



UNITED NATION ENVIRONMENT PROGRAMME

# MAKING CHANGES: A LEARNING JOURNEY SANTAM LTD., SOUTH AFRICA, AND EXPERIENCES WITH CLIMATE INFORMATION

*A CASE STUDY ON CLIMATIC CHALLENGES FACED BY THE FINANCE  
SECTOR, THE ROLE OF CLIMATE INFORMATION, AND ON HOW AN  
ORGANIZATIONAL RESPONSE PROCESS CAN LOOK LIKE*



**UNEP Finance Initiative**  
Changing finance, financing change

'Produced by the Climate Change  
Advisory Group of UNEP Finance  
Initiative in Collaboration with the  
Sustainable Business Institute

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PRODUCED BY THE CLIMATE CHANGE ADVISORY GROUP OF UNEP FINANCE INITIATIVE  
IN COLLABORATION WITH THE SUSTAINABLE BUSINESS INSTITUTE (SBI)

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# FOREWORD BY

## UNEP FINANCE INITIATIVE (UNEP FI)

UNEP Financial Initiative's mission is to align financial markets with development that is sustainable. We have tried to capture what that means and implies in the UNEP FI slogan – 'financing change, and changing finance'. 'Financing change' is easy to understand and what most people think of when they contemplate UNEP FI – it means unlocking, and making available, debt and equity finance to enable investment into such 'green' companies, projects or technologies required to underpin sustainable development. The classic, often-quoted example here is financing a wind farm. 'Changing finance' is a more complex concept: it means changing, or rather expanding, decision-making processes across financial institutions so that each financial transaction is conducive to truly sustainable outcomes – financially, but also environmentally and socially. In essence, this means that in all financial decision-making, appropriate consideration is given not only to conventional, purely financial parameters, but also to extra-financial, environmental, social and governance-related (ESG) factors.

In a world challenged by climate change, sustainable development imperatively needs to be both 'low-carbon' and 'climate-resilient'. It cannot be about one or the other. We know with the highest degree of scientific certainty that if we do not decarbonise quickly, climate change will be too strong to adapt to; but we also know that, at this stage, the climate will change no matter what we do.

If one brings together the two threads touched on above, it becomes clear that changing the 'finance sector' so that it becomes a catalyst and enabler of 'low-carbon' and 'climate-resilient' development boils down to one conceptual challenge: making sure that climate-related considerations are firmly and systematically embedded in financial decision-making across the board, just as firmly as other types of conventional, 'purely financial' information already are today.

But what is 'climate-related' information exactly? At the most fundamental level there are two categories of climate-information: i) such information that relates to the greenhouse gas (GHG) emissions associated with the clients and investees of financial institutions, their 'carbon intensities', 'carbon exposures', and other related variables. Without considering such information and systematically integrating it into decision-making, financial institutions are unlikely to fully align with the paths and targets of decarbonisation that the world has set itself. The integration of 'GHG-information' into financial-decision making has been discussed much in

the last two decades and considerable progress has been made. Unfortunately, this cannot be said of the second category of 'climate-related information', ii) the information that relates to the physical, the meteorological and hydrological impacts, of climate change, and the extent to which the clients and investees of financial institutions will be affected. Without considering such information and systematically integrating it into decision-making, financial institutions will miss out on the opportunity (and need) to build the climate-resilience of their counterparts, as well as the climate-resilience of their own exposures and portfolios.

Fortunately, this is starting to change and a global agenda on this issue is slowly but steadily emerging under the aegis of the Global Framework for Climate Services: its aim is to catalyse the availability, quality as well as the use and integration of 'climate information' by decision-makers in the public and private sectors. Importantly, the fruition of this agenda requires a nuanced understanding of the circumstances, data needs and priorities of the potential users of climate information, including those on financial markets: how are different kinds of financial institutions handling, and responding to, the changing weather and climate risk landscapes they already face today, as well as those that are likely for the future? What are the kinds of climate information that financial institutions need for integration and in what formats is that information required? What are the most difficult challenges that financial institutions currently face when searching, accessing and integrating climate impact information? Are there ways in which public and private actors could collaborate to address these challenges? Formulating these questions and delivering answers will yield insights that will be of great value in advancing the global agenda, but they cannot be raised globally or generically. The needs and priorities of financial institutions, particularly in a weather context, are largely a function of regional, even local circumstances, so this is the level at which the required analysis needs to take place.

UNEP FI is, therefore, pleased to offer, through this publication, insights and lessons learnt in a specific South African insurance context. We are confident that these will invaluablely inform discussions at a more global level. Furthermore, we remain committed to offering the UNEP FI platform of financial institutions worldwide as a pro-active interlocutor on this global agenda at the interface of financial markets and the physical implications of climate change.



# FOREWORD BY SANTAM LTD.

The South African general insurance industry experienced significant changes in the past decade. Not only did it grow significantly with the economy, it also found itself in increasingly complex challenges as a result of dynamic changes in the socio-economic and ecological context. The same can be said for us as South Africa's leading general insurer.

One of the prominent challenges we face is the changing weather patterns. Weather risks have a profound impact on the sustainability of our business and on the industry as a whole. The changing patterns and increasing weather risks, coupled with increasing asset exposures are not only observed through scientific data and knowledge but are also evident in impacts on our core business performance. These challenges require us to adopt new ways of thinking and a more systemic approach, and to make fundamental changes in how we conduct our business. Our actions are underpinned by our philosophy of 'Insurance Good and Proper'. In this publication, we share our learning journey. We feel privileged to have contributed towards the sustainability journey which our business and the global insurance industry is embarking on, via contributing to UNEP FI's Principles for Sustainable Insurance (PSI), ClimateWise and through our own initiatives shared here.

We are hopeful that the mindset and principles now in place will support practical actions that could reduce risks and promote resilience on the ground.

This case study enabled us to reflect on our own journey and share our climate services insights. We believe climate information is critical for risk-appropriate decision making in our data-intensive industry and presents opportunities for collaboration between stakeholders who need the very same information for better risk assessment and proactive shared risk management. We hope our learning journey will inspire others to contribute to developments in this area and highlight the value-adding role which insurers play in society.

In South Africa, we face many challenges and often do not have the sophisticated technology, capacity and capabilities that are available in other more developed markets. However, to paraphrase our Executive Head of Risk Services, John Melville, "it is good to start from where you are", which is what we did. We hope you enjoy reading our story.

# PREFACE

Santam Ltd. is South Africa's leading general insurer with over 90 years of experience and market share exceeding 20%. Its largest business unit, Santam Commercial & Personal (C&P), has been increasingly affected by weather related events particularly in the period between 1996 and 2010, with extraordinary events observed in both 2012 and 2013. As part of its strategic planning process, a scenario analysis was conducted in 2008 which revealed material "non-financial"<sup>1</sup> future forces (e.g. response to climate change, level of positive social activity in economy, government efficacy) as key drivers of the insurance business. In an effort to better understand these emerging forces, Santam launched the 'Ecocentric Journey' at a conference in 2009 which raised awareness and promoted dialogue amongst various stakeholders on the issues. This provided a strong foundation for the 'Eden project' - an important learning step on the Ecocentric Journey. The Eden District Municipality was identified as an area where the confluence of environmental, social and governance (ESG<sup>2</sup>) drivers could be effectively studied, and a collaborative project was initiated between Santam's C&P business unit (Santam), the Council for Scientific and Industrial Research (CSIR), University of Cape Town's Centre of Criminology (UCT) and the World Wide Fund For Nature South Africa (WWF).

South Africa's general insurance industry is considered to be relatively responsive to these ESG challenges, possibly due to its comparatively smaller size globally, level of development of the country and the increasing levels of risk on the ESG front, which demands more innovation to run effective businesses. It has also suffered intense climatic

impacts and these have combined with urbanization, development, climate governance risks to produce significant disasters and losses over the last decade.

The methodology behind this case study includes interviews with those involved in the Eden study during 2010 and 2011 as well as secondary documentation from the end of 2013 to early 2014. Chapter 1 outlines the growing need for climate impact information as a vital input in wider financial risk assessment and management, and focuses on the insurance industry as the case study subject. Chapter 2 provides the context, elaborating Santam's 'Ecocentric Journey', and the 'Eden project'. The project's climate information requirements, processes and results reveal the importance of weather-related inputs in predicting trends for various financial risks going forward, such as those of fire, flooding and coastal damage. The chapter also highlights the insurance industry's significant role in addressing climatic and weather-related risks. Chapter 3 focuses on how Santam has used the findings from the Eden project to improve its own risk assessment processes, as well as the challenges it is facing regarding availability and accessibility of climate information. Chapter 4 reveals the wider barriers specific to South Africa (but applicable to other countries as well) which prevent the generation, customization and integration of climate impact information in financial risk assessment and management processes. The study ends by defining the gap between financial services and climate information and services, identifying key drivers to move forward the agenda of climate information for financial institutions, and ways to overcome challenges which may arise in this process.

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<sup>1</sup> Non-financial is used here to indicate change forces (variables) that are not financial in and of themselves e.g. natural environmental changes versus economic growth or inflation rates. The exercise showed that these factors do, and will continue to, influence financial variables.

<sup>2</sup> As per UNEP FI Principles of Sustainable Insurance





# CLIMATE IMPACT INFORMATION AND THE FINANCIAL SECTOR

## THE NEED FOR CLIMATE IMPACT INFORMATION IN FINANCIAL RISK MANAGEMENT

Advancing the climate resilience of society requires effective risk management, which entails investing in information and mainstreaming climate change factors and impact information in decision-making processes of both the public and private sectors. The World Meteorological Organisation's (WMO) Global Framework for Climate Services (GFCS) reiterates that user- and decision-oriented climate change information can enhance the adaptation of socioeconomic systems (WMO, 2011).

The financial sector is a vital conduit to other sectors in real economy, and apart from mitigation, it is important for it to play the role of an information intermediary to encourage adaptation as well. To our knowledge, previous efforts which recognize this link include UNEP FI's Principles for Sustainable Insurance (PSI) initiative; 'Advancing adaptation through climate information services' (UNEP FI and SBI, 2011); the AACIFI project, of which this study is a part; 'Climate information as an object of economic research: state and perspectives' (von Flotow and Ludolph, 2013)

and 'Shaping climate-resilient development: a framework for decision-making' (Swiss RE, 2009).

## THE INSURANCE INDUSTRY AND CLIMATE CHANGE

### The role of the insurance industry

Global insurance today is the one of the world's largest industries, representing over 7% of global GDP and turning over more than USD 4 trillion in annual premiums alone (Froestad et al., 2011). The role of insurance in the global economy is vital, as insurers operate as risk assessors, risk carriers, risk managers and investors.

Risk management is trickier today owing to interconnectedness of risks. The Global Risks 2014 report highlights how global risks are not only interconnected, but also have systemic impacts (WEF, 2014). To manage global risks effectively and build resilience to their impacts, better efforts are needed to understand, measure and predict the evolution of interdependencies between risks, supplementing traditional risk-management tools with new concepts designed for uncertain environments.

## Relevance of climate / weather related risks

In 2008, Ernst and Young (2008) cited climate change as the number one risk facing the insurance industry. But a recent PwC global insurance CEO survey notes that only 36% feel climate change and resource scarcity is transformative for their businesses, surprisingly low “given their impact on the scale and concentration of global risks” (PwC, 2014).

Additionally, the WEF's Global Risks Report (WEF, 2014) has cited the 'Failure of climate change mitigation and adaptation' as number 5 in the top 10 global risks of highest concern in 2014, one step above the 'Greater incidence of extreme weather events'. Climate change and big data application also emerged as the biggest challenges in the 'Insurance Summit' hosted by The Economist in February 2014.

Since 1980, the cost of natural catastrophes has escalated. Though insurers developed sound catastrophic models in the past, they are now questioning tools for assessing and managing future risks, especially in the face of climate change (PwC, 2014).

Losses from weather variability account for more than 25% of global insurance claims, having exponentially increased 37% per decade since the 1950s (Froestad et al., 2011). Insured losses in 2013 driven by flooding and weather-related events amounted to USD 45 bn (Swiss RE, 2014). While lower than the 10-year average, the study also revealed that between 1974 and 2013, the rate of total losses had outpaced the growth of insured losses, leading

to a widening 'protection gap' and revealing the continuous under-insurance of society as a whole (Swiss RE, 2014, p. 19).

The last few decades have shown that climatic impacts on natural and social systems are becoming more unpredictable, with a higher number and severity of natural hazards, increasing weather variability and interconnected risks. Historical data, which has typically formed core of actuarial science and foundation for insurance decision-making, is then no longer an accurate representation of the future (WEF, 2014).

## Strategy for the insurance industry going forward

The Insurance 20/20 report (PwC, 2012) encourages insurers to be more sophisticated in catastrophe and risk modeling (e.g. through advanced early warning technologies), as well as innovative in risk management, risk-sharing and transfer mechanisms. In the absence of sufficient and higher quality predictive data, it warns that insurers will exit unprofitable areas, thus leading to more societal under-insurance.

Climate impact information and value-added services are vital for this kind of sophisticated and predictive risk modeling, and it is clear that they need to constitute an important input in the decision-making and risk management of insurance companies. Insurers proactively investing in these technologies may have strong competitive advantages in the years to come.

# SANTAM'S 'ECOCENTRIC' JOURNEY

## TIMES OF CHANGE

Santam's 'Ecocentric Journey' began in 2009 after a post-financial crisis scenario analysis revealed important non-financial drivers affecting business performance. This was compounded by the claims experience of increased catastrophic events in South Africa over that period. Until then, weather events and catastrophes were presumed to be adequately covered in actuarial models, but it became clear with this analysis that the rising unpredictability and sheer catastrophic scale required a significant change in these models, and consequently in risk assessment and management.

The Santam Environmental Forum, a cross-functional learning group, was formed in 2009 to understand how Santam could respond to these changing conditions. The forum conducted risk identification and analysis work, and agreed on priority activities to move forward in their respective functional areas. At the same time, Santam lobbied for action at a much-needed industry level, particularly with regard to the influence of national and local government policies and practices (See Chapter 3.2). In 2010, Santam was invited to be part of the working group of the UNEP FI Principles of Sustainable Insurance (PSI), to help develop a set of globally applicable best practice principles for the insurance industry which were ratified in 2012 (See Appendix 1).

## THE EDEN PROJECT (2010-2011)

The internal work with the Environmental Forum led to the realization that there was much to be learned about weather-related factors and climate change, resulting in the Ecocentric Journey Conference, 15th – 17th September 2009 – an open event where experts, industry participants, NGO's and other organisations came together to share their insights, experience and recommendations.

Following the conference a consortium was formed between Santam, WWF, CSIR and UCT to do further research into these so-called ESG "systemic risks" in a given landscape.

The Eden District was selected as a useful microcosm for this work as it allowed for the modeling of fire, storm and flood risk and also represented a useful "unit" in terms of the socio-ecological landscape, thereby lending itself well to the modeling of risks and their drivers.

During 1996 and 2010, several storms affected Eden, totaling more than R 300 million of damage (CSIR, 2011). Santam alone paid out R60 million under the "Special Perils" between 1996 and 2010 claims in Eden. This region was of particular concern to Santam as it insured personal and commercial assets to a sum of approximately R 38 billion there and Eden's performance was a growing concern for Santam's risk and underwriting teams at the time.

The collaborative project titled 'Risk and resilience in a changing world – the insurance collaboration (Eden Project)' in June 2010 resulted. This year-long 'proof-of-concept' contained three components. The first component focused on understanding the climatic and scientific risk landscape (CSIR, 2011) while the second and third components considered systems resilience and the role of insurance, focusing on human and socio-ecological drivers of risk (CSIR and UCT, 2011).

### Understanding Eden's climatic risk landscape

The first component of the study used flood, fire, coastal and integrative risk modeling to map Santam's risk landscape in Eden. It was intended to support the understanding of the changing risk landscape by combining claims-based actuarial records with forward-looking scientific hydrological and climate information across the Eden district. CSIR conducted six climate simulations in 2010.

Different climate information, such as changes in temperature, rainfall, wind and sea level rise over time and under different conditions, were used to model the climatic impacts on fire, flood and coastal risks. It was found that these climatic factors combined with contextual (human related) factors and could have combined effects on a particular kind of risk. The exercise modeled the anticipated future effects of this for fire risk, sea storm and flooding in the Eden district by emphasizing a focus on the proximate drivers of the risks (CSIR, 2011).

### The role of insurance in managing weather- and climate-related risks

The study was shared globally in a report launched in conjunction with the UNEP FI at the COP17 proceedings in Durban in December 2011. Titled 'Insurance in a changing

risk landscape; Local lessons from the Southern Cape of South Africa' (UNEP FI, 2011)<sup>3</sup>, its findings were discussed at the side event 'Climate risk adaptation: Necessary and Possible', hosted by the UNEP FI, Santam and ClimateWise:

- **Key Findings:**

- » Climatic changes were driving risks higher;
- » Changes to ecological buffering capacity are as important as climate change, hence the human impact on the ecological environment is as important in determining our vulnerability to climate risk ; and
- » Risk is an emergent property of complex systems, meaning that in a socio-ecological landscape, the actual level of risk is determined by the non-linear interactions between the different drivers of risk.

- **Key Recommendations:**

- » Adopting a systems view of risk assessment so that the real drivers of risk can be targeted and assessed holistically;
- » Complementing risk assessment with proactive risk management in order to influence the systemic drivers of risk that are within the potential realm of influence.

- **Conclusion:** The (global) insurance industry has immense power to address the significant shared risks associated with climate change and ecosystem degradation, and through this, can be a catalyst for creating shared value.

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<sup>3</sup> Found at [http://www.unepfi.org/fileadmin/documents/insurance\\_changing\\_risk\\_landscape.pdf](http://www.unepfi.org/fileadmin/documents/insurance_changing_risk_landscape.pdf)

# SANTAM'S WAY FORWARD

## RISK ASSESSMENT AND MANAGEMENT AND THE ROLE OF CLIMATE IMPACT INFORMATION IN SANTAM

### Risk assessment

Risk assessment in insurance is done through the use of actuarial science, which calculates probabilities derived on the occurrence of past events. However, the unpredictability that arises with climate change and variability is rendering these actuarial models incomplete.

The Eden project is a step towards an innovative perspective in risk assessment. It put forward an innovative step-by-step risk assessment process: Understanding risks in a region (involving underwriters and businesses); Identifying the key drivers of these risks (scientific, climatic, socioeconomic); and Developing realistic, risk-based statistical analysis (not limited to historical data but including future predictions or different methods of data analysis).

Santam is making progress in the following directions, but is facing significant challenges regarding the availability and accessibility of climate (and other) information and data:

- **Collecting and integrating multidimensional data and information:** Santam is now attempting to improve its risk assessment capacities for the wider South African landscape, through Geographic Information Systems (GIS). Data involves both geographical and climatic information, related to flooding, lightning, earthquakes, soil and vegetation, fire information, emergency services and additional risks. However, no integrated South African database exists, and much data has to be bought, created, or collected in-house. Gathering this data can also be difficult as it requires triangulation of various methodologies such as ground truthing verification, field studies, scientific mapping (e.g. from contract engineering companies), and anecdotal evidence. Multi-institutional collaborations (such as with CSIR, UCT, municipalities, NDMC<sup>4</sup>) are vital here but can also be barriers, given different agendas and sensitivities. Santam's Business-Adopt-A-Municipality (BAAM) initiative is an attempt to move forward with shared risk management in this regard.

- **Increasing quality of scale and resolution:** Santam employs data clean up, accurate geo-coding of risks and multilevel profiling of plots, smallholdings and farms to tag properties with risk profiles like soil types, lightning areas, hail areas, flood areas etc. Automatic rules engines can then be applied to these, ensuring that the risk is measured down to individual properties, and not just regions. This is a slow process, as Santam often has to mine data itself or use outside agencies (at a cost) to obtain and clean data. E.g. In its GIS project, Santam has to refine historical claims data in order to integrate it with climatic data and understand risks. Currently the required detail has only been achieved in flooding/storm sea surge (courtesy of the Eden project) data and only in certain areas. Validation, updating and storage of data are costly propositions and done mainly through external companies and in-house experts.

- **Implementation of extreme weather warning notifications:** Santam has begun informing its clients of pending hail, fog and other extreme weather events via SMS and their website.

- **Improving the predictability of return periods,** by working on time scales of 1:5-, 1:10-, 1:20-, 1:50- and 1:100-years: Shorter time-periods are especially relevant for risks surrounding coastlines and estuaries, while 1:50 or 1:100 return periods might partially suffice for risks related to rivers. In the South African context, a recurrence within a 6-year period (particularly flooding) is highly problematic and risks with a 1:5 year return period are difficult to cover.

- **Raising hazard awareness:** Santam is attempting to do so through a risk management website, a building calculator<sup>5</sup>, and a risk wizard calculator<sup>5</sup> (in development). Taking climate and weather risks into account in these tools is a next step, and can only be achieved with better rules engines, which requires significantly more volume of quality 'clean' data. Santam is developing systems to support limited data, but the absence of regional impact models is a considerable hindrance.

### Risk management

Risk management is most effectively done through those active in the landscape. The Eden project reveals that risk

<sup>4</sup> National Disaster Risk Management Centre

<sup>5</sup> <http://scc.santam.co.za/manage-your-risk/personal-risk/>



management strategies now need to include a variety of responses which cater not only to mitigation of risks, but also to increasing adaptive and coping capacities to the drivers or sources of these risks within social systems. This includes weather and climatic impacts, as well as socioeconomic and governance issues. The following points are crucial in this vein:

- Collaborative/systemic management of risk drivers with public and private entities is vital;
- Increased dissemination of information to industry, staff, brokers, clients and public is required; and
- Incorporating collaborative/systemic risk management into the core business strategy of the institution could be imperative going forward.

Santam is making progress in this regard but a systemic approach is inherently complex, which, combined with the data gaps and other local challenges in the South Africa context, makes for slow progress. Here also, the BAAM initiative has led to forward momentum in a few select areas where Santam has partnered with the municipalities to support capacity building in the areas of fire, storm and flood risk management, e.g. the implementation of an Early Warning System in the Southern Cape<sup>6</sup>.

## CREATING AN INDUSTRY DIALOGUE: COLLABORATION WITH THE SOUTH AFRICAN INSURANCE ASSOCIATION

An ongoing industry dialogue on systemic risk was initiated in 2011 and is being facilitated by the South African Insurance Association (SAIA). A voluntary organisation with 58 members, SAIA claims to be the 'voice of the short-term insurance industry' and has adopted a strategic approach aligned with UNEP FI's Principles for Sustainable Insurance and ClimateWise.

In March 2011, SAIA and Santam together hosted the first

dialogue on the Principles for Sustainable Insurance draft in Johannesburg as part of the UNEP FI global consultation process. Santam's dedication of manpower towards this dialogue has helped construct the Strategic Risk Forum, initiated in 2011 as a partnership between the SAIA and the Financial Intermediaries Association (FIA) of South Africa.

This forum is characterized as "a short term insurance (STI) industry- wide forum which enables the industry to proactively engage on the international and local environment and the social and governance (ESG) risk factors that are affecting the sustainability of insurance<sup>7</sup>".

The current focus is on Agricultural Risk and Crop Insurance, engagement with National Disaster Management Centre (NDMC), and work with ClimateWise. The forum is also engaging with the NDMC on determining possible overlap between the insurance industry's products and disaster relief funding.

Most significantly, it is partnering with the Insurance Institute of South Africa to address massive insurance losses from hail storms in the past few years. This will entail interactive sessions beginning in May 2014 intended to merge climate and hail information with insurance, underwriting and claims issues to reach possible examples of interventions. This has the potential to provide a critical confluence of the financial and climate service communities.

Further, a 'Water Project' by SAIA's Insurance Risks Department is intended to source and gain access to existing water data for risks related to flooding, drought and extreme rainfall events, while fire risks are being addressed through a collaboration with South Africa's Fire Protection Association.

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<sup>6</sup> (<http://www.santam.co.za/about-us/media-centre/stay-safe/santam-sponsors-early-warning-system-in-southern-cape-to-help-build-climate-resilient-communities/>)

<sup>7</sup> <http://www.saia.co.za/info-center/saia-documents/publications/news-bulletin/bulletin-march-2014.pdf>

# LEARNINGS

## CONTEXTUAL BARRIERS AND CHALLENGES

The Eden project has revealed that climate information and data is a vital component for risk assessment and consequently risk management processes. Nevertheless, Santam's and SAIA's practical experiences indicate that there are significant barriers and challenges to the generation, customization and integration of climate impact information in risk management practices of insurers:

- **Significant gaps in South African climate information and services:** As this is a new area of collective need which has not received much attention in the past, several barriers exist surrounding the availability of basic climatic and scientific data and regional models (due to lack of past attention, limited current funding and skills gaps); accessibility and sharing of climate impact information (difficulty with multi-stakeholder engagements and differing levels of cooperation and capacity from municipalities and other institutions); and the existence of customized data (due to lack of capacities to customize).
- **Need for further recognition and integration of increasingly relevant climate impact information for business performance and government efficacy:** As evidenced by Santam's learning journey, the direct impact of external factors on insurers' bottom-line and sustainability makes it vital to effectively engage with underwriting on these issues. Further interaction is needed to define climate impact information needs and services together with the supply side in order to meet the need in an effective and efficient manner.
- **Challenges to collaborative risk management:** As with any new idea, actors are not easily convinced of change unless they can see the benefit. It will therefore take time to develop a shared purpose and to raise awareness with insurance staff, customers, local and national government and other stakeholders. The

skills, capacity and resources of stakeholders themselves also play a significant role in either mitigating the challenges or aggravating them. There is therefore a need to develop capacity and competencies for collaborative risk management with multiple stakeholders.

The following contextual learnings appear to be figural in Santam's learning journey over the last 5 years:

- **Understanding contextual business scenarios and strategic assumptions.** Conducting a scenario process for Santam's business and inquiring into what drives change and affects the business fundamentally
- **Raising awareness on the issues** through effective internal and external communication
- **Senior level commitment and support** of Santam's executive management and board, both internally and publicly
- **Internal collaboration** (e.g. the Environmental Forum) between different departments and business lines, and as a platform to interact with external organisations; connecting change maker individuals within and across organisations; as well as critical capabilities to manage multi-stakeholder expectations
- Creating a **national industry dialogue** linked to the global industry dialogue on climatic issues (e.g. PSI, Eden report launched with UNEP FI, AACIFI, SAIA Strategic Risk Forum events)
- Collaborating with **climatic, scientific and academic organisations**, and the wider business community and being public about findings and questions (Ecocentric Journey), projects (Eden, GIS) etc.
- Forming **business-government partnerships** to reduce climatic and other risks (through BAAM, working with National Disaster Management Centre etc.)

## BROADER LEARNINGS FOR INSURERS AND THE FINANCIAL SECTOR

Moving the agenda of integrating climate information into financial decision making forward requires recognition of the economic relevance / importance of improving the financial sector's adaptation to weather variability and climatic changes. This economic relevance is a fundamental driver to improving adaptation to weather variability and climatic changes for the financial sector and the broader economy and society, as well as disaster preparation and recovery. The IPCC Working Group II (2014) notes that insurance is an institutional response to climate change and that decision support to the public and private sectors requires sensitivity to "context and the diversity of decision types, decision processes, and constituencies (robust evidence, high agreement). Organisations bridging science and decision-making, including climate services, play an important role in the communication, transfer, and development of climate-related knowledge, including translation, engagement, and knowledge exchange (medium evidence, high agreement)" (IPCC, 2014, p. 26).

A significant gap exists between climate information and services and risk management of insurers and other financial institutions. Services need to be developed interactively and in an iterative manner. Regular, daily, formal and informal interaction between financial institutions and public or private climate service providers is vital for defining the gaps (between information demand and supply) and for evolving risk management processes for the FIs and their clients.

Identifying risks, their climatic and contextual drivers and the required climate impact information also requires a common communication system, or language between the two sides. Therefore, the capacities, time and continuous interaction needed to define and overcome these information gaps should not be underestimated. To generate appropriate climate impact information and develop the services cooperation between the local, national and global level of the public and scientific side is helpful at scale and time frames that are pragmatic and useful that support decision-making. But private sector investment in resources is also needed.

Lastly, the context and diversity of decision-making is a vital consideration. This study has shown that in insurance, a shift is required in core assumptions of behavior and thinking. For example, from a past orientation to a combined past and future orientation in modeling, from certainty in data and predicting probabilities on an expected range to working with uncertainty in complex emergent systems, from working rationally to working realistically with stakeholders to develop shared risk management solutions. This is what building resilience requires. And this necessitates better climate information to support the shifts for all the stakeholders combined with a participatory learning approach. It needs innovation and proto-typing, as it is a significant move from past management processes and toolsets. Those organisations that are able to make this shift are set to prosper in the dynamic and challenging 21st century.

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# APPENDIX 1: UNEP FI'S PRINCIPLES FOR SUSTAINABLE INSURANCE <sup>8</sup>



The Principles for Sustainable Insurance are a set of globally applicable best practice principles for the insurance industry, including actions to facilitate the systematic consideration of Environmental, Social and Governance (ESG) risks and opportunities in insurance companies' business strategies and operations<sup>8</sup>. A Working Group of leading insurers and reinsurers was set up in 2009 with the Principles being launched by the UNEP FI in June 2012 in Rio de Janeiro, Brazil, to support the aims of the UN Conference on Sustainable Development ('Rio+20 Conference'). The 4 principles are as follow:

**Principle 1:** We will embed in our decision-making environmental, social and governance issues relevant to our insurance business.

**Principle 2:** We will work together with our clients and business partners to raise awareness of environmental, social and governance issues, manage risk and develop solutions.

**Principle 3:** We will work together with governments, regulators and other key stakeholders to promote widespread action across society on environmental, social and governance issues.

**Principle 4:** We will demonstrate accountability and transparency in regularly disclosing publicly our progress in implementing the Principles.

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<sup>8</sup> From <http://www.unepfi.org/psi>

<sup>9</sup> <http://www.santam.co.za/about-us/2011-sustainability-report/managing-sustainability/managing-impacts/>

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**UNEP Finance Initiative (UNEP FI)**

UNEP FI is a global partnership between UNEP and the financial sector.

Over 200 institutions, including banks, insurers and fund managers, work with UNEP to understand the impacts of environmental and social considerations on financial performance. Through its Climate Change Advisory Group (CCAG), UNEP FI aims to understand the roles, potentials and needs of the finance sector in addressing climate change, and to advance the integration of climate change factors - both risks and opportunities – into financial decision-making.

**Sustainable Business Institute (SBI)**

The Sustainable Business Institute (SBI), Germany, is a research center founded in 1987. Since then, we have been working on a wide spectrum of issues and conducted studies with several national and international stakeholders including United Nations Conference on Trade and Development (UNCTAD) and United Nations Environment Programme (UNEP) and the German Government. Among these were studies on sustainable and responsible investment, Foreign Direct Investment (FDI), voluntary agreements and climate adaptation. This study was partially sponsored by the Federal Ministry of Education and Research (BMBF), Germany, as contribution to the project CFI – Climate Change, Financial Markets and Innovation ([www.cfi21.org](http://www.cfi21.org)).

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