destructive to human health.

3.2 Climatic and environmental change

Climate change in the long term threatens a transformation of West Africa's agricultural space and productive potential as well as threatening shifts in the oceanic forces on which its fisheries depend. Regional warming of the magnitude envisaged over the next twenty years (1°C to 1.5°C above current temperatures) is likely to shift the productive agricultural frontier significantly southwards and change the nature of agriculture across the region. Herders will move south, some farmers will have to adapt to different crops attuned to a drier, hotter environment, while others will have to abandon their lands and livestock altogether. This could happen gradually or it may happen in climatic shock events such as sudden, prolonged drought, dust storms or extreme heat events that destroy herds and turn productive land to desert.

While these changes are most likely to affect the already marginal Sahel belt, especially pastoral and semi-pastoral zones, the more productive, wetter zones to the south are most likely to experience the effects of climate change

through variations in the onset, duration and intensity of rains. With agriculture overwhelmingly rain dependent, variability in rainfall patterns will force farmers to adapt new practices, crops or varieties. Observed data in, for example, Nigeria already suggests that the growing (wet) season has become shorter, threatening the crucial planting and harvesting periods. Increased intensity of rain is also associated with flooding, soil erosion and damage to crops during the cycle.

There are also apparent linkages between extreme temperature and rainfall events and the onset of destructive crop pest outbreaks. Desert locusts depend upon rainfall to stimulate their reproductive cycle and are able to capitalise upon unusual rainfall and greening in semi-desert areas. While locust plagues are inherently unpredictable in development and movement, the apparent randomisation of weather patterns would tend to reinforce this instability. Similarly, the sudden onset Liberia caterpillar plague of January 2009 has been attributed to irregular rainfall.

Sea level rise and a potential increase in severity of storms at sea will lead to coastal erosion and the inundation and salination of some productive land along the littoral, including in closest proximity to the major cities. Indeed, the construction of urban centres tends to exacerbate coastal erosion as beaches and coastal strips are often dredged for sand and aggregate, removing the natural protection against the sea.

Of far greater impact to food security could be changes to the Guinea Current Large Marine Ecosystem, which sustains fish from Guinea-Bissau to Nigeria. Scientists have reported a reduction in the upwelling of the current associated with the cold season, possibly as a result of warming oceanic temperatures. Changes to the current ecosystem may lead to reduction in fish stocks, particularly in the inshore waters fished by African fishermen, or the diversion of fish shoals to other areas. Warming of lakes in other parts of Africa appears to be linked to decreases in fish catches. A study by the World Fish Center concluded in 2009 that at least 11 of 15 ECOWAS member states were among the 33 globally considered highly vulnerable to climate change due to high sensitivity to warming, importance of the fishing economy and lack of adaptive capacity.⁴⁰

However, there will also be opportunity in the period envisaged. Where water is available and farmers are adaptive to improved crop strains, a moderate increase in temperature and the likely 'fertiliser effect' of increased carbon dioxide concentrations may actually lead to an increase in the yield of rice. In other areas, hot and dry cereal crops can be substituted for thirsty cereals like maize. Changes in precipitation are by no means certain but northern Nigeria and the Lake Chad basin has been identified tentatively as a zone of increased rainfall over the long term, which would tend to increase the agricultural potential of this semi-arid region.

4. Global Change

4.1 Political change

Some relatively developed states with weak domestic food production capacities have responded to the 2007-08 surge in global food prices and fears surrounding the long-term impact of climate change by investing in the development of African agricultural resources to serve their own markets. For example, prior to the regime change of March 2009, South Korea's Daewoo planned to invest over \$6 billion in a 99-year lease on 1.3 million hectares of Madagascan farmland to grow maize and palm oil for the Korean market, including development of associated transport infrastructure. Gulf Arab states have begun to invest in comparable schemes in Sudan and Ethiopia. If food prices remain high, it is likely that West Africa will be targeted for similar multi-billion dollar investments in the future, including the application of mechanisation and irrigation to open up otherwise unproductive land.

This sort of investment could revolutionise regional agricultural production and stimulate rural employment but would not necessarily make the region more food secure. As with the leasing of regional fishing grounds to EU trawlers or the granting of mining licenses, it is likely to generate conflicts of interest between locals and outsiders over productive resources, perhaps including access to water or transport infrastructure. These would be exacerbated if foreign lessees of land sought to bring in their own workforce from outside West Africa or the local region or if the government sought to expropriate land against the wishes of local villagers and chiefs.

4.2 Economic change

The big international driver of food insecurity in West Africa will be demand from more developed regions for foodstuffs and fertiliser. With a growing world population and greater levels of affluence, demand will increase and the impact upon West Africa will depend upon the ability of global agriculture to maintain supply proportionate to demand. Whether or not this is achieved in the long term, there will certainly be price shocks over the next two decades, to which the poorest regions will be most vulnerable. Whether or not the ECOWAS region gains or loses overall from these shocks will depend upon its ability to become a net food exporter. Either way, price shocks will continue to impact disproportionately upon the urban poor.

Attempts to take remedial action against climate change have had negative impact on West African food security in the short term and this may continue to impact in the longer term as cropland in the wider world is diverted to production of biofuels, placing greater pressure on available food stocks and increasing prices and speculation. West Africa will of course not be the only agricultural region to experience the challenges of climate change; drying, drought and temperature

extremes in surplus producing regions like Australia and Argentina will tend to increase market volatility and push up import prices. Conversely, these same pressures of sustained higher food prices could act as a restrainer of food insecurity as crop production becomes more attractive within the sub-region to meet the demand externally and internally. Schemes like the cultivation of jatropha for production of biodiesel in Mali have the potential to allow West Africa to benefit from the global boom in alternative energy sources without significantly impacting on regional food production.

4.3 Technological change

Threats to food security in West Africa arise far more from a lack of technological inputs to regional agriculture than from a lack of land, water or labour. Although growing conditions are likely to worsen over time as a result of population pressures on land, water and forests as well as the effects of global warming and drying, regional agriculture has not begun to achieve its potential. For the future, the struggle will be partly about accessing the technology of the 20th century and partly about harnessing innovations of the 21st century. New crop strains and selective livestock breeding will be required to increase yields in the face of hotter and perhaps drier conditions. Veterinary and medical science can be harnessed to combat crop pests and disease vector insects that attack livestock. Investment in processing and transport infrastructure will be vital to getting produce to market.

5. Cascading risks and links to conflict

Food security is central to human security as a sustainably fed population is integral to health security and essential for economic security and the ordinary functioning of the state. While rural victims of drought and famine are often seen as the passive subjects of humanitarian interventions, the food riots seen across West Africa in 2008 demonstrated the contemporary reality of food scarcity in an urban context, where the effects of food insecurity will be felt and manifested most directly in the next decades. Food scarcity and price inflation have historically led directly to acute destabilisation, for instance in Liberia in 1979-80, led indirectly to the 2008 military coups in Mauritania and Guinea and will continue to destabilise political security across the region.

In a region substantially reliant on agriculture, food security has complex feedback mechanisms to demographic and environmental change. Rural-urban migration is substantially driven by the failure of the agricultural economy to produce a surplus or even enough food for the family. Urbanisation creates a concentrated demand for rural produce but often contributes to the peripheralisation of rural areas. Drought has a major displacement effect on populations that is not always temporary; rural displacement is a

major driver of inter-group conflict by challenging community security and often contributing to environmental and food insecurity in neighbouring areas. Climate change may worsen growing or herding conditions in an already marginal environment but it is human pressures on the land and sea that lead to the most destructive environmental change.

6. Potential shocks

- International food price volatility
- Major drought
- Large scale external investment in commercial agriculture
- Chemical resistant locusts or other pests
- Diversion or disruption of the Guinea Current
- A major marine or lake pollution incident

7. Questions for ECOWAS

- What do you see as the principal gaps or deficiencies in ECOWAS' existing policy on food security?
- Which commissions, departments, units and agencies within ECOWAS need to collaborate to implement policies to mitigate food insecurity?
- Who should be ECOWAS' primary external partners to implement policies to mitigate food insecurity?

SCENARIO 5: WHOSE FOOD IS IT ANYWAY?

This scenario envisages a socioeconomic crisis occasioned by future food insecurity in a context where the sub-region has increased its own food production but is unable to meet the demands of its increasingly urban and well informed consumers. The structural causes and trigger to violence of the envisaged crisis are both substantially exogenous to West Africa.

In 2020, despite a steady rise in average temperatures, predictions of catastrophic sea level rise had not come to pass in West Africa. While satellite data showed that the Atlantic has risen by several centimetres, the sub-regional damage had mostly been beach erosion, exacerbated by the dredging of sand for the urban construction boom and the poisoning of mangroves by unrefined urban waste. This had done significant damage to the tourist trade, notably in The Gambia and Togo, but major coastal urban centres had managed to protect all but their most marginal neighbourhoods with defensive structures.

However, the global effects of sea level rise had not been uniform. In North Africa, the Nile Delta was particularly severely affected from the 2010s onwards and suffered catastrophic inundation when the Aegean earthquake of 2020 sent a tidal surge across the coastal barriers, deep into the delta system. Land submersion, salination, massive population displacement and a 40% slump in national food production caused enormous social and economic damage to a region already suffering the steady loss of waters from the Nile to irrigated agriculture in Ethiopia and the two Sudans, now harnessed to feed Arabia. Egypt's population had continued to boom and the Delta was among the most densely crowded regions on earth.

Facing the loss of their livelihoods, Egyptians began to arrive en masse in EU member state Turkey and to

the tense but prosperous Israel-Palestine confederation. In response, the EU and US agreed to finance an ambitious scheme to harness the rice growing potential of West Africa for the Egyptian market. A survey of growing conditions concluded that southern Liberia presented the ideal environment for rice production given the availability of virgin land, the still strong monsoon and the fertiliser effect of increased CO₂ and higher temperatures. In 2022, ten years after the departure of UNMIL, Liberia was enjoying almost two decades of democratic stability and an Egyptian parastatal negotiated a 99-year lease on two million hectares, almost one fifth of the national land area. The multi-billion dollar investment provided for irrigation, mechanisation and a network of surfaced roads and bridges unseen elsewhere in Liberia. It also brought salaried employment opportunities on a vast scale and a source of government revenue that far exceeded proceeds from the depressed iron and gold sectors.

However, there were also sources of antagonism. With over half of the national population residing in Monrovia, Liberia was suffering rural under-population and found it hard to attract appropriate labour locally. Thus the new rice frontier was developed largely with migrant labourers from northern counties, Guinea and Côte d'Ivoire. Moreover, the developers preferred to keep skilled, technical and managerial jobs in the hands of Egyptian workers, many thousands of whom were encouraged to migrate to Liberia. With the Liberian security forces strictly limited in size and over-stretched by urban crime, it was agreed that the developers would take on private responsibility for security across five counties. The large and armed new police force was initially commanded by Egyptians and recruited mainly among urban youths in Monrovia, most with little knowledge of the forest cultures.

Local chiefs complained that their lands had been expropriated with little

compensation and that the influx of 'foreigners' was overwhelming their social structures. While southern villagers had been allowed to remain on their farms, they complained that the destruction of forests led to rapid erosion of their soils, loss of hunting grounds, poisoning of fisheries, denied them access to seasonal jobs in the timber sector and deprived them of opportunities in rubber tapping and diamond panning. They were expected to pay to use the company roads and health facilities and came to view themselves as victims of a twin-track local economy.

Monrovia also suffered its discontents. Now home to over two million people, the city and its satellite towns benefitted little from the booming rice economy. Infrastructural development in the 2010s had connected them better to neighbouring countries but not to the south. While iron ore flowed down the railway to Buchanan and the rice sector developed Greenville and Harper ports, Monrovia's huge Freeport lacked investment and trade. Monrovia's complained that the south bought nothing from them, importing direct from the Middle East or along the new highway from Abidjan.

While there was occasional violence in the southern counties between local communities and migrant workers, 'police' and developers, all of them with access to firearms, the real trigger for violence occurred in Monrovia. In 2027, drought in North America combined with the pollution of the Niger basin's rice fields, to put enormous pressure on global and regional food production and prices. Across North and West Africa, rice prices tripled over six months. Facing protests back in Cairo, and enjoying strong rains as the Liberian plantations approached full productivity, the Egyptian developers produced a record harvest, more than tripling Liberia's output. Yet all this food was pre-ordained for Egyptian consumers; nothing was released to markets in Monrovia or Abidjan to ameliorate local conditions.

In the first instance, there was angry anti-government protest in Monrovia and other towns of the north, with numerous deaths and some destruction of homes and shops. In the second instance, opposition politicians organised a march on the south to 'liberate' the silos of Greenville. When these were blockaded at the border of the five counties by the private police force there was a violent confrontation. Violence spread rapidly in several directions. First, the repulsed northerners returned to Monrovia and began to attack targets associated with Egypt and other Arab states.

Second, this violence spread to Abidjan, Conakry and cities all along the West African coast, where the local Levantine trading communities faced allegations of speculation and profiteering from food hoarding. While this violence subsided relatively quickly, the result was that tens of thousands of Arabs, most of them ECOWAS citizens, were evacuated, doing major damage to local economies and distribution structures for years to come.

Thirdly, violence spread within the rice zone as there emerged an escalating three-way conflict between indigenous communities, settlers and the company.

Company police attacked or isolated perceived troublemaker communities, starving or forcing many thousands to flee to Côte d'Ivoire. The ECOWAS Standby Force was mobilised successfully to contain the conflict, though violence raged within the forest for years, weapons were distributed in every community and a standing peacekeeping presence was required for seven years. The rice plantations never came close to resuming their 2027 productivity before being nationalised in 2030.

DIMENSION 6 - ECONOMIC SECURITY: EMPLOYMENT, RESOURCES AND SYSTEMS

Economic security is the ability of a population to access employment, to earn an adequate basic income or to be adequately supported by a social safety net. A broad definition is employed here to account for the loose context of employment in West Africa. Rather than the ability of the state to provide a social safety net, the ability of the state to facilitate economic development that advantages the population is considered.

1. Overview and context

As discussed in Part 1, ECOWAS is the world's poorest region in monetary and human development terms and poverty of some degree is likely to be its wider context over the next 20 years. Though there are few entirely unoccupied citizens, unemployment or at least under-employment are the norms; only a small minority of West Africans ever earn a regular salary and state social benefits are extremely limited. With the absolute majority of the sub-regional population surviving on less than \$2 per day, the basic needs of most citizens can at present be met neither by private work nor by the state.

Access to energy is a critical factor, with the sub-region being a global focus for the extraction and trade in oil, gas and uranium simultaneous with enduring one of the world's lowest rates of access to electricity or reliable fuel supply. Without electricity, large segments of the regional population are excluded from participation in the modern economy, especially access to information communications technology. This affects most of rural West Africa, increasingly large portions of cities and even, in the cases of Liberia and Guinea-Bissau, almost entire countries. Projects to extend and interconnect energy and other infrastructure, including the Gas

Pipeline (WAGP) and Power Pool (WAPP), are a priority for ECOWAS over the next decade. Starting from such a low base, they face a major challenge to keep pace with demand and expectations.

2. Future drivers of crisis

For the future, access to employment is likely to be the burning issue for most of the population. Neither pervasive unemployment nor the youthful nature of the working age population is a new or dynamic factor but the rapid transformation of the population from rural to urban dwellers will help to transform the context and impact of unemployment and economic resentment. Awareness via information technology of regional underdevelopment and opportunities and obstacles to migration outside of the region will shape these tensions within and without the state.

Access to energy and distribution of natural resources, be they mineral, water or land, and the public management of revenues from their exploitation will also continue to be defining features of sub-regional economic insecurity, driving resentment against the state and between communities. Growing inequalities in the provision of basic infrastructure will also be a driver of crisis both in terms of isolating conflict or disaster prone regions from zones relatively well integrated with the global economy and in terms of isolating them from disaster responders. This will not be simply a rural/urban divide.

Those regions that are well integrated into the global economy will become ever more vulnerable to the breakdown of the sophisticated electronic and information systems on which they and the rest of the

world rely. This kind of systemic failure will impact not just on the functioning of the economy but on the ability of the state and other humanitarian actors to respond to disasters of all types.

1. Unemployment

This covers not just formal unemployment (absence of secure, salaried employment) but pervasive under-employment of individuals unable to utilise their skills effectively or to earn a sustainable, regular income from their activity. It thus covers the large proportion of the working age population engaged in the informal sector and those, like many child workers, caught in unpaid labour. Whereas the UNDP concept of human security typically conflates unemployment with economic insecurity, it is here used as a driver of potentially violent crisis in its generation of tensions between groups and against the state.

2. Access to energy and infrastructure

This refers to differences in the physical or information isolation of a region or community and its isolation from the wider regional or global economy. Infrastructure deficiencies may include transport (functional roads, railways, airports, ports and ferries), telecommunications and energy. That latter is particularly important as a source of social tensions because electricity is among the most obvious deficiencies of urban slums and because the ECOWAS region is a net energy exporter, meeting the wider world's energy needs before its own. Isolation may be an active driver of crisis by generating tensions between the centre and isolated periphery or a passive driver by impeding response mechanisms to other types of humanitarian crisis that arise. Indeed, in many cases it will be both, as witnessed in the very different contexts of the Mano River States and the Sahara regions of Mali and Niger.

3. Synchronous failure

This refers to the collapse or failure of the structures and systems on which an economy is based. These may be information, control and communications systems like the internet or complex financial structures that manage and distribute credit. In effect, globalisation and technology mean that failure of one complex system may lead to the synchronous or sequential failure of other systems. This may occur accidentally by systems overload or mismanagement or it may be induced artificially by intervention such as speculation, hacking and introduction of virus agents. Re-establishing a system that has collapsed may not be possible and may therefore necessitate the very costly creation of a replacement system.

3. Cross-cutting issues

3.1 Demographic change, urbanisation and migration

Demographic growth and the ongoing youth bulge in West Africa's population structure is integral to the problem of unemployment. While youth is generally an asset in a labour force, economic growth has thus far been too weak for employment to keep up with the expansion of the labour force. Over the long term, the reduction of the rate of population growth – a slackening in the youth bulge – should allow for some of this surplus labour to be absorbed, but this will still necessitate the rate of overall growth being well above the long-term rates that most countries have experienced. By the 2020s, some larger member states like Ghana, Côte d'Ivoire, Senegal and Nigeria are likely to have more stable populations overall but the proportion entering the labour market is always 15-20 years behind this overall pattern.

Urbanisation is in large part a response to lack of economic opportunity in rural West Africa, even though most rural dwellers can find at least some work and sustenance in agriculture. While urban dwellers tend to be better off on average in financial terms than rural dwellers, their quality of life may be lower and their frustration levels higher due to overcrowded unsanitary conditions, higher cost of living (including food) and the glaring disparities of income and status in cities. Urbanisation is also a reaction against the isolation of life in the hinterland but it does tend to reinforce the distinction between connected and disconnected regions. However, these distinctions are increasingly replicated within urban areas, where most unemployed and recent in-migrants have to survive without electricity, safe water or sanitation.

Migration regionally and internationally is also a response to lack of economic opportunity, especially for the educated or skilled who have already attempted to advance themselves in cities. Migration has traditionally functioned as a safety valve for domestic socioeconomic tensions and the home state has eventually benefited economically from the repatriation of income earned in a foreign country, the largest source of private investment in most ECOWAS member states. As the diaspora grows, such revenue flows should become ever more important as a stimulus to economic activity and employment. However, the steady increase in obstacles to migration from West Africa to Europe and North Africa has reduced this social pressure valve, especially in relative terms to the number of young West Africans wanting to emigrate.

3.2 Climatic and environmental change

Climate change is likely to exacerbate unemployment and economic insecurity through its likely negative impact on agricultural production, especially in the most

vulnerable areas of the Sahel. Economic insecurity also has many consequences for environmental change, from overworking arable land and pasture to the destruction of forests for firewood in the absence of more sustainable sources of energy. Loss of vegetation and tree cover is then likely to feed back into a reduction in precipitation. In many coastal areas, including around major cities such as Dakar, inshore fishing is a popular response to unemployment but there are far too many fishermen for the available fish.

4. Global Change

4.1 Political change

Change to the restrictions on migration of West Africans to the EU, North America and other more developed regions would be an opportunity for sub-regional economic security through the opening up of more lucrative employment opportunities overseas. This would reduce social tensions among the masses of potential out-migrants but would also tend to encourage the 'brain drain' of the most skilled workers. However, by the 2020s, the patterns of migration into and out of West Africa may be very different. The development of countries in Asia, the Middle East and Latin America has already begun to attract large numbers of economic migrants from West Africa and these numbers are likely to expand considerably if these countries continue to advance more rapidly than traditional Northern economies and maintain more open labour markets. Conversely, there may be a movement of workers from these emerging economies to West Africa to fulfil specialist roles, as with the influx of Chinese construction workers to Africa this decade. This may have the impact of a 'brain gain' but at the expense of employment opportunities for locals and may therefore increase social tensions.

4.2 Economic change

Changes in global trade regimes will have implications for economic security in West Africa. Breakthrough in the World Trade Organisation negotiations on removing subsidies for producers of key commodities in the more developed states would boost the profitability of agriculture in the sub-region, including cotton and rice, with the potential to boost employment and investment in infrastructure in rural areas. A boom in agricultural commodity prices is likely to have a far bigger impact on employment and poverty reduction than booms in international energy or mineral prices as the mining sector usually employs relatively few people.

Conversely, the rise of the developing powers and their likely greater influence in the international financial institutions may lead to changes in the structural adjustment frameworks in which most ECOWAS member states have attempted to develop. Rather than becoming more open to trade, they or ECOWAS as an integrated

region may adopt more protectionist policies in an attempt to stimulate an internal market and import substitution industries. In response, it may be that industrial producers in the new developed states will move up the value chain and outsource manufacturing activities to Africa just as European and Japanese firms originally outsourced production to them.

4.3 Technological change

Technological change is both the motor of economic development and its key vulnerability. West Africa will not be able to integrate its economy with the global mainstream unless it participates fully in the information technology revolution. Yet these virtual technologies are unstable and have strong potential to be subverted by error, overload or attack. The advantages of their intense integration may become massive disadvantages if the collapse of one unit or system provokes a synchronous collapse of other systems integrated with it. This is a generic feature of globalisation and is true of financial and insurance systems as well as information systems.

The development of an energy source that rapidly replaced oil would be revolutionary for West Africa's economy. Most of the smaller economies would stand to benefit from cheaper power but the decline in revenues for Nigeria could be catastrophic given its long-term dependence on oil exports. If the sub-region succeeds in introducing a single currency, its value would likely be heavily influenced by the predominance of oil exports, compounding regional dependence on this key commodity.

5. Cascading risks and links to conflict

There is an unreliable correlation between poverty and conflict and a rather stronger linkage between economic crisis and violence. Most of West Africa has endured several decades of crisis of the rural economy, high urban and youth unemployment and pervasive poverty without experiencing a major violent conflict. The dynamic factor for the future is likely to be the decisive shift in population from rural to urban environment and the different intensity of the experience of urban unemployment and deprivation.

However, the growth in violent urban protests witnessed since the 1990s demonstrates how the experience of chronic unemployment and economic insecurity could be converted into violence through convergence with other drivers and triggers of insecurity: food insecurity and inflation; community insecurity between groups in competition for resources; political insecurity as politicians mobilise disenfranchised constituencies; personal insecurity and the corrupting influence of organised crime; health insecurity and opposition to new kinds of pollution.

SCENARIO 6: SYNCHRONOUS FAILURES

This scenario envisages an economic crisis occasioned by the collapse of critical energy and telecommunications infrastructure in response to a geomagnetic surge. It speculates on what would be the humanitarian implications for a sudden rupture of energy distribution and communication and control connections within and beyond West Africa.

During the 2010s ECOWAS finally made the rapid progress towards economic prosperity and regional integration that its founders had envisaged 40 years before. ECOWAS' focus upon infrastructure projects was hailed as the driver of this integration and the fostering of a regional market with significant economies of scale. In 2018, the West African Power Pool finally completed the last link in its high voltage grid, with Liberia and Sierra Leone connecting to the rest of the sub-region. Two years later, the West African Gas Pipeline arrived in Dakar, bringing Nigerian gas to almost all of the sub-region's major urban centres.

Meanwhile, the use of cheap satellite broadcast WiFi technology and the much touted \$100 personal computer brought broadband internet connections to even the most remote communities, revolutionising their ability to do business. Nigeria's satellite programme had expanded greatly, producing and launching satellites domestically and on behalf of the ECOWAS collectivity.

The geomagnetic surge of March 2028 changed this dependence on satellite telecommunications within seconds. The abandonment of global satellite advance warning systems to monitor solar surges after the much predicted solar storms of 2011-12 failed to materialise made it impossible to respond to the surge and difficult to trace its origins definitively. In the past, geomagnetic storms had mainly affected high latitudes tilted towards the sun. The surge of 2028's concentration on the central Sahara

and its unusually short duration led to allegations that it was actually the secret testing of an electromagnetic weapon on a poor, unpopulated region or even targeted at the newly developed European energy infrastructure there.

The consequences were felt most immediately in the energy sector, with the WAPP immobilised as the ultra high voltage DC surge disabled the AC distribution infrastructure and melted transformers across the region. Power generating facilities shut down automatically. Without electricity, the gas and oil pipelines and refineries also shut down, depriving the new dispersed thermal power stations of feedstock even once the critical transformers had been replaced in the southern belt. Unable to pump oil or gas, the energy export sector ground to a halt. Hospitals ran on emergency fuel stocks for a few days before even their most vital support systems had to be shut down. Fresh water and sewage pumping systems shut down and left citizens scrambling for the little safe water still available from wells and watercourses in urban areas. Millions of urban dwellers surged into the countryside in quest of food and safe water.

West African humanitarians were in many ways worse prepared to respond to the crisis than they would have been at the turn of the century. In response to the increase in localised flooding and drought emergencies, humanitarian agencies had invested heavily in distribution infrastructure over the previous two decades, developing regional stockpiles of foodstuffs, medicines and technical equipment and a network of just-in-time air and road delivery systems. Vast warehouses dependent on air conditioning suffered early on, their emergency generators lasting less than one week after fuel and electricity supplies failed to resume. Food rotted and chilled medicines expired. Local coping mechanisms had been eroded by the demise of traditional granaries in favour of refrigeration and food

imports, and by increased dependence on automated remittance transfer payments.

Air transport was able to resume after several days of disruption occasioned by the failure of air traffic control systems across Africa and Europe but, as with land vehicles, the volume of aircraft operating was constrained by the regional availability of fuel. Compared to the 20th century, reserves of fuel and batteries had been reduced dramatically due to the growing expectation of supply sustainability from within ECOWAS. Command and control of humanitarian relief operations was also problematic due to the reliance on internet, satellite/GPS and mobile telephone connections, all of which ceased to operate or operated with severe capacity restrictions when the electricity and satellite connections failed.

Temporary collapse of energy, communication networks and sanitary infrastructure was not the only problem blighting West African industry in the aftermath of the geomagnetic surge. Millions of computers were knocked out by the surge, most were beyond repair, necessitating acquisition of new systems and servers. Banks and financial transactions simply ceased to function, leaving millions suddenly cut off from savings and remittances. While rural areas were better insulated by their reliance on local generating capacity or batteries, their utter dependence on satellite technology for telecommunications cut them off for far longer as many of the very satellites that served them were rendered inoperable by the geomagnetic surge. Trucks that should have carried food and cash crops from the country to the cities and ports were immobilised through lack of fuel. Mines and factories were idle. In the three weeks it took to repair the damage to basic infrastructure, billions were wiped off the regional economy.

6. Potential shocks

- Systemic failure of the world wide web
- Collapse of the euro or the ecu
- Abandonment of global agricultural subsidies
- Development of an alternative primary energy source to replace oil

7. Questions for ECOWAS

- What do you see as the principal gaps or deficiencies in ECOWAS' existing policy on economic security?
- Which commissions, departments, units and agencies within ECOWAS need to collaborate to implement policies to mitigate economic insecurity?
- Who should be ECOWAS' primary external partners to implement policies to mitigate economic insecurity?

DIMENSION 7 - HEALTH SECURITY: NEW AND OLD TOXINS

Health security is a relative concept given human mortality but may be associated with availability of adequate medical care and an environment free from debilitating disease. This section is concerned primarily with dynamic threats to health security in West Africa, especially infectious and epidemic disease. It does not attempt to assess the full spectrum of endemic disease and common threats to health, including maternal and child mortality, though it acknowledges that these constitute chronic health crises in their own right. Malnutrition is dealt with under Food Security (Dimension 5).

1. Overview and context

West Africa presents an extremely challenging environment for human health. Endemic tropical diseases are virulent, exacerbated by widespread malnutrition, lack of access to clean water sources and one of the world's highest population-to-doctor ratios. The average West African can expect to live just 50 years, while only average Cape Verdeans, Senegalese and Ghanaians can expect to survive beyond 60.

Preventable diseases like malaria, typhoid and diarrhoeal infections are major threats to the population of almost all regions while cholera and meningitis are significant seasonal threats in the wet and dry seasons respectively. Rarer but still preventable diseases such as yellow fever and polio sporadically break out while incurable sleeping sickness, HIV/AIDS and tuberculosis have a significant prevalence in several countries.

Most of these health threats are preventable, treatable or containable within current technological capacities. Their continued prevalence relates at least as much to West Africa's poverty as to its physical environment. Climate and environmental change as well as urbanisation and migration will modify existing disease vectors but it is

this absence or application of modern medical science, including breakthroughs not yet made, that will likely determine the region's future health security.

2. Future drivers of crisis

While the ordinary context of future health insecurity in West Africa is likely to be determined by existing endemic diseases and a paucity of health workers and medicines, there are at least four dynamic factors that could cause massive casualties in the region.

1. Epidemic disease

This covers any disease whose incidence rate is unexpectedly high within a given territory or for which, in other words, a society is unprepared. Certain endemic diseases – for example, cholera, yellow fever, lassa fever or meningitis – have and will continue to break out in localised epidemics. The much larger threat is from a new or un-encountered pathogen of extreme virulence that spreads very rapidly in a global pandemic. HIV/AIDS is an example of a relatively slow moving pandemic that appears to have been contained within West Africa while new strain influenza pandemics proved the most deadly and rapidly moving in the last century. The most likely threat for the near future is a human cross-over of Avian Influenza, whether or not a vaccine has been prepared. Other possibilities include the outbreak of a regionally exotic disease – ebola, for example – to which the population has little or no immunity. This could be deliberately or accidentally introduced.

2. Drug-resistant disease

Most of the potentially fatal diseases to which West Africans are exposed are treatable or prophylactic inoculations are available. However, pathogens have displayed remarkable ability to evolve resistance to

Table 9: Selected health Indicators

	Population per doctor (2005)	Life expectancy at birth (years, 2006)	Access to improved sanitation facilities (% of urban pop'n, 2006)	HIV prevalence (% of pop'n ages 15-49, 2007)
Benin	7,972	56	59	1.2
Burkina Faso	38,384	52	41	1.6
Cape Verde	2,896	71	n/a	n/a
Côte d'Ivoire	12,052	48	38	3.9
Gambia	15,400	59	50	0.9
Ghana	18,937	59	15	1.9
Guinea	17,181	55	33	1.6
Guinea-Bissau	8,494	46	48	1.8
Liberia	47,748	45	49	1.7
Mali	40,177	53	59	1.5
Niger	29,346	56	27	0.8
Nigeria	3,337	47	35	3.1
Senegal	14,442	62	54	1.0
Sierra Leone	14,662	42	20	1.7
Togo	18,031	58	24	3.3

Sources: ECOWAS Social and Economic Indicators, 2006; World Bank World Development Indicators

drug therapy. This includes malaria and tuberculosis as well as ordinary bacterial infections resistant to anti-biotics. The WHO has noted that such drug-resistance is spreading and the drug-resistant *plasmodium falciparum* strain of malaria is already well established in West Africa.⁴¹

3. Fake medicines

A bigger problem may be not that West African diseases are resistant to standard drugs but that so many of the pharmaceuticals sold in West Africa are either fakes containing little or no active ingredient (placebos), or contaminated with ingredients that actually harm the patient (poisons). UNODC reports the trade in counterfeit pharmaceuticals to be on a massive and growing scale in West Africa, with fake or dangerous drugs being imported from Asia and manufactured in Nigeria. Drugs containing inadequate quantities of active ingredients (especially anti-biotics) will increase the risk of disease strains developing drug resistance. The problem is compounded by arbitrary (non-prescription) sales of real drugs from small traders and poor drug regimes employed by users.

4. Pollution and waste management

Pollution is an environmental, health and personal (crime) security issue. It includes traditional forms

of unmanaged waste such as urban refuse and industrial waste as well as the deliberate dumping on land and sea of toxic waste generated outside of the region. Mining waste, including heavy metals in watercourses, radioactive dust from uranium mines, oil spills and gas flares, will continue to be an irritant to health and society. Pesticides and fertiliser run-offs will contaminate rivers and groundwater, especially if agriculture industrialises. By the 2020s these pollutants are likely to be supplemented by increasingly toxic by-products of industrialisation and potentially nuclear waste from the Nigerian or other states' nuclear energy programmes. The danger of new industrial wastes is already demonstrated by the huge volumes of end-of-life electronic products imported from the developed world for breaking, recycling and disposal in West Africa, leaking or smoking toxic and heavy metals into the highest density urban areas. The volume of these redundant goods is growing rapidly; the world's poorest states will be their destination as long as their regulatory environments remain relatively weak.⁴²

3. Cross-cutting issues

3.1 Demographic change, urbanisation and migration

Demographic growth will continue to put huge pressure on ordinary health resources in West Africa in the next two decades as member states struggle to increase or simply maintain doctor to patient ratios and allocate large proportions of their budgets to maternal and paediatric health. Urbanisation may be a factor in favour of greater health security as more of the population resides closer to hospitals and clinics. However, the growth in overcrowded slum residence will increase the potential for rapid spread of epidemic disease, not least cholera and typhoid, as well as future pandemics. Whether urbanisation improves or worsens health security will depend upon whether urban health and sanitation infrastructure keep pace with urban population growth. In most cities this is unlikely to be the case and the poorest countries with the most rapid rates of urbanisation are likely to be most vulnerable to future epidemics. More developed countries and cities that manage to industrialise will face increased challenges of toxic waste management but all areas will face a proportionate increase in refuse management as population increases.

Migration is likely to reinforce the driver effect of epidemic disease with humans acting as the vector of contagion. To a limited extent this has been seen with the spread of HIV/AIDS into the region in the 1990s and other exotic diseases are likely to follow. In the case of a virulent pandemic like influenza, relative openness of borders and modern transport systems mean that it will not be possible to prevent contagion of the region or within the region.

3.2 Climatic and environmental change

Zones of endemic disease have already begun to shift in line with global warming and variations in rainfall patterns and these changes are likely to become more pronounced and more rapid in the next twenty years. Among the most affected diseases are likely to be malaria, which is spread by mosquitoes that reproduce in areas of stagnant water, and meningitis, which is associated with dust plumes that blow out of the Sahara during the harmattan (dry) season. Global warming is having uncertain effects on the generation and intensity of dust plumes, though regional drying as projected in the central and western Sahel, may stimulate dust movement in the area worst affected by meningitis. Unseasonal and extreme rains will create areas of standing water suitable for the reproduction of mosquitoes, potentially increasing their range and seasonal duration. Again, this is most likely to affect normally drier areas of the Sahel and northern savannah belt, where malaria has been less prevalent than in the coastal and forest belts. In urban areas, wet season flooding events are associated with waterborne diseases

including diarrhoeal infections, cholera and typhoid. Variations in the intensity and predictability of rainfall, coupled with increases in urban density, are likely to increase the potential for these endemic diseases to generate epidemics.

4. Global Change

4.1 Technological change

Technological innovation will have the greatest impact upon health security in the longer term through the identification and distribution of vaccines or cures for endemic diseases. In most cases, an effective vaccine, prophylaxis or medication has already been developed but may await effective distribution for reasons of cost. In other cases, such as the potential for a new influenza pandemic, the world will depend upon scientists to develop a medical response to previously unknown pathogens.

A cheaper and more effective prophylaxis or treatment against malaria would have the most dramatic effect while the provision of low cost water pumping and purifying equipment would have a major effect upon preventing waterborne disease. Both innovations would likely lead to an increase in overall population growth through reductions in the death rate, though this may be balanced in the longer term by reductions in the birth rate as typically experienced among healthier populations.

Conversely, medical science could be responsible for the emergence of hard to control new pathogens in its efforts to cure existing ones. Virulent strains of disease exist within laboratories and could be released accidentally by scientists, deliberately by terrorists or in the context of biological warfare. While West Africa may not be the most likely target for such activities in the foreseeable future, once released anywhere in the world the potential for pandemic spread to the sub-region would exist and the most vulnerable populations would, as ever, be hit hardest. West Africans have already been used at least once by drugs companies for a medical experiment with fatal consequences and untested or unsafely prepared medications may again have unintended negative consequences for health security.

Science is also a double-edged sword in terms of pollution. Industrial development will likely improve the economic status of the sub-region but bring with it new toxins. Nuclear energy as is being sought by Nigeria, and has been proposed by Senegal and Guinea among others, would introduce a very significant new challenge for radioactive waste processing and storage and would bring an inherent risk of nuclear accident and contamination. A lower risk strategy would be to invest in clean, renewable energy sources, of which West Africa could become a net exporter, for example by harnessing solar energy in the Sahara.

SCENARIO 7: PANDEMIC

This scenario envisages the sub-regional impact of a global influenza pandemic.

It speculates on what particular vulnerabilities there would be in the West Africa region and how the health crisis might impact upon other areas of human security, including personal security, economic security and food security.

There had been widespread outbreaks of H5N1 influenza A in poultry avian influenza in the late 20th and early 21st centuries. There were outbreaks across Nigeria and the southeast of ECOWAS in 2006–07 and a second outbreak focused on Guinea and Sierra Leone in 2015–16. Both were linked to migratory birds from Europe. H5N1 had spread from time to time to humans, including in both West African outbreaks, in which the case fatality rate was in the order of 85%. This was significantly above the global 60% rate due to a lack of diagnostic and treatment centres. In neither case was there any proven human to human transmission. It was clear that, however the H5N1 virus evolved, the likelihood of a pandemic of influenza remained a constant threat.

In November 2028, a new form of the H5N1 Influenza appeared in Indonesia and spread globally. By mid-January 2029, the virus had spread to nearly 80 million people worldwide. Carried abroad by international long distance commercial flights, the illness leap-frogged out of South-East Asia and appeared in Hong Kong, London, Paris, Cairo, New York, Beijing, Calcutta and Dubai almost simultaneously. By February 2nd, when the first human case was confirmed in West Africa, the number of affected globally had risen to 390 million. By the end of that month, when the epidemic surge peaked, the global attack rate was 30% (2.4 billion infected), with over 1% of those infected dying. While the attack rate in West Africa was comparable to the global figure (infecting about 110 million), it was more concentrated and deadly. The sub-regional death rate was

estimated at the far higher figure of 2.5% (2.7 million), representing one-tenth of global fatalities.

None of the exposed population had any immunity to this new mutation. Altogether, the preparedness systems set in place since 2006 performed as planned, although early gains in preparedness had been eroded by complaisance over the containment of the near pandemic of 2015–16 and the sharp decline in bird deaths over the following decade. Furthermore, while significant efforts had been poured into the preparation of anti-viral medicines and vaccine research, the medical community's attention had been focused on preparing vaccination for the H5N1 virus strains that rose to prominence years earlier in 2006 and 2015. The genetic material of the H5N1 Jakarta mutation was sufficiently different that even these preparations proved ineffective. Mechanisms put in place to deal with the outbreak struggled to cope with the Virus' capacity for rapid mutation.

Although anyone was vulnerable to infection, it was the poor and the under-nourished who were hit the hardest. Previous studies found that malnutrition increased the chances of death significantly. Those with HIV or other immunodeficiencies were particularly affected, comprising over one third of the global death toll in 2029. Almost half of the dead in West Africa were carriers of HIV or tuberculosis, reflecting a particularly high death toll in the cities of Nigeria and northern Côte d'Ivoire. Most of the rest were malnourished, especially children, with the region particularly vulnerable in the wake of the 2027–28 food crisis.

Within ECOWAS, the disease spread quickest and fastest in overcrowded urban areas and was most lethal in those secondary or hinterland cities where medical facilities and security forces were spread most thinly. By contrast, several capitals and primary urban centres, including Abuja, Lagos, Cotonou, Abidjan and Dakar, were

able to use their relative concentration of medical resources, security forces and physical and human geography (peninsulas, islands and grid systems) to impose more effective constraints on population movement and thus contagion. However, no country was spared. The Cape Verde archipelago – as close to a natural quarantine station as possible – found its geographic advantage turned against itself when the virus and panic swept Sal Island, closed its international airport and compelled the government to suspend contracts. Thousands of residents and tourists died of thirst and starvation before the desert island's quarantine was lifted three weeks later, far more than died of influenza, and the highest proportional death toll within ECOWAS.

Travel restrictions were soon put in place elsewhere. Ghana and Togo were the first countries to close their borders officially in efforts to limit infections, severing the Abidjan-Lagos primary trade route and disrupting port traffic with Burkina. Soon most other countries followed. The limitation of air travel and cross-border movements did little to prevent the spread of the disease, but had terrible medical, economic and political consequences. As the disease spread, travel restrictions (both forced and voluntary) were extended to the local level. National and international aid agencies, subject to travel bans and border restrictions, were thus unable to send specialist staff and supplies into the affected areas. In practice, a major share of the response across all countries ended up being supported, when not conducted, by the military. In practice, these were concentrated around capital cities and key infrastructure, leaving most rural areas and smaller towns to protect themselves.

People were told to stay in their homes and public services were severely constrained by absenteeism and by mandatory safety procedures and requirements for protective

equipment and special clearances. Public buildings and roads emptied. Food imports were restricted, causing massive shortages, hunger and, despite the threat of infection through human contact, looting and food riots. All critical infrastructure, including telecommunications, suffered by decreased maintenance and difficulties in repairs. The ensuing electric and fuel shortages at industrial and household levels spoiled food stockpiles that relied on refrigeration or artificial ventilation. Public safety services such as fire and police were overwhelmed and struggled to coordinate without reliable power and telecommunications. Fires burned out of control as some communities attempted to cut themselves off completely.

Vigilante activities boomed within cities and along roads through the countryside, often achieving

considerable success in insulating regions and neighbourhoods from new contagions and leading citizens to question the capacity of the elected authorities. However, many vigilante groups were initially little more than bandits, robbing travelers and the displaced rather than curtailing their movements. From late February, the height of the dry season, widespread use of fire to isolate areas of infection became a major source of casualties due to bush wildfires and the deliberate and accidental destruction of slum neighbourhoods, especially those in proximity to rubbish heaps.

The economic costs were staggering. Worldwide economic losses were estimated at over 20% but losses within ECOWAS were estimated at up to twice this figure. Stock and equity markets collapsed and demand for West African commodities slumped as did the short term ability of the

diaspora to transfer remittances. Shipping and distribution networks took months to resume full operation, leaving imported goods scarce and unaffordable throughout 2029.

The international humanitarian community itself was severely affected as well; in addition to the curtailment of international travel, many members of international aid and policy organisations were themselves afflicted, severely reducing organisations' response capacities in subsequent crises. West African doctors, nurses and support personnel themselves contracted the virus due to more intense exposure and tens of thousands died, making it far more difficult to produce an effective response and to care for the survivors.

5. Cascading risks and links to conflict

Threats to health security are closely linked to threats to environmental and food security, and also linked to threats to economic security. A healthy population is vital to maintaining a robust economy, including through education, and the production of sufficient foodstuffs. Security of clean water and food supply are vital to maintaining a healthy population. Pollution is an environmental and often criminal threat that drives health insecurity directly or indirectly through destruction of agricultural land, fisheries or livestock.

Under ordinary circumstances, links between health crises and conflict are weak but under a situation of overwhelming pressure such as a global pandemic might introduce, a health threat could drive a violent response. Under emergency powers, states would probably attempt to close their borders and deploy their militaries to contain or divert population movements. Mass migrations out of areas of perceived infection, including across state borders, would therefore be met with force and could generate violent confrontations. Vigilante and militia groups may be formed to protect neighbourhoods in a context of temporary lawlessness.

6. Potential shocks

- Pandemic influenza
- Rapid expansion of drug-resistant strain of malaria
- Chemical factory explosion
- Radioactive leak from nuclear power station or waste
- Collapse of global intellectual property rights regime governing patent medicines

7. Questions for ECOWAS

- What do you see as the principal gaps or deficiencies in ECOWAS' existing policy on health security?
- Which commissions, departments, units and agencies within ECOWAS need to collaborate to implement policies to mitigate health insecurity?
- Who should be ECOWAS' primary external partners to implement policies to mitigate health insecurity?

Endnotes

- 1 The ECOWAS Strategic Plan has begun with a five-year timeframe. 'Strategic Vision 2020', an ECOWAS supplementary instrument of 2008, sketches a provisional outline of where the Community may be 12 years later.
- 2 ECPF, Articles 93-96.
- 3 These are items a), b) and c) respectively of Article 94 of the ECPF.
- 4 ECOWAS Policy for Disaster Risk Reduction (August 2006), Executive Summary and Paragraph 2.2.2, pp. 2-6.
- 5 In light of the Strategic Vision 2020, Article 4 of the ECPF states that "the tensions between sovereignty and supranationality, and between regime security and human security, shall be progressively resolved in favour of supranationality and human security respectively." Article 27 states unequivocally that "The overall aim of the ECPF is to strengthen the human security architecture in West Africa."
- 6 Mahbub ul Haq, et al, *Human Development Report 1994 : New Dimensions of Human Security* (UNDP : New York, 1994) pp. 22-40.
- 7 These are: Benin, The Gambia, Guinea, Guinea-Bissau, Liberia, Niger and Togo.
- 8 For example, in 2007 Goldman Sachs modelled a scenario in which Nigeria ranked 18th among world economies by 2025 and 11th by 2050. Estimations of Nigeria's future performance are based upon slight improvement on its medium term 5.6% GDP growth rate achieved during the exceptional expansion of oil revenues, 2001-06. GDP per capita is projected to remain solidly lower middle income until the 2030s: \$2,161 in 2025. In 2007, Nigeria was ranked the world's 40th largest economy (nominal US\$ GDP) by the World Bank. As a bloc, ECOWAS was equivalent in 2007 to the world's 32nd largest economy (Finland). Wilson, D. and Stupnyska, A. (2007), 'The N-11: More than an Acronym', *GS Global Economics Paper* 153.
- 9 These include the report A Preliminary Assessment of ECOWAS: Strategic Capacities for Meeting the Challenges of the Future, a pilot Futures Group scientific advisory panel, and training in futures issues, strategic planning and scenario development exercises.
- 10 Population Division of the UN Department of Economic and Social Affairs, *World Population Prospects: The 2006 Revision*. 611 million is the UN's medium variant projection for the ECOWAS region. High and low variant projections are respectively 699 million and 529 million. Maintenance of the constant 2000-05 birth rate would produce a population of 1,063 million by 2050.
- 11 In terms of urban population density, Western Africa counts 2,866 inhabitants per km², three times the global average of 902. UN Population Division (2007), *Urban Population Development and the Environment 2007*.
- 12 Late 20th century mean annual surface temperatures in inhabited areas of West Africa ranged from about 21°C in upland areas of Guinea and Nigeria to 30°C in northeast and west Mali. The entire coastal strip averages 26-27°C. The hottest inhabited place in the world is about 34°C (Ethiopia/Eritrea border), but there is currently no agriculture and almost no settlement in areas above 30°C mean temperature.
- 13 Cape Verde is slightly lower (0.2°C to 0.7°C increase), reflecting its island geography and the likely moderation of oceanic forces.
- 14 In January 2009, for example, Mali-Ville in Guinea's northern highlands experienced temperatures close to freezing, about 10 degrees Celsius below usual, destroying tropical crops and livestock. See IRIN, *Guinea: Record cold snap destroys crops, kills hundreds of animals*; <http://www.irinnews.org/Report.aspx?ReportId=83042>
- 15 *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the IPCC, p. 437.
- 16 This is an IPCC adjusted regional figure. The range of projections from three scenarios is sea level rise of 0.13 to 0.56 m by the 2090s relative to 1980-1999 levels. Other projections range significantly higher according to the rate of melt of Greenland and Antarctic ice.
- 17 The Sahel/Sahara locust plague of late 2004 and the outbreak of destructive caterpillars in Liberia and Guinea in January 2009 both appeared to be linked to exceptional rains in the previous season.

- 18 These states have achieved 25-year average per capita GDP growth rates of 5.1%, 9.1% and 4.5% respectively. ECOWAS' top performer, Cape Verde, has achieved 3.4% in this period. Starting out from identical per capita GDP as Burkina Faso in 1962, the average Indian is now 2.2 times richer than the average Burkinabe; the average Chinese is 5.5 times richer and the average Botswana almost 14 times richer. Burkina has the third-highest per capita growth rate in ECOWAS over 25 years.
- 19 World Bank figures suggest Liberian GNI per capita halved in the decade after Samuel Doe seized power in a 1980 coup and collapsed to under one-fifth of 1980 levels during the 1990-96 civil war.
- 20 The US-led invasion of Iraq, the EU's recognition of Kosovo's unilateral secession and the International Criminal Court's attempts to prosecute a serving head of state (Sudan's President Bashir) may be indicative of over-extensions of the international law project that risk a backlash in the non-Western world.
- 21 The Humanitarian Futures Programme brokers such links between scientists, social scientists, policy-makers and humanitarian groups via its Futures Groups in an attempt to promote the recognition and adoption of technological solutions by the humanitarian sector. A project to establish a prototype ECOWAS Futures Group is under way.
- 22 Senegal was already a multiparty state from the mid-1970s. The Gambia, which held regular multiparty elections between independence in 1965 and 1992, had a formal transition back to multipartyism in 1996 after two years of military rule. Due to military coups, Guinea-Bissau and Niger underwent two and three multiparty transitions respectively. Côte d'Ivoire ended the decade under military rule, nine years after its multiparty transition.
- 23 Guinea and Togo removed their two-term limits in 2001 and 2002 respectively. Attempts at such removals have failed in at least three other member states. The Gambia has no restrictions on presidential tenure. Since 2000, presidents of Ghana (twice), Cape Verde, Mali, Benin, Nigeria and Sierra Leone have all stepped down peacefully after serving two terms.
- 24 For example, the Central African Republic and Guinea-Bissau in 2003, Mauritania in 2005.
- 25 In the case of Nigeria's 1967-70 civil war, Biafra's secession bid was supported by several states, including France. Via proxies, all of the other Security Council members have also been involved in regional inter-state conflicts at some stage.
- 26 Exceptions to the regional peace of the 1970s and 1980s were the end of Guinea-Bissau's liberation war (1963-74) and two brief border conflicts between Mali and Burkina Faso. The only countries to avoid significant violent conflict in the 1990s were Benin, Burkina Faso, Cape Verde, The Gambia and arguably Ghana and Côte d'Ivoire.
- 27 The 1990s discourse of Ivoirité in Côte d'Ivoire is the best known example but similar examples can be found in many states, not least within the constituent states of Nigeria.
- 28 Examples include the two short wars fought between Mali and Burkina Faso over the Agacher Strip (1974 and 1985) and Senegal's border conflict with Mauritania (1989).
- 29 Positive recent examples include Nigeria's voluntary exchanges of territory with Benin and Cameroon, Niger and Benin's resolution of the Lete island dispute via the ICJ, the Mano River Union's handling of the Sierra Leone-Guinea dispute over Yenga and the establishment of a joint Management and Cooperation Agency between Senegal and Guinea-Bissau to control disputed offshore oil reserves.
- 30 Nigeria and Sierra Leone are prominent exceptions, having invested heavily in expanding their police services in response to persistent insecurity.
- 31 The government of Charles Taylor in Liberia (1997-2003) was perhaps an example of this, having developed an international criminal economy during its insurgency that did not change markedly after Taylor gained control of the levers of state.
- 32 See IFRC (2002), *Nigeria: Munitions Depot Explosion in Lagos, Final Report* (4 September 2002).
- 33 The natural boundaries of West Africa are the Atlantic Ocean, the mid-Sahara watershed ranges and the Darfur and Adamawa highlands. The Lake Chad basin excluding the small part in Niger and Nigeria is the only major drainage basin mostly outside of ECOWAS. Part of the Benue system is also in Cameroon.
- 34 There are at least 24 river basins within ECOWAS that cross national boundaries and at least seven basin management organizations. Every member state except Cape Verde is a member of at least one of these.
- 35 Extreme water stress is defined as total availability of less than 500,000 litres of water per capita per year. High water stress is availability of between 500,000 and 1 million litres per capita per year. This is not a measure of water used or water purity.

-
- 36 There are only about 1,000 residents living in proximity to the volcano. Past eruptions have caused evacuations of part of the island but few or no casualties.
- 37 Ghana, for example, has only one professional seismologist. He is due to retire from the University of Ghana in 2009 and does not have a replacement. Most of Ghana's seismic monitoring equipment is reportedly inoperable.
- 38 The 1939 earthquake epicentre was offshore and did not generate a tsunami but the potential is believed to exist for such an event.
- 39 Rice is popular in urban areas because it is easily stored and requires far less preparation and cooking time (thus energy) than 'village' crops such as roots, tubers or coarse grains that require pounding, milling or fermenting.
- 40 Burkina Faso and Togo were the only West African states considered moderately vulnerable. Insufficient data was available to assess Benin and Liberia. Edward H. Allison, Allison L. Perry, Marie-Caroline Badjeck, W. Neil Adger, Katrina Brown, Declan Conway, Ashley S. Halls, Graham M. Pilling, John D. Reynolds, Neil L. Andrew and Nicholas K. Dulvy. 2009. Vulnerability of national economies to the impacts of climate change on fisheries. *Fish and Fisheries*. Blackwell Publishing Ltd.
- 41 See Bloland, Peter B. (2001) *Drug Resistance in Malaria* (WHO, Department of Communicable Disease Surveillance and Response), p. 10.
- 42 In 2008, Consumers International estimated that 6.6 million tonnes of e-waste was being dumped by the EU every year in violation of the Basel Convention. A significant proportion of this reaches West Africa, especially Nigeria and Ghana. Six million obsolete computers are estimated to be imported to Lagos for disposal every year. Consumers International, e-waste: West Africa continues to drown in the rich world's obsolete electronics, Real Deal (UK, April 2008).
http://www.consumersinternational.org/shared_esp_files/GFSR.asp?NodeID=97576



If you would like more information about the *Humanitarian Futures Programme*, please contact our offices on +44 (0)20 7848 2869, and speak to one of our HFP team members.

Alternatively contact us at info@humanitarianfutures.org, or go to our website at www.humanitarianfutures.org

If you would prefer to write to us, please do so via the Programme Coordinator:

Humanitarian Futures Programme
School of Social Science and Public Policy
King's College London
138–142 The Strand
London, WC2R 1HH, UK