



Insurance Institute of Zimbabwe

# Climate Change and Challenges of Sustainability in Africa

Sory Diomande  
DMD/Africa Re (South Africa)  
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THE  
**EXECUTIVE**  
SUMMARY

# Executive Summary

Climate change is a **key development issue** in Sub-Saharan Africa

There is a scientific consensus that **Africa is the continent most vulnerable and least able to cope** with climate changes

**Unless a compelling strategy is developed and implemented, some of the potential impacts of such climate changes are as follows:**

- African economies and communities are likely to be severely impacted
- The productivity of the natural resource base is likely to decline
- The insurance sector will be affected by more frequent and more severe natural catastrophe losses

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# Looming Threat of Climate Change



# Looming Threat of Climate Change

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Southern Africa has been **warming significantly over the last century**

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Period 1961 to 2014: **temperatures over the region have increased** at a rate of 0.4 °C per decade

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Africa: **drastic increases in surface temperature**, in the order of twice the global rate of temperature increase

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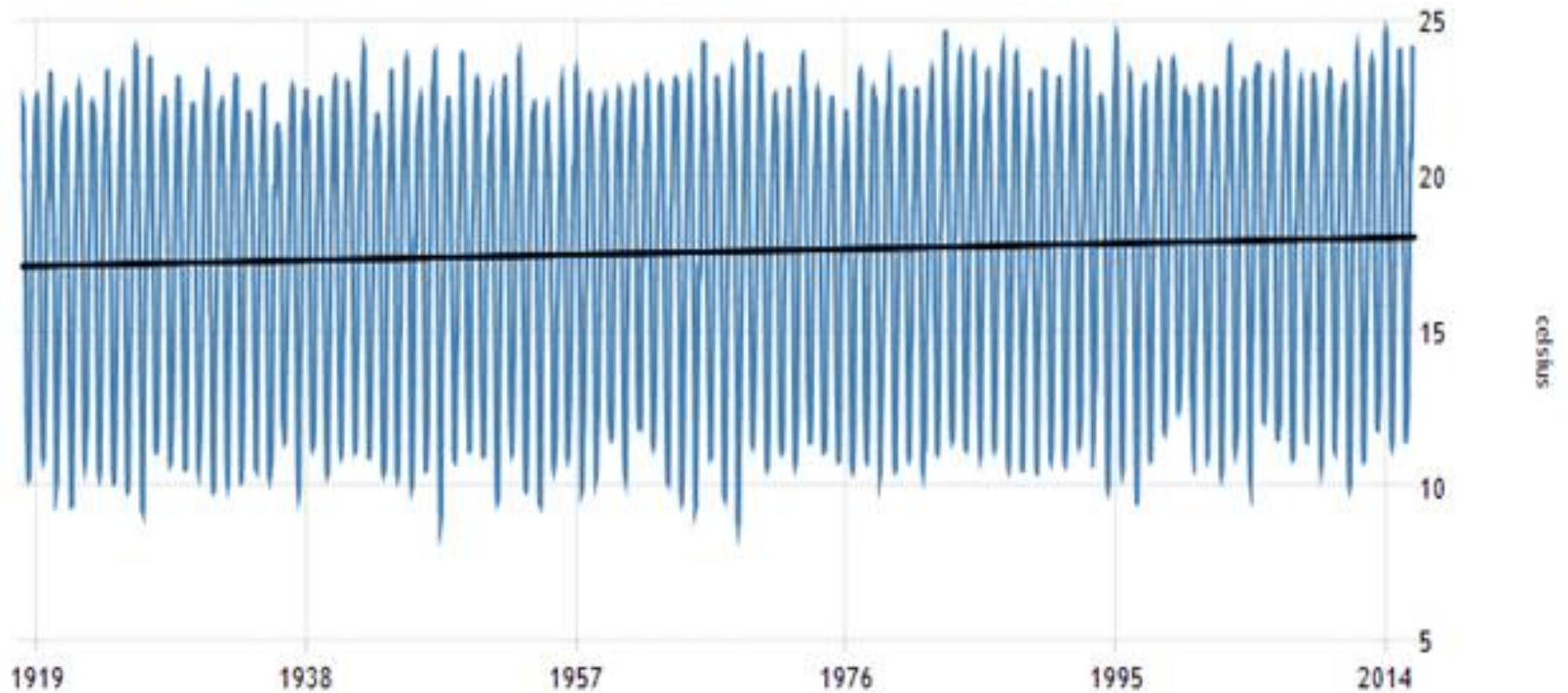
**Decrease in late summer rainfall** has been reported over the western regions including Namibia and Angola (Niang et al., 2014)

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Evidence from other studies which shows **that inter-annual rainfall variability** over southern Africa has increased since the late 1960s and that **droughts** have become more intense and widespread in the region (Fauchereau et al., 2003).

# Looming Threat of Climate Change

SOUTH AFRICA AVERAGE TEMPERATURE

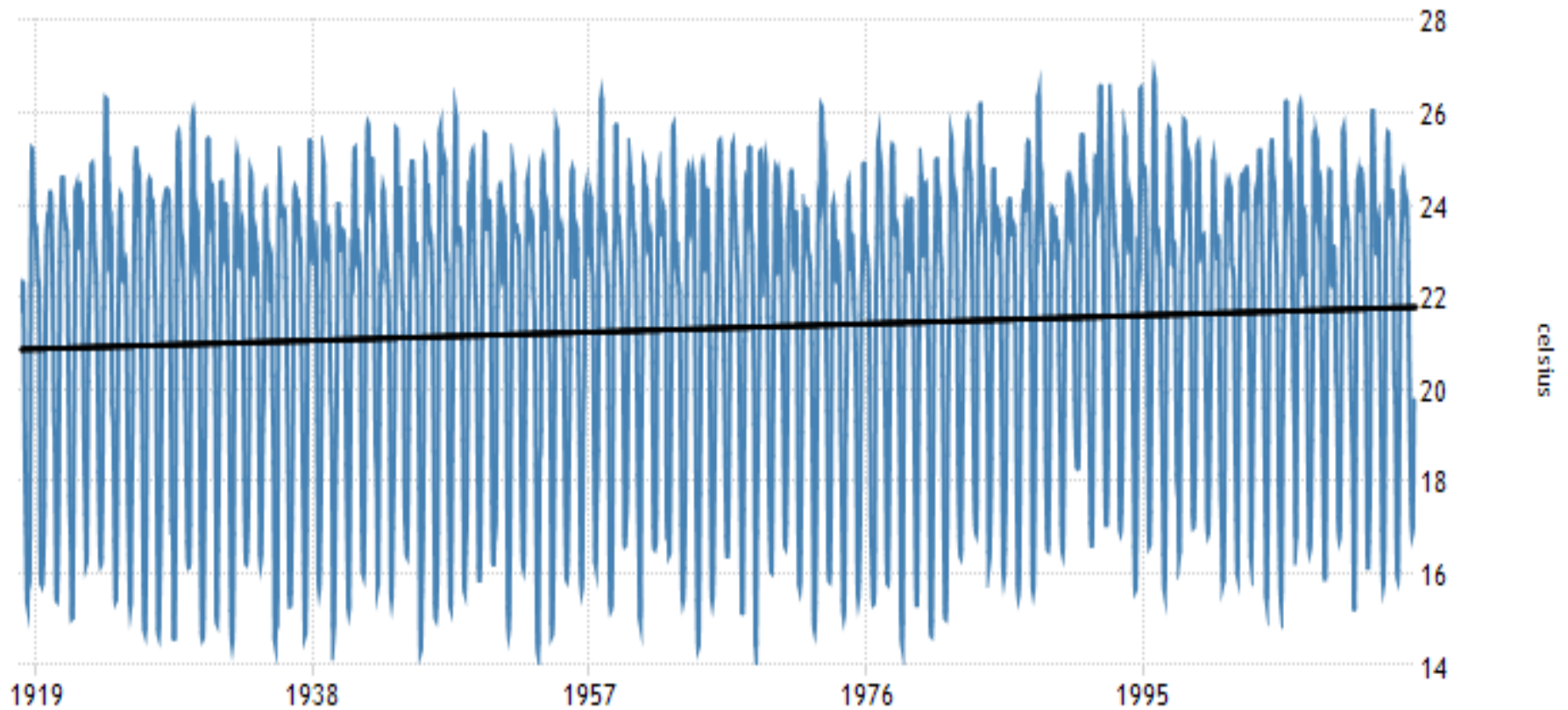


SOURCE: TRADINGECONOMICS.COM | WORLDBANK



# Looming Threat of Climate Change

ZIMBABWE TEMPERATURE



SOURCE: TRADINGECONOMICS.COM | WORLDBANK



# Looming Threat of Climate Change

Southern Africa will be exposed to the following, as temperatures increase :

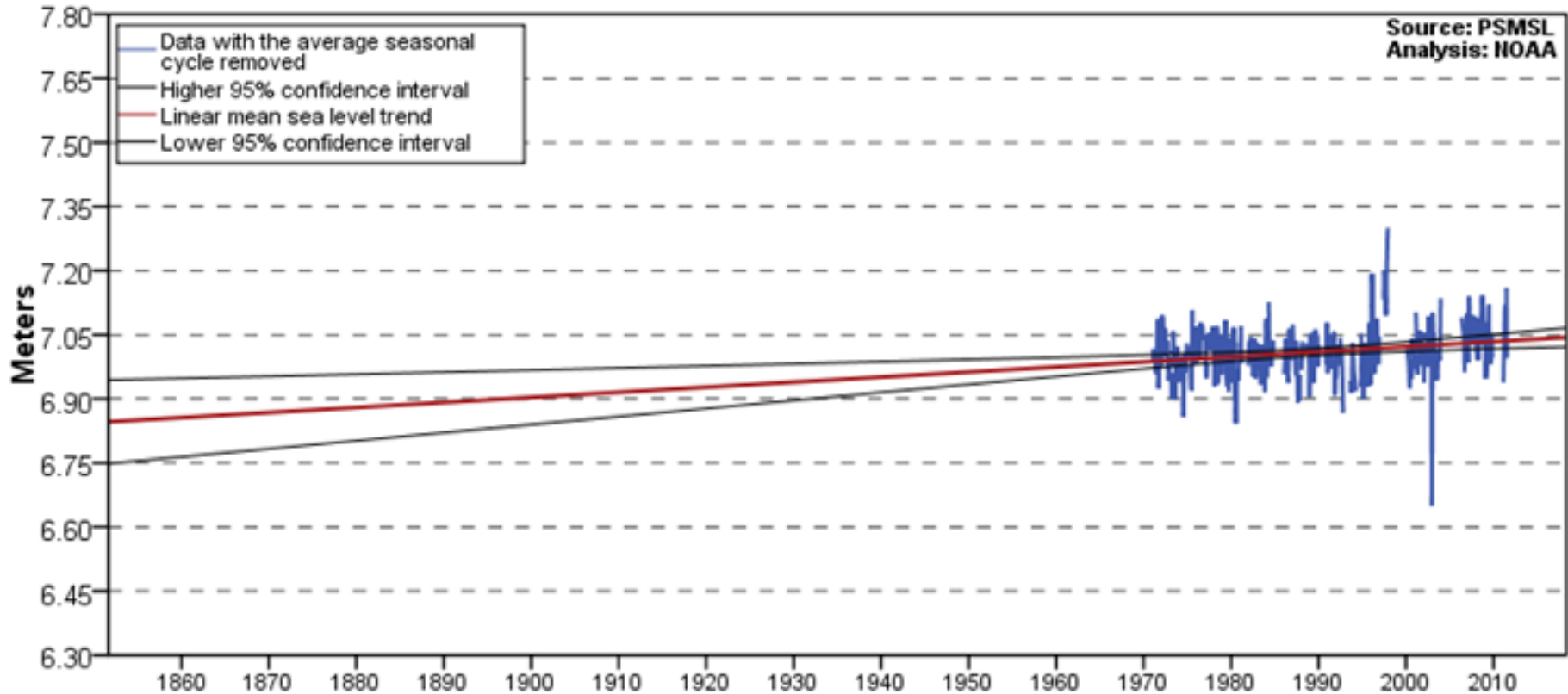
	At 1.5°C	At 2°C
Heatwaves	< 20-day long	40-day long
Warm extremes	↗ by 100%	↗ by 600%
Number of dry days		↗
Rainfall extremes		↗
Average drought length*	↗ by 4 months	↗ by 6 months
Water scarcity		5 million more people exposed compared with 1.5°C

\*Average drought length will increase to 19 months at 3°C

# Looming Threat of Climate Change

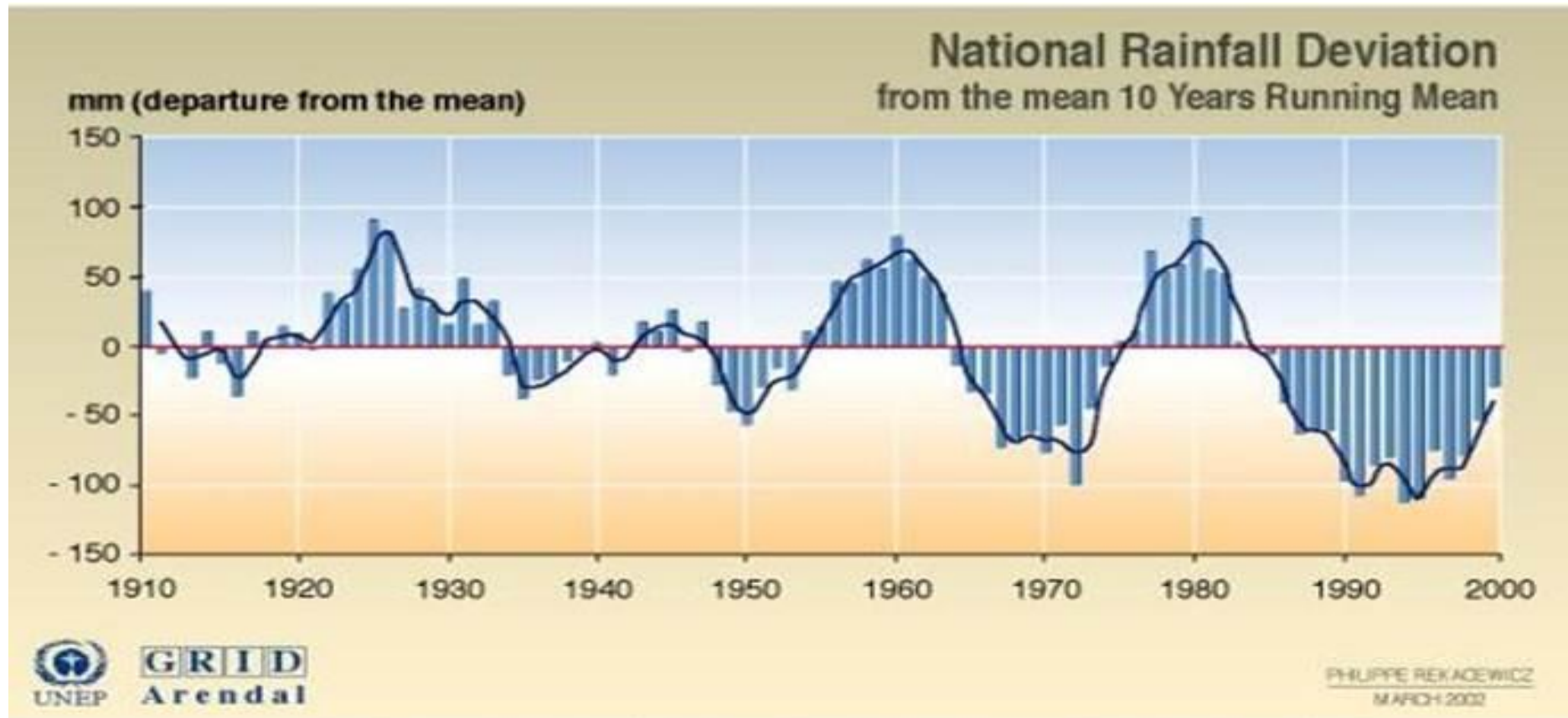
## Sea Level rise in Durban

Durban, South Africa 1.23 +/- 0.70 mm/yr



# Looming Threat of Climate Change

## Rain fall in Zimbabwe - variability



Source: Zimbabwe Department of Meteorological Service at <http://weather.utande.co.zw/climate/climatechange.htm>

# Looming Threat of Climate Change

## Impact of climate change on the South African insurance industry:

- Unprecedented and dangerous weather events
- Increase in both frequency and severity of natural catastrophe losses

Cat Event	Date of Loss	Market Loss Estimates in excess of ZAR
Hail Storms	20.10.2012	555m
Hail Storms	07.11.2012	227m
Hail Storms	11.11.2013	243m
Hail Storms	28.11.2013	899m
Hail Storms	06.02.2015	262m
Hail Storms	16.11.2015	326m
Hail Storms	09.01.2016	251m
Flash Floods	24.07.2016	282m
Hail Storms	09.11.2016	902m
Knysna Fire	07.06.2017	3.5bn
Gauteng/KZN Storms	09.10.2017	2.5bn
	<b>Total</b>	<b>9.947bn</b>
	<b>Rounded off</b>	<b>10.0bn</b>

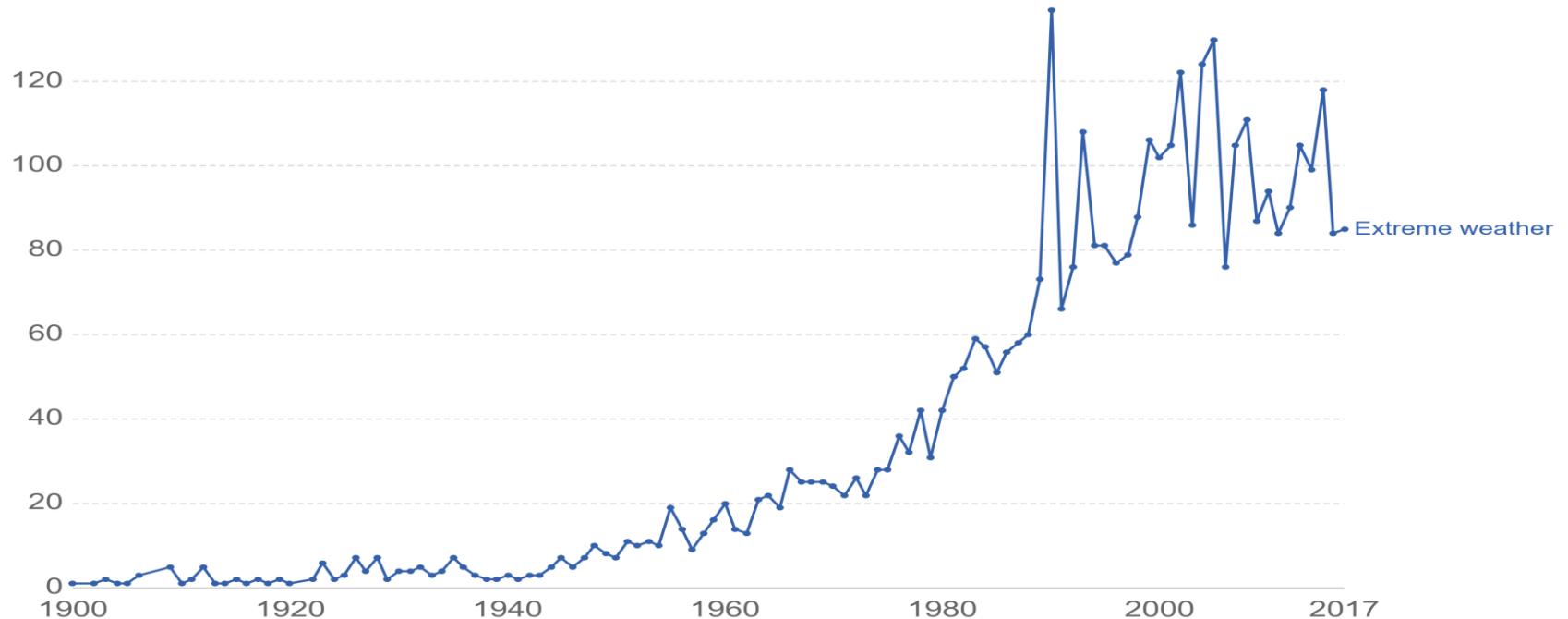
# Looming Threat of Climate Change

## Impact of climate change on the global insurance industry:

### Number of recorded natural disaster events, Extreme weather

The number of global reported natural disaster events in any given year. This includes those from drought, floods, biological epidemics, extreme weather, extreme temperature, landslides, dry mass movements, extraterrestrial impacts, wildfires, volcanic activity and earthquakes.

Our World  
in Data



Source: Natural disasters - EMDAT (2017)

OurWorldInData.org/natural-catastrophes/ • CC BY-SA

# Looming Threat of Climate Change

## Impact of climate change on the global insurance industry:

### Total damage costs from global natural disasters

Total economic cost of damages as a result of global natural disasters in any given year, measured in current US\$. Includes those from drought, floods, biological epidemics, extreme weather, extreme temperature, landslides, dry mass movements, extraterrestrial impacts, wildfires, volcanic activity and earthquakes.



Source: EMDAT: OFDA/CRED International Disaster Database, Université catholique de Louvain – Brussels – Belgium  
OurWorldInData.org/natural-catastrophes/ • CC BY-SA



# Challenges of Sustainability in Africa





# Challenges of sustainability in Africa

## Rapid urbanisation and increasing concentration of assets in urban areas :

**Urbanization** in Africa excluding North Africa went from **15% in 1960**—around the same as Europe in the 17th century—to **38% in 2017**, which is higher than South Asia.

African population to reach 4bn by the end of the century

**The number of urban residents** in Africa **nearly doubled between 1995 and 2015** and is **projected to almost double again by 2035**

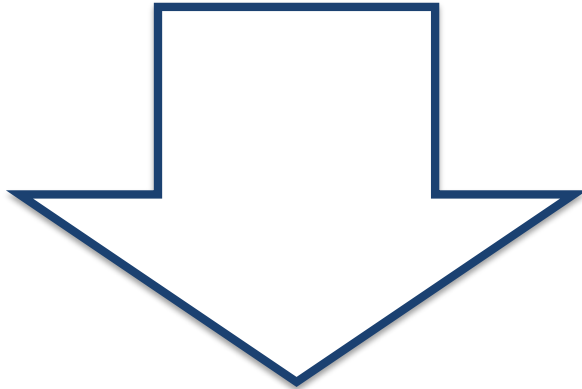
(Barofsky, Siba and Grabinsky, 2016).

**Africa's urban population is likely to triple by 2050**, with Africa and Asia accounting for nearly 90% of the world's urban population growth

(UNDESA, 2014).

# Challenges of sustainability in Africa

## Governments and municipalities' exposure :

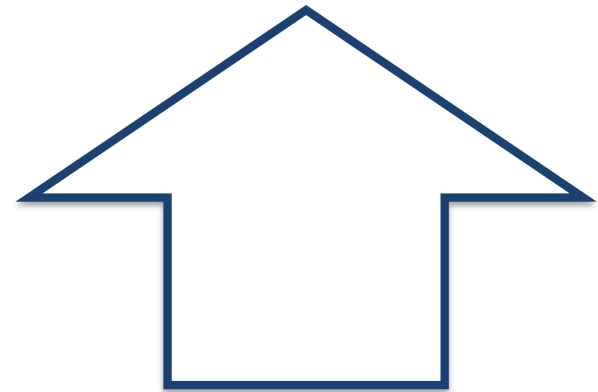


### Budget of governments and municipalities are affected by:

- Increasing costs of reconstruction following a natural disaster
- Reduction of revenues as many businesses will stop operating
- Decline in tourism
- Great perturbation of the educational system
- GDP drop

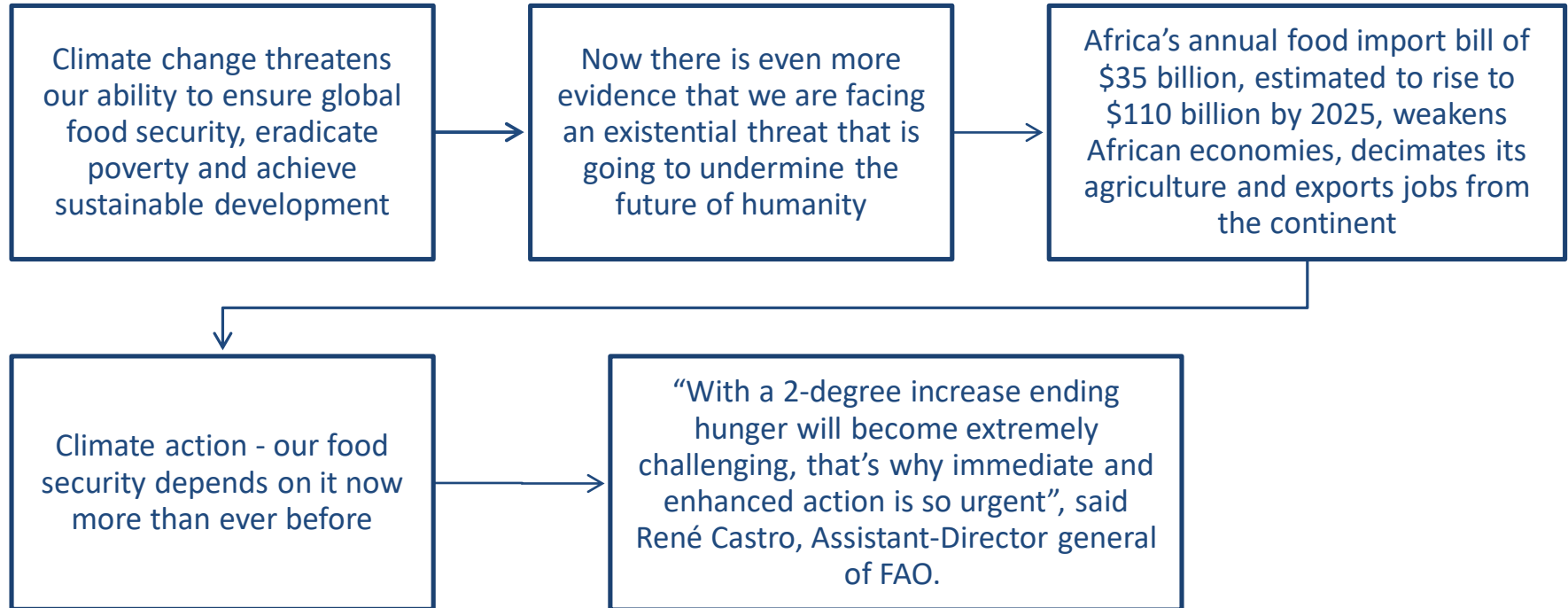
### Governments and municipalities expenditures are higher than planned due to:

- Emergency response costs
- Support to help uninsured households return to normal
- Support to farmers and rural areas
- Reconstruction of public infrastructures



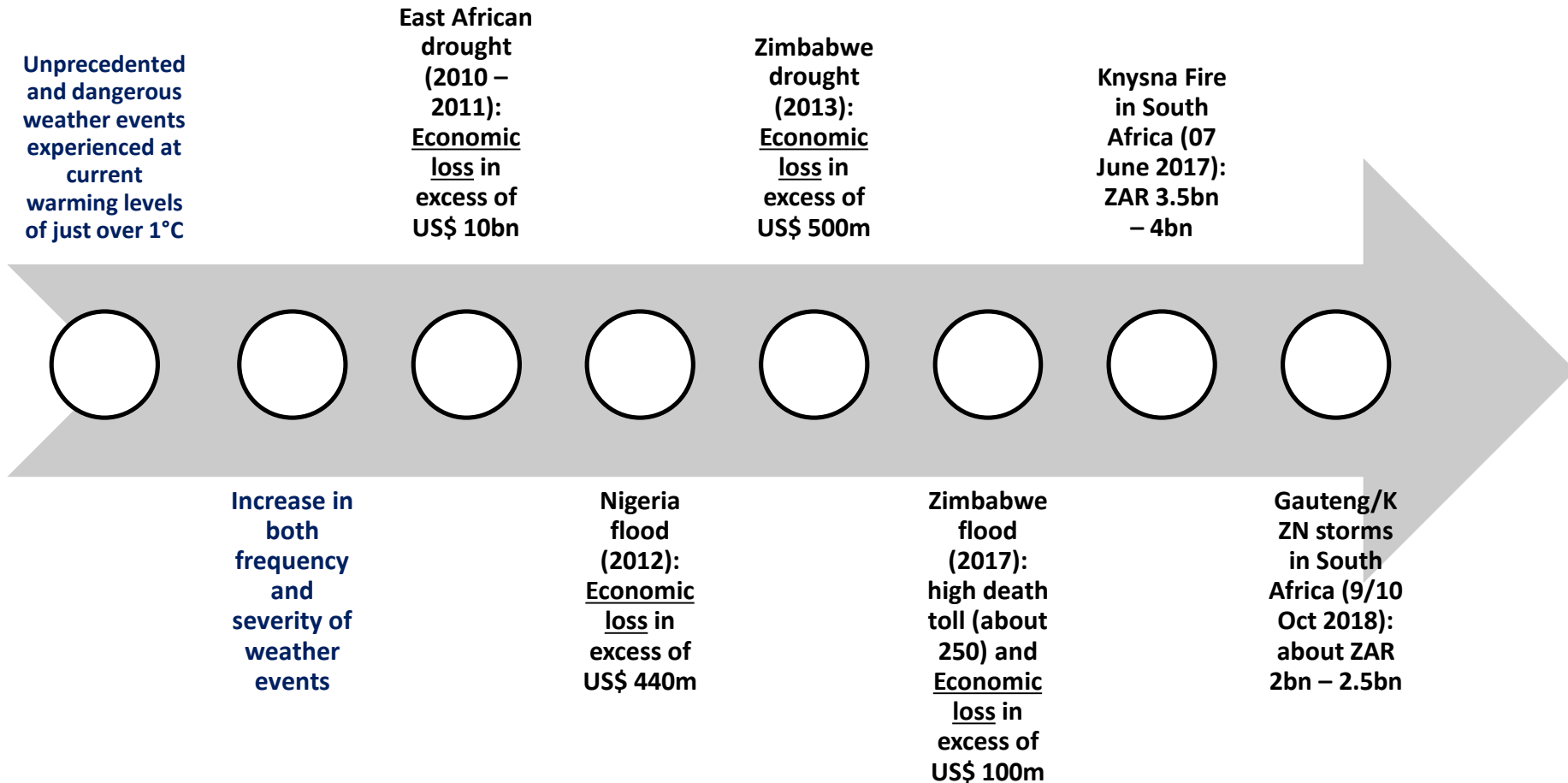
# Challenges of sustainability in Africa

## Food Security a major challenge :



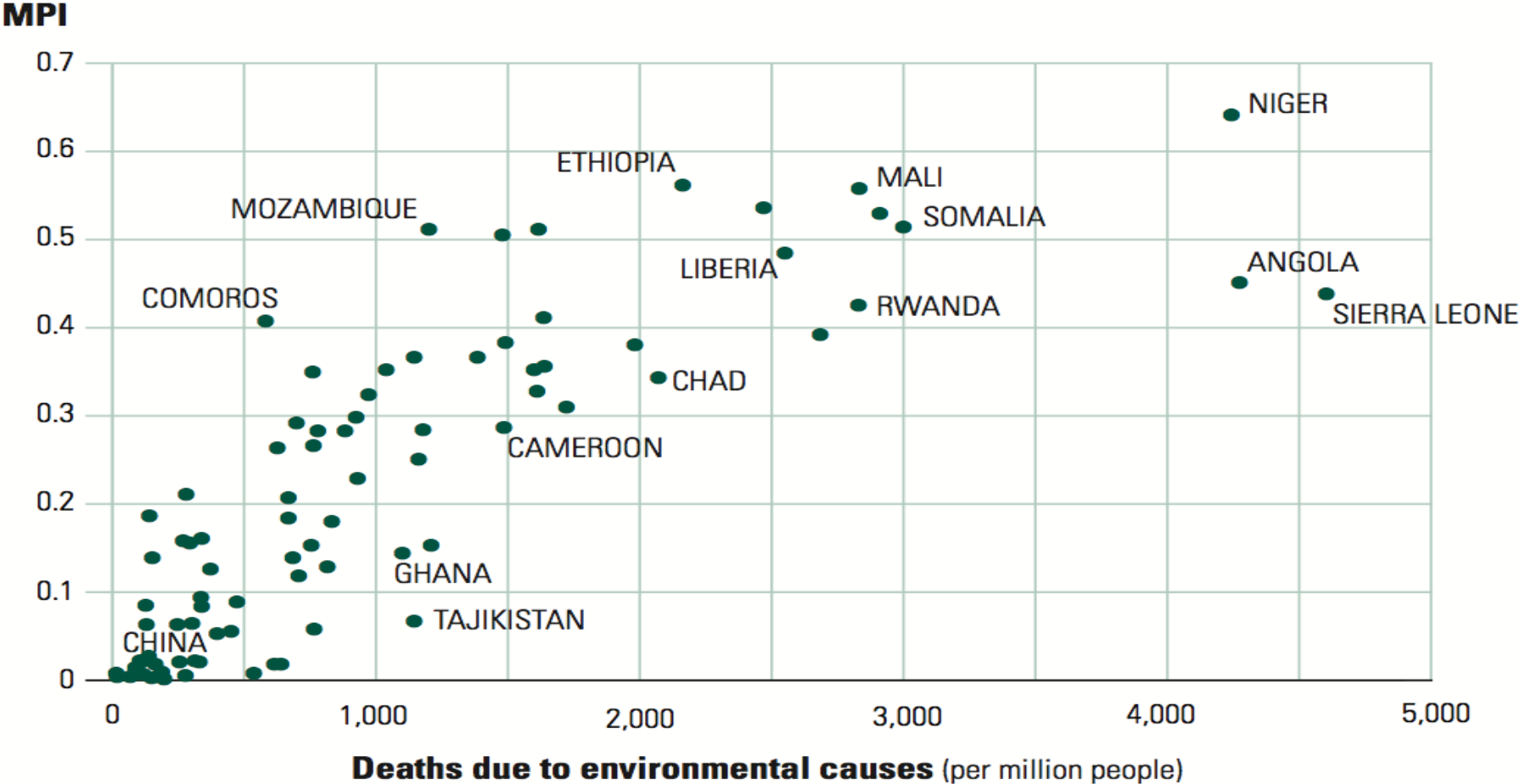
# Challenges of sustainability in Africa

## Impact of climate change on governments and municipalities:

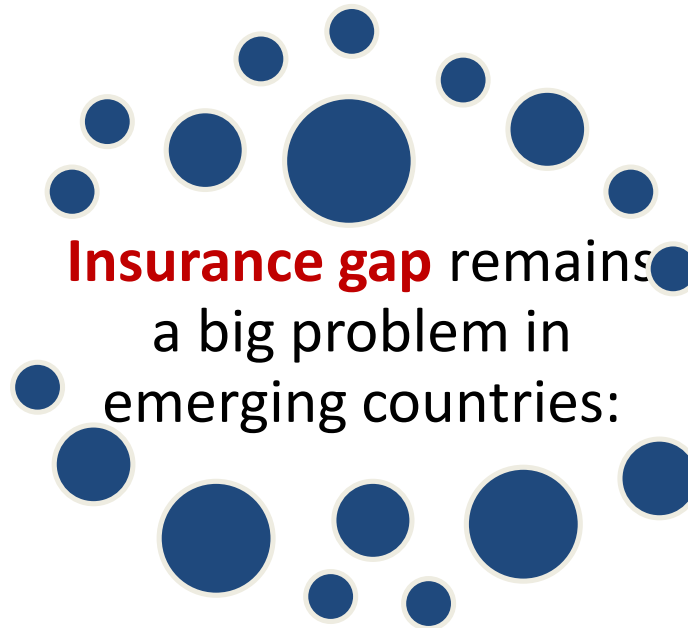


# Looming Threat of Climate Change

Impact of climate change on the African continent (China and Tajikistan for comparison) :



# Challenges of sustainability in Africa



- \$163 billion worth of assets remain underinsured, just 3% less than in 2012
- Low insurance penetration in sub-Saharan Africa in general (below 7%), outside of South Africa (17%)
- Consequences:
  - High **vulnerability** (unable to fund recovery)
  - Significant threat to livelihoods, governments' resources, GDP growth and prosperity

## Insurance industry – Role and Challenges Faced

# THE ROLE OF INSURANCE



# Insurance Industry – Role and Challenges Faced

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## Role of the insurance industry :

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The insurance industry is neither the polluter nor the climate policy setter, but it can be a critical part of the solution

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The insurance industry is uniquely positioned to further understanding of the risks that climate change imposes on societies and their livelihoods

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Support governments and international institutions through close collaboration

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Influence paradigm shift in governments' approaches in addressing climate change adaptation and mitigation

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Traditionally, the lack of action on climate has been linked to reputational risks. Climate risk has to be considered a core business issue

# Insurance Industry – Role and Challenges Faced

## Role of the insurance industry :

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Provide risk transfer solutions for renewable energies and new technologies

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Offer proactive risk management, R&D on natural hazards and new technologies (support and increase project bankability), and adaptation strategies

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Support the transition to a low-carbon economy through its underwriting business, investment strategies and active reduction of its carbon footprint

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Invest in enabling economic resilience and entrepreneurial pathways for addressing climate change goals and targets

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Contribute significantly to building socio-economic resilience to extreme events and climate risks

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Assist governments and international organisations in establishing national data platforms and data policies to make publicly-funded data accessible to public and private sector institutions

# Insurance Industry – Role and Challenges Faced

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## Role of the insurance industry :

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Engage strong collaboration between the insurance industry and governments through government-backed insurance for risks that are not fully insurable

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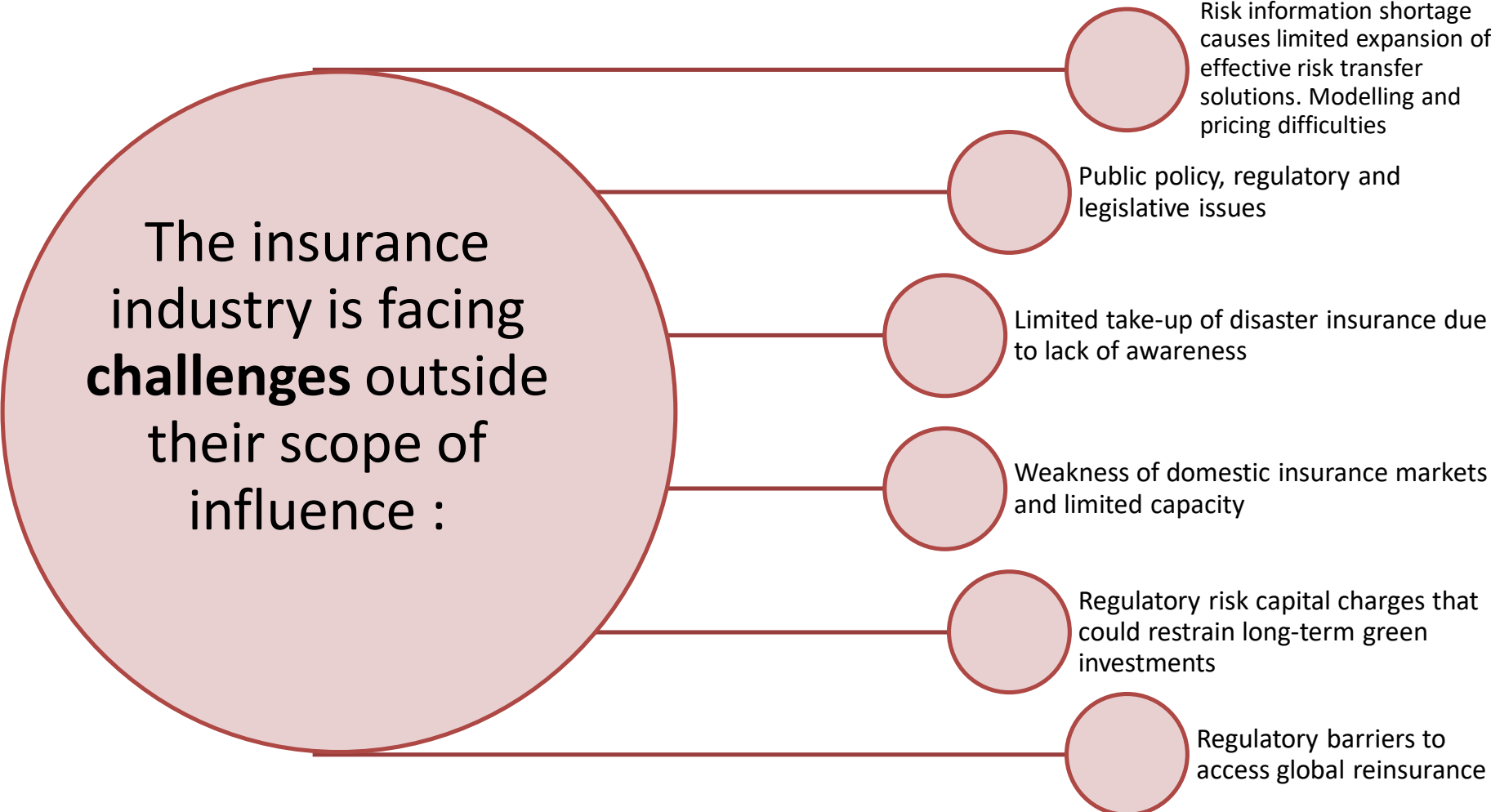
Offer micro insurance solutions and support governments in expanding the availability of risk transfer solutions by introducing compulsory insurance schemes to create a sufficiently large risk community

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Contribute significantly to building socio-economic resilience to extreme events and climate risks

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# Insurance Industry – Role and Challenges Faced



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# STRATEGY

# The strategy must be driven by a global approach



# Strategy for making Africa's development climate-resilient

**Paris agreement\* (COP 21)**  
in December 2015 to limit global average temperature rise to 2 °C Celsius and work toward a safer 1.5°C goal.

Action on climate change and sustainable development: **broad-based climate action by all sectors of society** - both public and private, and by individuals, is the way forward for Africa.

“To achieve our goals, we need **more ambition and action**. Not just by national governments—they cannot do it on their own—but **by all levels of government, business, investors and everyday people working together,**”

(Patricia Espinosa, Executive Secretary, UN Climate Change)

\*The Paris Agreement's long-term goal is to **keep the increase in global average temperature to well below 2 °C above pre-industrial levels; and to limit the increase to 1.5 °C**, since this would substantially reduce the risks and effects of climate change.



# Strategy for making Africa's development climate-resilient

At the global scale, the 1.5°C target requires: 1.5-2% of global capital to be redirected to renewable energy and energy efficiency, and a two-thirds reduction in coal-fired electricity by 2030



Immediate and far-reaching changes to global energy, land use, industrial and urban systems



Carbon dioxide emissions reduction to reach net neutrality between 2040 and 2050.



Investment in renewable energy to double over the next two decades



Investment in fossil fuels to decline by 25% over the same period

# Strategy for making Africa's development climate-resilient

## Facing Climate Risk and Vulnerability will require:

- Adaptation
- Mitigation and sustainable development
- Regional climate change strategies
- Climate change adaptation and disaster risk reduction
- Climate financing
- Sustainability and corporate governance in Southern Africa
- Key sectors to be selected to illustrate best practices in assessing vulnerability - Agriculture and livestock
  - Commercial forestry
  - Terrestrial ecosystems and biodiversity
  - Water resources, the coastal zone, settlements, human health, energy and air quality.

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# CONCLUSION

# Conclusion

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- It is clear that global warming and climate change can no longer be ignored.
- The climate of southern Africa has undergone significant warming.
- The impact of this warming world now touches every facet of regional social and economic progress.
- The vulnerability of southern African societies and ecosystems is real and critical.
- Future sustainable development is contingent on the capacity to adapt to the impacts of climate change.
- Collaboration between governments, international organisations, the population and the insurance industry is vital to overcome this challenge.

# Sources of information / Credit



# Sources

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- AfDB
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- Wikipedia
- The Intergovernmental Panel on Climate Change (IPCC)
- The Geneva Association
- Africa Re
- Swiss Re website
- Munich Re website
- Willis
- Llyod's

