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# Degrees of Risk

Defining a Risk Management Framework  
for Climate Security

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# Background to the Report



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- Builds on E3G's climate security work since 2005
- Seminars with climate and security experts in 2009-10
- Joint analysis and drafting process with climate and security experts; Jay Gulledge and Bernard Finel
- Testing ideas: UK National Security Council; Halifax Security Conference; Global Military Advisory Group etc.

**This report aims to open a debate**

# Why Risk Management?



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- E3G's work on climate security showed the importance of considering the full range of climate scenarios for effective security planning
- Most analysis uses median IPCC scenarios which do not reflect latest science on extreme impacts or analysis on instability
- Public debates unhelpfully equate uncertainty with inaction
- In contrast major security decisions made on far more uncertain data than climate policy; "what threat will China pose in 2050?"

**Question: what would climate strategy look like if we treated it as seriously as nuclear proliferation?**

# Risk Management is...



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- Broader than optimisation, cost-benefit, real options....
- A pragmatic approach to making policy decisions under uncertainty
- Built on a long history of success – and failure – in security (and finance, resource management, infrastructure management etc)
- About “who” as well as “what” and “how much”
- A way of framing political debates but not replacing them
- Something we do all the time: deterrence vs disarmament; civil liberties vs terrorism risks; intervention vs isolationism.

**How much risk should we take?**

# Methodology Underpinning the Report

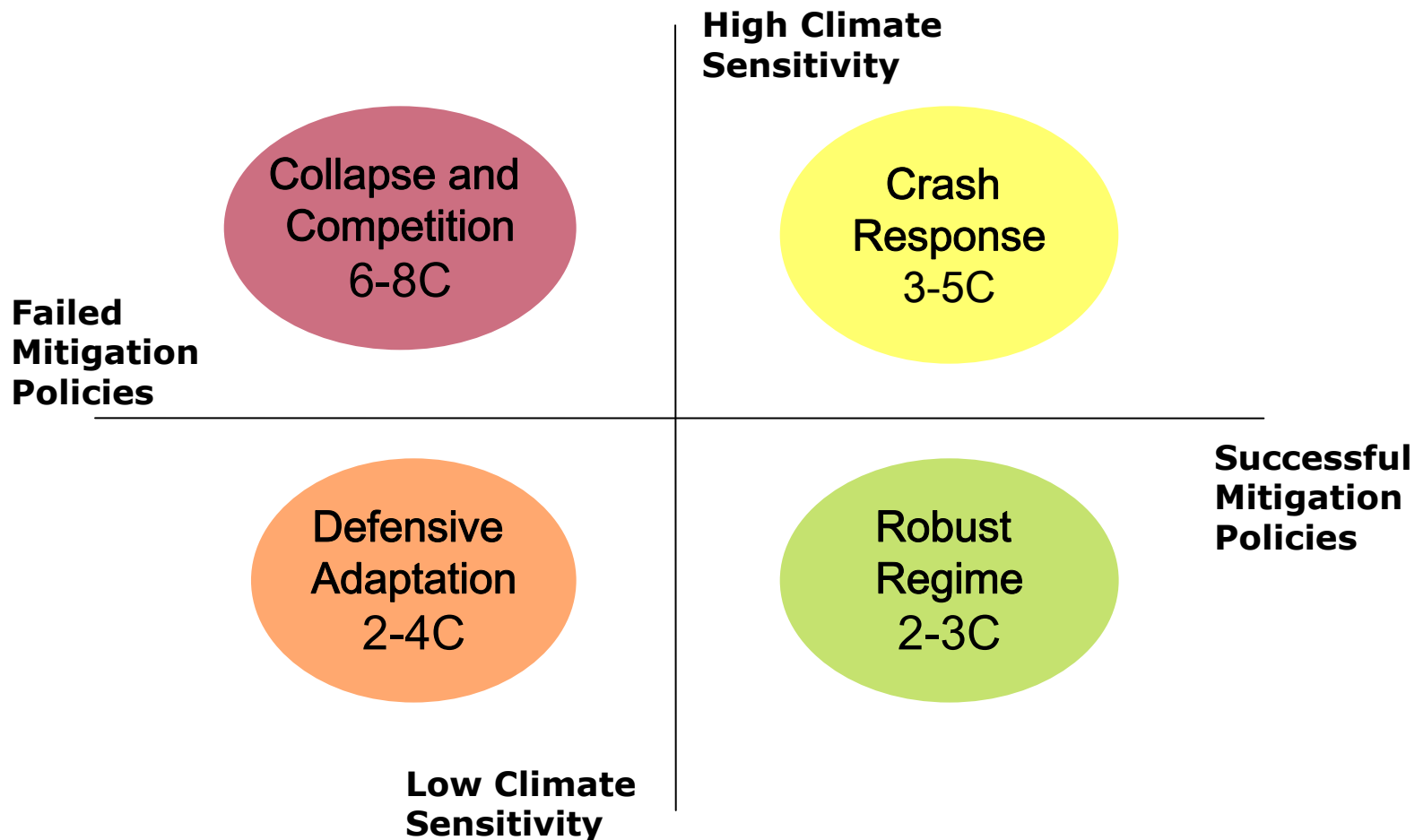


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- **Information Gathering:** systematic analysis of major impacts and uncertainties across climate science, impacts and mitigation/adaptation options.
- **Assessment:** of the policy implications of current information, including limits to what we know, what we could know and biases in how we understand issues and threats.
- **Risk Management Analysis:** evaluation of current risk management approaches to assess gaps or flaws in risk management frameworks; risk management instruments; and delivery of risk management

**We are not managing any of the risks well!**

# Scenarios assuming agreement to keep global temperatures below 2C



Could breach tipping points even if mitigation policy is successful

# The “**ABC**” Risk Management framework



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- **Aim** to mitigate to stay below 2°C;
- **Build** and budget for resilience to 3-4°C;
- **Contingency** plan for capability to respond to 5-7°C

Elements same for all countries/actors but goals will differ;  
there is no universal risk management approach

# Ten Steps to implement a Risk Management Framework



|                                   |   |
|-----------------------------------|---|
| <b>Aim to stay below 2°C</b>      |   |
|                                   | Sufficient mitigation goals   |
|                                   | Increased investment in transformational RD&D                         |
|                                   | Resilient and flexible global climate regime                          |
|                                   | Independent national climate security risk assessment                 |
| <b>Build and budget for 3-4°C</b> |   |
|                                   | Adaptation strategies for “perfect storms” and interdependent impacts |
|                                   | Improved cooperation on preventive and humanitarian intervention      |
|                                   | Increased resilience of international resource management frameworks  |
|                                   | Provision of data and tools decision-makers need                      |
| <b>Contingency plan for 5-7°C</b> |   |
|                                   | Contingency ‘crash mitigation” planning’                              |
|                                   | Systematic monitoring of tipping points                               |



Aim to stay below 2°C

Build and budget for 3-4°C

Contingency plan for 5-7°C

# Sustainable global response relies on National Climate Risk Assessments



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- A clear view on national interests is the necessary foundation on which to build an effective global regime to manage climate change
- Most countries have yet to develop clear goals which reflect their core national interests e.g. effectively eliminating the chance of 4°C? a 1% chance of materially shifting the Indian Monsoon?
- Current assessment is dominated by ministries in charge of implementing policy; need to separate the assessment and policy functions.
- Actors responsible for areas of economy, infrastructure and security most impacted by climate change do not yet have a say on the effectiveness and scale of domestic and international climate mitigation policy

**Without a “whole of government” risk assessment countries cannot effectively define their national interests**

# Need to plan for “Perfect Storm” and Policy Failure Scenarios



Aim to stay below 2°C

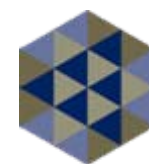
Build and budget for 3-4°C

Contingency plan for 5-7°C

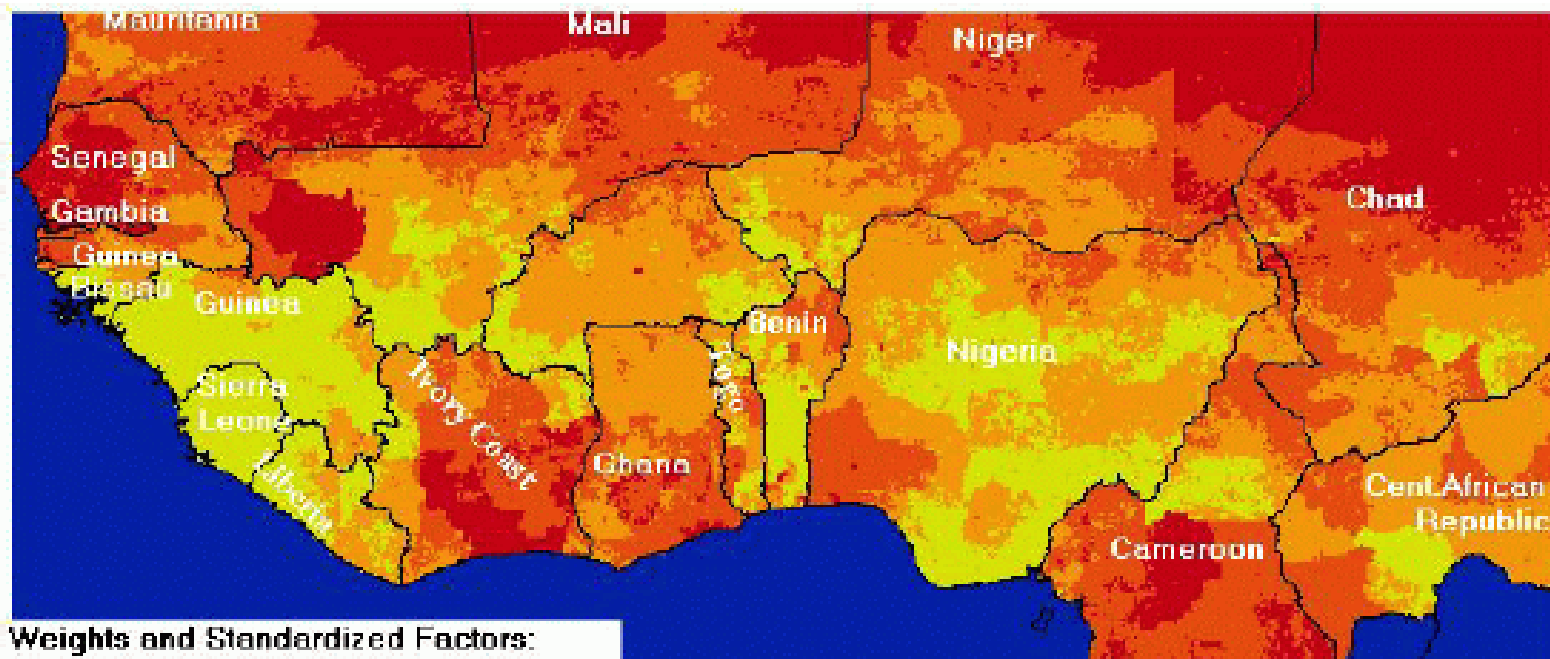
- Effective investment in national resilience requires clear identification of planning scenarios (2, 3, 4°C or higher)
- In the near term the highest risk come from the combination of climatic volatility, resource scarcity, poor governance and high energy prices
- Planning must go beyond the technical to address the impact of instability on adaptation e.g. in Pakistan post-flood reconstruction
- We do not yet have data or tools to effectively design adaptation strategies to manage these risks;

**Large potential for cooperative action in building better tools and decision support systems**

# Mapping Vulnerability



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Weights and Standardized Factors:

- 0.14 Precipitation
- 0.14 Coeff. of Variability of NDVI
- 0.14 Supply as a Percentage of Demand
- 0.14 Market Accessibility
- 0.14 Percentage Cash Crop
- 0.14 Population Density
- 0.14 Percentage Crop Area

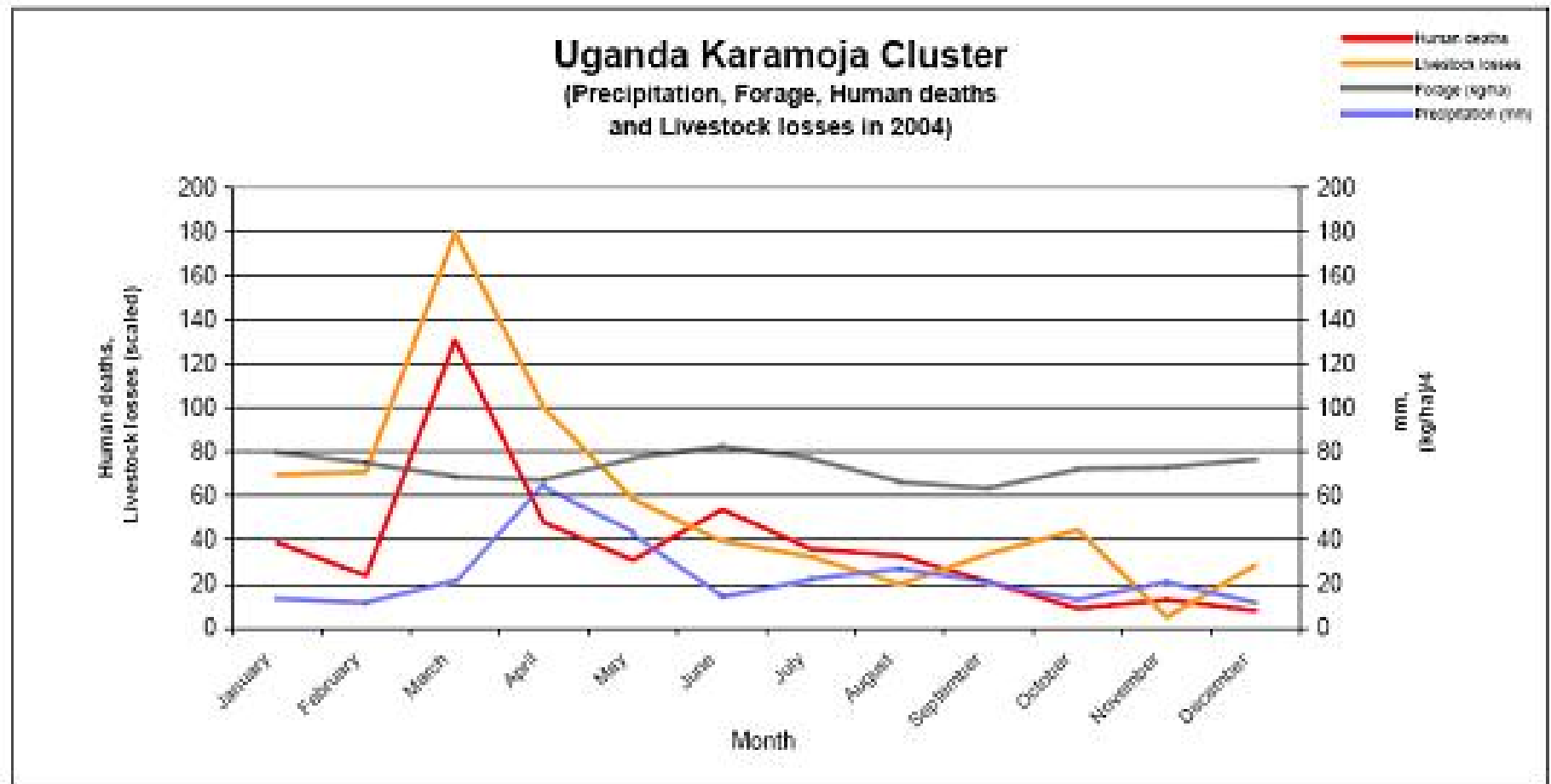
- Low Vulnerability
- Med Vulnerability
- High Vulnerability
- Very High Vulnerability

**Multi-Attribute Analysis of Vulnerability 2**

# Detailed understanding of resource conflicts



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Aim to stay below 2°C

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# Preparing Crash Programmes



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- In the case of policy failure and/or high climate sensitivity there will be strong political pressure (panic?) for “crash responses”
- A large number of technological options are available, but many have high climatic, security and feasibility risks e.g. proliferation risks of global crash nuclear fission programme
- Prudent to develop contingency plans – and international controls – over major geoengineering and technological options
- Critical to improve monitoring systems for key climate tipping elements to improve warning of extreme scenarios

**No sensible risk management framework should ignore the worst case scenarios**



# Risk management gives an opportunity to reframe the public debate



- Current debate – especially in US – split into climate “sceptics” and “believers”; has led to an under-emphasis of both scientific uncertainties and extreme scenarios
- This debate alienates the majority of people who do not identify with either camp; undermining effective policy making
- Risk management allows a debate where all information can be used and assessed; a pragmatic not a belief based approach
- Need to reframe debate to a public conversation

**“How much climate risk are you prepared to take?”**



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Thank You!

E3G is planning follow-up work in many of the areas highlighted in the report

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