access to insurance initiative

Index insurance best practices for insurance regulators and practitioners in the Pacific Island countries

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Abbreviations

A2ii	Access to Insurance Initiative
AFI	Alliance for Financial Inclusion
CBS	Central Bank of Samoa
GPS	Global Positioning System
IMF	International Monetary Fund
MSMEs	micro, small and medium enterprises
OCR	outstanding claims reserve
PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
PFIP	Pacific Financial Inclusion Programme
PFTAC	Pacific Financial Technical Assistance Centre
PICAP	Pacific Insurance and Climate Adaptation Programme
PIRI	Pacific Islands Regional Initiative
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UPR	unearned premium reserve

Foreword – UNCDF

As Executive Secretary, it is my pleasure to contribute to this insightful, timely and relevant publication. I am honoured that UNCDF has collaboratively developed this publication with the Access to Insurance Initiative (A2ii), two complementary organisations, in consultation with Pacific central banks. This kind of collaboration is the best and only way forward to foster the enabling environment that can support climate disaster risk insurance on a global scale.

This publication is a comprehensive, well-researched and unique document that is a must-read for insurance stakeholders in the Pacific and beyond. It has resonance across the region, as indications emerge of a vibrant "insurance movement" – one that is buoyed by growing interest from insurance companies to explore mass markets as well as by support from governments and central banks. This movement is disrupting the historic status quo of insurance coverage access being largely confined to medium- to high-income urbanites. UNCDF is involved in this movement as a trusted and experienced partner, with both the technical expertise and the ability to rapidly deploy its tools and instruments to support growth in the sector. This publication embodies our commitment to ensuring that the sector develops in an informed, structured and sustainable manner, underpinned by research and development, with strong communications and outreach with all our partners and beneficiaries.

Index insurance offers many opportunities for innovation and outside-of-the-box thinking. This same thinking has already inspired the development of a novel product: the first-ever climate and disaster risk parametric micro-insurance, led by UNCDF's flagship Pacific Insurance and Climate Adaptation Programme (PICAP). This is a promising start that holds the potential for further growth and development under the right conditions, along with significant potential benefits for Pacific Islanders and replication in other geographies. In a region prone to natural disasters, there is potential for the development of weather-index and yield-index crop insurance products, hybrid products and non-meteorological natural disaster risk insurance. As this publication highlights, these disasters tend to impact areas with little or no insurance coverage. Therefore, unlocking insurance for these vulnerable communities is not only a development and socio-economic imperative, but also an essential way that capital can work for humanity.

This best practices publication has crucial information on how to create a favourable ecosystem for the development of insurance products, with recommendations on the sustainability and continuity of the new schemes. There is something for all stages of product development – from design, to identifying and accounting for risks, to piloting and testing, to consumer protection and market deployment. The publication also represents an amalgamation of best practices from 10 different markets, encompassing different approaches to regulation, legal considerations, consumer education, distribution strategies, and so forth. Drawing on international best practices, this publication deals with the essentials of insurance, relying on useful information for central bankers, insurance regulators, policymakers, tax officers, insurance companies, development practitioners and other market players. Perhaps most importantly, there is a central focus on consumer protection – including dispute resolution, policy disclosures, and transparency and tax exemptions.

This publication also provides an overview of the strengths, weaknesses and opportunities within the regulatory environments in Fiji, Samoa, Solomon Islands, Tonga and Vanuatu. These markets are dominated by indemnity-based insurance products, which are not designed to cater for micro-customers, even though such customers make up a substantial part of the populations and collectively form an important component of national economies. While there is significant scope for index-based insurance, this publication recommends steps to minimize 'basis risks' for better-quality products while improving customer confidence. These regulatory overviews are supported by guidance on legal frameworks, product and policy, market conduct, digitization, bundled insurance, prudential supervision and enforcement.

Finally, I urge colleagues to dive into this publication and absorb the plethora of detail. I am confident that it will inform the fast-developing insurance sectors of the Pacific region, while providing the basis for the development of innovative products, with UNCDF playing a prominent and pioneering role in this evolutionary journey in the region. I commend and thank those involved in putting together this important work.

Preeti Sinha

UNCDF Executive Secretary

Foreword – A2ii

It gives me immense pleasure to provide this foreword for the 'Index insurance best practices for insurance regulators and practitioners in the Pacific Island countries', a pioneering effort by UNCDF's flagship Pacific Insurance and Climate Adaptation Programme (PICAP) with which the Access to Insurance Initiative (A2ii) has been privileged to have had the opportunity to partner for this publication. The commitment and support provided by central banks from the Pacific region must also be acknowledged as having contributed to the success of this venture.

A2ii firmly believes that, when supported by enabling regulation, index-based insurance has the potential to thrive as a risk financing mechanism against weather and catastrophic risks. Through lowering the administrative costs associated with the provision of insurance, it can be a key tool for closing the protection gap. It could also become a major ally for governments committed to reaching the United Nations Sustainable Development Goals (SDGs) and is a key component for addressing climate change (SDG 13) and achieving food security (SDG 2). Index-based insurance has also demonstrated that it can build resilience by enabling customers to access finance and can increase productivity and income (SDG 9), thereby reducing poverty (SDG 1) and vulnerability.

Although index insurance solutions have been around for a number of years, supervisory frameworks to support their development and ensure consumer protection are still in the early stages of their evolution and development. A2ii, as an implementation arm of the International Association of Insurance Supervisors (IAIS), was brought into existence to meet the need to build the capacities of insurance supervisors and regulators to create enabling market conditions for successful inclusive insurance interventions. Today, the same need for information and capacity-building, but on how to better regulate and encourage index insurance-based solutions, is widely recognized, especially in emerging markets.

These best practices are a step in the right direction for meeting this need in a practical, considered and effective manner and will be of high value to insurance supervisors, not just in the Pacific but globally when dealing with index insurance.

The report identifies and documents best practices in managing index-based insurance solutions, covering different aspects of supervision: prudential requirements, legal considerations, design and distribution strategies and also aspects of consumer education and protection; it is thus a comprehensive and informative document. Also, the fact that the best practices are drawn from different markets across the world, with a special focus on the 10 Pacific Island countries, grounds them in reality and ensures that they will be an important reference source for insurance supervisors

and regulators as they go about their important task of supervising the successful implementation of index-based insurance solutions in their jurisdictions.

I would again like to congratulate all the colleagues from UNCDF and A2ii who worked on this very relevant and needed work. A2ii wholeheartedly encourages insurance supervisors from the Pacific Island countries and globally to take full advantage of this important resource.

Hannah Grant

Head of Secretariat
Access to Insurance Initiative (A2ii)

Executive summary

Best practices for insurance regulators

Best practices for insurance regulators include guidelines relating to the legal framework, product and policy, market conduct, consumer protection, and prudential supervision and enforcement. When identified in the perspective of index insurance products and services, we suggest the following best practices that can be encouraged.

Clearly define and differentiate the different relevant categories of index insurance within the legal framework. The distinction between index and indemnity insurance should be made clearly. There should also be a clear differentiation made between index insurance and weather derivatives, so that index insurance contracts are recognized as valid insurance products and fall within the insurance regulations. The relevant subcategories of products that may be relevant in the region are weather-index crop insurance, weather-index climate disaster risk insurance (for non-agriculture sectors), crop-yield index insurance, hybrid products (combinations of weather-index and yield-index or weather-index and indemnity-based insurance) and non-meteorological natural disaster risk insurance (e.g. volcanic eruptions, earthquake, tsunamis).

Ensuring insurable interest is a crucial prerequisite for index-insurance to be classified as insurance products. It should be demonstrable that the policyholders and insured beneficiaries both have an insurable interest in the underlying risks being insured. An insurable interest should be established before coverage commences and can include limits to avoid over-insurance or having multiple policies on the same insurable interest.

Consideration of the regulatory sandbox approach is important, whereby insurers would apply to participate in and test their products and business models in a live trial of new index insurance products – with reporting and monitoring based on key performance indicators related to uptake, compliance and consumer protection. Following the sandbox trial, the products could be launched commercially or wound down.

Structuring of the underlying indices: regulators should specify the key characteristics of a 'good index', such as having objectivity, transparency, being verifiable independently, stating the source of the data, using adequate data, allowing a clear calculation of the insurer's liability for payouts, and so on. The types of index should not be restricted, to allow future innovations, including the use of indices for sectors beyond agriculture, such as the energy sector, tourism and healthcare. The use of multiple indices in the same product should be enabled, as should scope for integrating index and indemnity-based products (e.g. cyclone index combined with indemnity-based fire cover for micro, small and medium enterprises, MSMEs).

Basis risk should be considered from the perspectives of the insured party (e.g. farmers), policyholders (e.g. microfinance institutions) and insurers. Ideally, ways of measuring and managing basis risk should be stipulated both before and after a basis-risk event occurs. Correlation analysis between historical simulated payouts and historical actual losses or damages should be a key component of the product design, and the pricing process should

ideally be reviewed by the regulator too. The implications of very cheap products leading to higher basis risk should be communicated clearly to the policyholder and beneficiaries.

Product design: insurers should clearly define and (if needed) explain to the regulators the methodology behind key components of product design such as group or individual policies; measures to ensure insurable interest; data source used; choice of index, measures to manage basis risk; choices made of trigger, exit, rate of payout, deductible, sum insured, minimum/maximum payouts; coverage dates; waiting periods; exclusions; payment and claim payment modalities; choices made for distribution channels, and so on.

The product approval of index insurance products should be standardized across Pacific countries as much as practical. Approvals should ideally be done with a relatively quick (e.g. 30-day) turnaround. The product submission should happen well in advance of the onset of the season, so that the product can be approved before the season or risk exposure actually starts.

Consumer protection guidelines should be standardized across Pacific countries as much as practical. There should be clear provisions for policyholders and insurers to resolve disputes. Key features of the product should be disclosed to policyholders and the insured parties (if different), and samples of the policy document and marketing materials should be provided to the regulator. Simple and concise language should be used on consumer-facing communications, exclusions should be minimized and simplified, and clear instructions should be given on reporting complaints.

The setting of the sum insured value is a key aspect of consumer protection and mitigating moral hazard and anti-selection. The difference between the sum insured and the maximum payout per peril should be clarified, and the scope of partial payouts should also be made clear. Consumers should have some options for selecting the sum insured values for non-mandatory index insurance products. However, to avoid under- or over-insurance, the selected sum insured should not be excessively below or above the associated economic values (e.g. linked to cost of production, revenue from harvest, or expected loss of income).

Claims adjudication is key for building customer awareness and instilling market trust in index insurance products. There should be scope for partial payouts (leading to more lenient trigger levels and so potentially reducing basis risk) and also scope for ex gratia payouts under certain circumstances. Fallback methodologies are an important tool for managing basis risk and also for dealing with cases where the primary data may be missing (e.g. due to weather-station malfunction). There should be time limits within which claims payouts should be made once the index has been triggered, and potentially penalties for the late payment of claims. The reporting of claims is generally not needed for the cost-efficiency of index-insurance products, but in certain circumstances reporting could be allowed for the integration of indemnity-based products for reducing basis risk. Ideally, an independent claims calculation agent – responsible for monitoring and calculating payouts based on the underlying index and the data and calculations – should be easily accessible to all parties.

Efficient distribution channels are crucial for the viability of index insurance products and can play a role in customer awareness, enrolment, premiums collection and payment, the management of basis risk, representing end customers and negotiating with insurers, increasing consumer trust, and so on. Regulators should consider the insurable interest between distribution channels and the end customers. The roles and responsibilities of the distributor should be clarified with regard to the roles for

the insurer, the end customer and others. The ease of enrolment and of transactions with end customers, the compatibility with non-insurance regulations and the disclosure of incentives, such as sales commission, administration fee and profit share, should also be taken into account. The group insurance model for implementing index insurance should be considered along with meso-level insurance, whereby the corporates or institutions could be both policyholders and end customers themselves, and the risks would be insured at a meso-level rather than at a household level.

The scope for bundling index insurance with other insurance products and also with non-insurance services (such as loans, farming inputs, and so on) should be considered along with the scope of providing index insurance on a mandatory or voluntary basis in such bundled arrangements.

The digitization of index insurance should be considered by regulators to reduce the cost of distribution and enable scale-up. Digitization can include the use of mobile money for premiums and claims payments, the use of digital customer awareness-raising and marketing, flexible premiums and claims payments, digital reporting of claims, electronic policy document issuance, and the use of e-signatures for customer identification. However, the extent of digitization would be affected by factors such as mobile connectivity and the level of mobile money usage in remote rural areas.

Prudential supervision for index insurance should require actuarial pricing and design, which should be reviewed annually. There should be adequate reinsurance in place, preferably with highly rated international reinsurers with a high credit rating of AA or A. Ideally, there should not be any premium caps, but premium floors can be considered to avoid the underpricing of products, or designing products with very high basis risk. Insurers should be able to explain their pricing in comparison with the historical simulated payouts and/or expected frequency and severity of payouts.

Additional technical areas that regulators should be cognizant of include the accuracy of the weather data used, the methodology behind the selection of the product-design parameters, and the pricing methodology (including how catastrophic events, which may not have occurred in the historical data set, are incorporated), the historical simulated payouts for specific catastrophe events, and so on.

Supervision and enforcement should be implemented through a combination of proportionate reporting requirements, annual on-site inspection, consumer protection audits, periodic publication by the regulator, relevant review of the insurance Acts, and facilitating index insurance capacity-building and market awareness-raising in coordination with insurers, government and development agencies.

Best practices for other stakeholders

Other stakeholders, such as other government ministries and institutions, insurers and distribution channels, have key roles to play for the viability of index insurance products.

The **Ministry of finance** can consider the scope of smart subsidies for index-insurance premiums. A premium subsidy plan should take into account the cost-effectiveness of premium subsidies compared with alternatives to achieve

the desired outcome. The viability of subsidies over time, the routes for reducing or phasing out premium subsidies and the dependency of the insured parties on subsidies should also be considered. Premium subsidies should be targeted and should generally benefit poorer end customers. They should not lead to distortions of markets or encourage the undertaking of very risky activities. Subsidies should create an incentive for many insurers to participate in index insurance and should not lead to monopolies formed by a few insurers.

Tax exemptions (such as to waive value added tax) on index insurance is another form of indirect premium subsidy. Tax exemptions can lead to products becoming more affordable, can encourage higher uptake and should also lead to more lenient trigger levels, which in turn can reduce basis risk. Subsidizing relevant interest rates (e.g. for agricultural loans linked to index insurance) can be another form of indirect premium subsidy. Government can also consider **premium-prefinancing** (or lending the premium to end customers) to enable higher uptake. Other ways in which government can **reduce the cost of index-insurance products** can include support on loss assessment, customer awareness and enrolment, research and development, investment in public goods such as data systems and weather stations, easier and cost-effective access to existing databases and improved yield assessment methods and disaster declarations.

Government can also play roles in risk transfer by enabling a level playing field for all insurers (public and private), enabling a suitable environment for co-insurance pools and enabling easier access to the international reinsurance markets. In some cases, the government can even provide reinsurance coverage itself, potentially integrated with macro-level risk transfer (e.g. the Pacific Catastrophe Risk Assessment and Financing Initiative, PCRAFI).

The **ministry of agriculture** can consider ways in which agricultural index insurance can be integrated with existing risk management methods and agricultural extension services. The ministry can implement good agricultural risk management practices, which improve the insurability of certain risks. Easy and cost-efficient access to historical and operational agricultural data (e.g. yield data) can enable the development of products such as area yield index insurance. Extensionists in the ministry of agriculture can play a key role in farmer-level sensitization, enrolment, loss verification, and so on. Index insurance can also potentially be integrated with agricultural input subsidies and agricultural finance.

The **meteorological department** has a key role to play in maintaining reliable and representative weather data, which can be used for the design, pricing and claims settlement of index insurance products. It can also play a role in the validation of satellite data sources and in providing weather station data, even as a fallback option for managing basis risk.

Disaster management strategy: micro-, meso- and macro-level index insurance solutions can be considered as an important part of the disaster risk management framework and strategy. Disaster management departments should become familiar with the workings of index insurance in order to make informed decisions relating to the structure, pricing and implementation of index insurance at the different levels.

Insurance companies should make strategic considerations, and consider underwriting and product design checklists, and pricing and claims process checklists for the index insurance products they implement. The monitoring of key performance indicators should be implemented to monitor profitability and value for clients. Insurers should engage actively with

specialist reinsurers with experience of index insurance and with technical service providers to innovate and consider new types of index. Solvency requirements should take into account capital requirements in case of catastrophe events. Insurers should work with reinsurers based on their expertise, type of reinsurance arrangement, ease of reinsurance recoveries, visibility over reinsurance pricing, adequacy of reinsurance coverage, and so on.

Distribution channels for index insurance products include banks, microfinance institutions, agribusinesses, farmer organizations, fintechs, and so on. Distribution channels should consider the business case for both micro- and meso-level index insurance. Distribution channels have key roles to play for consumer education, enrolling end customers, answering queries, implementing group policies, premium collection or prefinancing, reporting claims and reflecting claim payouts, and so on.

Conclusion

Insurance regulators, along with many other stakeholders, have key roles to play for the development and implementation of viable index insurance products, which have the potential to contribute to disaster risk management at the micro, meso and macro levels for the Pacific Island countries.

Background

This report summarizes best practices on index insurance for regulators and other stakeholders.[1] It is part of the deliverables of the project, 'Best practice guidelines for the regulatory framework for parametric insurance in the Pacific region', which falls under the 'Enabling policy and regulations' work stream of the Pacific Insurance and Climate Adaptation Programme (PICAP). The Programme is administered jointly by the United Nations Capital Development Fund (UNCDF), the United Nations Development Programme (UNDP) and the United Nations University. PICAP and the Access to Insurance Initiative (A2ii) are jointly managing the project for developing the best practice guidelines for Pacific regulators.

In the first phase of this project, the consultancy team reviewed insurance regulations relating to index insurance across a number of countries, identified the regulatory best practices based on these case studies and submitted a summary of these to PICAP and A2ii. The team also interviewed insurance supervisors from five countries in the Pacific region (Fiji, Samoa, Solomon Islands, Tonga and Vanuatu).

This report summarizes the current regulatory environment of the Pacific countries, recaps the regulatory best practices identified in the above process and presents regulatory best practice guidance notes for consideration by regulators in the Pacific countries, specifically for index insurance products. The accompanying best practices relevant to other stakeholders are also compiled in this report. Finally, legal reviews of the insurance Acts in some of these countries are also included in the annex of this report.

The relevance of index insurance

The Pacific islands are incredibly vulnerable to natural disasters, including climatic (e.g. cyclones, droughts) and non-climatic ones (e.g. earthquakes, volcanic eruptions, tsunamis). The high-risk exposures that these islands face makes it important to have efficient risk management tools – at a country (macro), institutional (meso) and household (micro) level – for managing these risks both before and after they occur. It is evident that effective forms of insurance products need to be developed to meet the specific needs of the Pacific Island countries. Index insurance as an alternative to the traditional indemnity-based insurance is an innovative and increasingly popular approach.

Traditional indemnity-based insurance for climate risks is usually very difficult for microinsurance customers to apply for, due to many challenges such as the relative lack of data on loss or damage, the risk of adverse selection and moral hazard, the expenses involved in underwriting individual risks and in indemnity-based loss assessment, the difficulty to reinsure such products, the time taken to verify and pay claims, and so on.

Under an index insurance scheme, the payouts to the insured are triggered and calculated by a predetermined index that is used as a threshold,

[1] Other stakeholders include, for example, insurance companies, distribution channels, ministries of agriculture, finance and other relevant ministries and government institutions, and reinsurance companies.

and the amount of the benefit is also determined by the value of the predetermined index. There is no need for individual loss assessment under this scheme, as there is with the traditional indemnity insurance product. However, it is important to take appropriate steps to minimize the 'basis risk' involved in index insurance design. Increasing the correlation of the index with the actual damage and losses will not only allow for a better product, but will also improve the confidence of the insured. The following are some of the potential advantages of index insurance.

- *Moral hazard is reduced*
  This is because the index insurance payouts are based on a predetermined index that is not influenced by the insured. On the other hand, the insured do not need to prove their losses and will not be inclined to change their behaviour to benefit from the insurance policy, nor to put any effort into preventing the loss, as would be required by an indemnity insurance scheme.

- *Transparency on claim handling and payouts*
  Index insurance offers better transparency on claims handling and avoids disputes over the claim benefits awarded to the insured. The insured will receive the benefit once the threshold level of the index has been reached and will not need to wait for any damage assessment from the insurance company. Additionally, index insurance can offer the insured direct access on how their benefits are calculated and when the payouts will be distributed.

- *Administrative costs are reduced, potentially lowering the premiums*
  Index insurance contracts can have simple and uniform formats. By contrast, after an indemnity insurance claim – especially concerning losses resulting from natural disasters – the individual risk assessment and loss adjustments procedures needing on-site inspections are very expensive and time-consuming. This can contribute to higher risk premiums. Index insurance will not require on-site loss assessment and the payouts will start as soon as the threshold of the index is triggered.

Audiences targeted by the sections of this report

This report is relevant for a variety of different stakeholders, including insurance regulators, insurance companies, government ministries, potential distribution channels, reinsurers, index insurance service providers and others.

The sections on 'Relevant regional factors in Pacific Island countries' and 'Legal considerations' are relevant to all regulators in Pacific Island countries, plus insurers and other practitioners working in them.

The section on 'Best-practice considerations for regulators' is relevant to insurance regulators globally as well as all insurance regulators in the Pacific Island countries. In addition, insurance companies, reinsurers, insurance technical service providers and other practitioners interested in developing and implementing index insurance in the region and globally would be advised to read this section. This is because many of the recommendations in this section would also be useful for practitioners when designing index

insurance products and policy documents and other associated processes.

The section on 'Best-practice considerations for other stakeholders' is relevant to the key stakeholders involved in index insurance product and policy development. It is relevant in particular to ministries of finance and agriculture, meteorological and disaster management departments, insurance companies, fintechs, mass-market service providers, the potential distribution channels (such as banks, microfinance institutions, agribusinesses and farmers' organizations) and reinsurance companies. The relevance to these stakeholders is global as well as specific to the Pacific Island countries.

The legal reviews of the legal frameworks and insurance Acts are most relevant to insurance regulators and legal practitioners familiar with the legal frameworks for Pacific Island countries.

Relevant regional factors in Pacific Island countries

The current regulatory landscape on index insurance in the Pacific was assessed through a combination of desk-based research, consultative virtual meetings with insurance supervisors in five countries (Fiji, Samoa, Solomon Islands, Tonga and Vanuatu) and feedback collected through a questionnaire. The interviews with insurance supervisors, done in July 2021, indicated the following key common themes on the regulatory environment in the region.

1. There is **high general awareness** of index insurance among regulators in the region due to the frequency of catastrophic events. Also, most countries have a history of engagement with consultancies and international organizations on index insurance as well as insurance overall.

2. While regulations specific to index insurance are not yet in place, most countries have an **insurance Act** or a draft one, and have expressed strong interest in its review by the project team.

3. With the exception of Tonga, the other countries interviewed indicated there was an existing **regulatory approval process** for products. The formality of these processes varies widely by country.

4. There is awareness of **regulatory sandboxes** and an openness to incorporating insurance into this framework. There was a close to even split between those countries with prior experience with regulatory sandboxes and those without.

5. Most countries have specific **regulatory reporting requirements** for insurance companies, including on solvency, claims and premium data, balance sheets and income statements, and may involve on-site inspection. These requirements vary widely by country.

6. Regulators consistently cited the need for an **active government role** to be played regarding the barriers of high premiums and low public awareness.

7. **Basis risk** did not appear to present a point of concern to regulators. Rather, existing government programmes appear to imply an expected level of basis risk. The objective of index insurance would not thus be to remove basis risk altogether, but to lower it relative to other existing solutions.

8. With the exception of Fiji, which has specific disclosure requirements, countries as yet have **no standard legislation for consumer protection**, although this is under development for the Solomon Islands and Tonga.

9. Regulators understood well the need in Pacific countries for **reinsurance and co-insurance**. Countries did not, however, with the exception of Fiji, have explicit regulations in place on these topics.

10. While there are no specific **solvency requirements** for index insurance, interviewees expressed strong interest in the review of these by the project team.

11. The primary concern of regulators was from the prudential underwriting perspective, and in general on this topic, the

regulators were cognizant of the need to ensure that there were no inadvertent barriers being placed on the industry. Their objective is to **encourage and grow the index insurance market** at the micro and meso levels.

These findings are described in more detail in the rest of this section.

Current regulations

None of the five countries reported having regulations specific to index insurance. Most countries have had a history of engagement with international development organizations and consultancies on both index insurance and insurance in general, now largely on hold due to the pandemic. These engagements include the following:

- Fiji engaged an Australian consultancy and the International Monetary Fund (IMF) in drafting its insurance Act.
- Vanuatu established an internal committee on setting up a regulatory sandbox drafted with the Pacific Islands Regional Initiative (PIRI) and the Alliance for Financial Inclusion (AFI). The country has also engaged with the World Bank and the IMF's Pacific Financial Technical Assistance Centre (PFTAC)[2] but is awaiting response.
- Samoa engaged an Australian consultancy and received legal review by the IMF. It is part of PCRAFI, previously subsidized by Japanese reinsurers. The World bank is now trying to extend technical assistance.
- Tonga is part of PCRAFI and has been able to access payouts. The disaster risk finance strategy for Tonga has recently been completed by the World Bank.
- In the Solomon Islands, UNCDF, through the Pacific Financial Inclusion Programme (PFIP), provided technical assistance to develop the new insurance bill that is now pending with the attorney general's office after the completion of public consultations.
- UNCDF has also provided technical assistance to the Central Bank of Solomon Islands for developing the national financial inclusion strategy (2021–2025) launched by the country's prime minister earlier in 2021.

Varying degrees of regulations are in place for insurance. Most countries have insurance Acts (in finalized or draft form) with strong interest in review through technical assistance from UNCDF. The regulatory approval of products varies, as follows, in decreasing order of formality:

- Fiji and Solomon Islands require risk assessments and feasibility studies.
- Samoa and Vanuatu require companies to inform the regulator about products.
- In Tonga, the Insurance Act is under development; once enacted, the insurers will be supervised by the National Reserve Bank of Tonga.

Most countries were aware of regulatory sandboxes and were open to the concept of incorporating insurance. Fiji, Tonga and Vanuatu

[2] https://www.pftac.org/content/PFTAC/en1.html.

have existing or prior experience with some form of sandbox for financial products while Samoa and Solomon Islands do not.

Group insurance is allowed in practice in all countries but without specific regulatory guidance.

Fiji is also one of the few countries in the world where the government has provided a tax exemption as a way to reduce the cost of index microinsurance products. Vanuatu has a coordination committee for climate change and catastrophic events, which could be relevant for supporting index insurance.

With the exception of Tonga, which has voluntary submissions, all countries said they had specific data-reporting requirements for insurance companies. These include the submission of solvency data, balance sheets, income statements and claims data, and may involve on-site inspection.

Actuarial capacity and requirements for non-life insurance vary and it appears common that actuaries are based in Australia and New Zealand. Fiji has made the appointment of an actuary a requirement for non-life product lines. Tonga has accounted for this in a draft insurance bill. Samoa, Solomon Islands and Vanuatu do not seem to have specific requirements.

Other legislation with a potential connection to climate risk insurance comprised disaster awareness mitigation frameworks, as discussed in the case of Fiji.

Market conditions

All the countries have high awareness of index insurance, particularly due to the frequency of recent catastrophe events, especially major cyclones. The impact of these events on the insurance industry has varied by country due to different types of coverage, urban versus rural impacts, and the existing reinsurance arrangements. The following are some of the notable events and their impacts on the insurance sector, as cited by the insurance supervisors.

- Fiji had the category five tropical cyclone Winston in 2016. There was little insurance impact as the storm did not hit urban areas. It did though affect areas with little to no insurance coverage.
- Tonga had cyclones Gita in 2018 and Harold in 2020. Unlike in Fiji, insurance companies here were affected by the losses incurred.
- Vanuatu had the category five cyclone Pam in 2015 but with a relatively insignificant impact on the insurance sector.
- Samoa had an event in 2015 but the claims due from the local insurers were reduced due to the extensive use of reinsurance.

Index insurance has been studied in most of the countries in the past, but very few products have actually been implemented. In Fiji, index insurance studies have been conducted and have been supported by both the private sector and the government. With support from UNCDF-PICAP, Fiji's first index microinsurance product was launched in August 2021. Fiji is the only country in the Pacific (as of February 2022) where index microinsurance products have actually been launched.

Major barriers for index insurance from the supply side have been the following. The relevant natural disaster risks have the potential to be catastrophic in nature with a high concentration risk. Insurers have therefore been generally reluctant to underwrite these risks. The expected high severity and potentially high frequency of risks can make these products very expensive. The potential cost of the insurance premium combined with relatively low awareness of insurance among customers, and a lack of premium subsidies from the government, can make it very difficult to provide such products on a viable basis for the insurance companies.

Potential-basis risk was not a specific point of concern for the regulators interviewed, potentially due to the lack of experience with index insurance products in the market so far. The regulator in Tonga made an interesting point that most customers already did not expect full coverage of their losses following disasters. To that extent in terms of disaster relief, the insurers are unlikely to be specifically deterred by the prospect of potential-basis risk.

Agriculture is the sector most commonly cited to be impacted by climate risk. Fishing, tourism, individual homes and businesses were also mentioned.

Distribution

Brokers, agents and branches are cited most commonly as the distribution channels, although COVID-19 has posed challenges, as many policies are now at risk of lapsing, so marketing and distribution have taken a back seat. Agents generally require licensing and, based on Fiji's response, agents are primarily linked to certain insurers. There is an appetite to expand distribution to other types of organization – like cooperatives, associations and church groups – to become agents, as expressed by Vanuatu, but this has not yet been implemented.

Consumer protection

Consumer protection practices vary by country, as follows, in decreasing order of formality:

- Fiji has specific requirements for disclosure terms and conditions.
- Solomon Islands and Tonga are working on legislation for consumer protection.
- For Samoa and Vanuatu, customers have the ability to raise complaints, but this is primarily on case-by-case basis.

Prudential underwriting

Reinsurance and co-insurance are allowed and understood as being necessary for Pacific Island countries, but only Fiji had explicit regulations on these areas. Tonga and Vanuatu referenced draft legislation that looks to address these areas. The primary concern on prudential underwriting was to ensure there were no inadvertent restrictions or barriers being placed on the industry.

There are no specific solvency requirements for index insurance currently, including for Fiji, which thus far has the most detailed regulatory framework. There was a strong expression of interest from insurance companies in Fiji in reviewing capital requirements and specifically whether additional considerations were needed for index insurance.

Insights from demand surveys[3]

Generally, insurance purchase is very low in the Pacific Island countries. In Fiji, insurance outreach is very low at 15% percent overall and only 7 percent of the insured come from the rural areas. Most people in Fiji access insurance provided by employers. In Solomon Islands, insurance purchases in the lowest-income segment accounted for less than 3 percent of respondents. In Tonga, almost 90 percent of the respondents did not have insurance. Similarly, in Vanuatu, only 5 percent of the respondents had any type of insurance product.

Demand-side surveys show that insurance products for household items, property, motors, funerals and group life were most popular. In Tonga and Vanuatu, demand surveys were conducted in 2015-2016.[4] In Tonga, there was a general lack of awareness of insurance; it was not a household priority. In Vanuatu, there was demand but it was considered difficult to get coverage. In Solomon Islands, most insurance products did not cover weather risk. Life, motor and health insurance constituted the main types of insurance in the Solomon Islands. Similarly, life and accident insurance (potentially provided by employers via the state-owned life insurer) constituted the main insurance categories for Samoa.

There is a lack of customer awareness and understanding about the potential benefits and features of insurance. In Fiji, about 80 percent of respondents may not be accessing insurance due to limited information and weak awareness on the benefits and specifics of insurance products and also potentially due to limited distribution channels being used to reach people. Similarly, in Samoa, over 90 percent of respondents may not be accessing insurance due to limited information and weak awareness about insurance products and potential benefits. Similarly too, in Tonga, 66 percent of respondents felt they did not need insurance, 14 percent did not know how insurance worked and 17 percent felt insurance was too expensive.

Interestingly, in Vanuatu, for respondents involved in agriculture, most respondents did not know what insurance was, how it worked or where or how to access it. Some respondents also cited the cost of insurance and not needing it as reasons for not accessing insurance.

3 Based on demand-side surveys for five countries done by PFIP (UNCDF/UNDP).

4 Ibid.

Since employee-based group schemes are relatively prevalent in the region, there is scope for index insurance being provided as group policies, for example to members of cooperatives or associations, or to farmers in a contract-farming scheme (similar to a group employee scheme). This is already the more prevalent mode of accessing insurance in most of the countries.

A. Pacific Catastrophe Risk Assessment and Financing Initiative

This section explores the past engagements of Pacific countries related to index insurance, referenced above, with a focus on the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) initiated in 2016. PCRAFI looks to scale up regional collaboration to increase the financial resilience of Pacific countries, focused on a macro level. It is a five-year programme implemented by the World Bank-managed Global Facility for Disaster Reduction and Recovery. It is funded by the governments of Germany, Japan, the United Kingdom and the United States. Its implementation has been via two tracks:

- Establishment of the Pacific Catastrophe Risk Insurance Company (PCRIC), whose members include the Cook Islands, Marshall Islands, Tonga and Vanuatu.

- Provision of multilayered technical assistance on disaster risk finance at national, regional and PCRIC levels.

In addition to PCRAFI, which is an overarching engagement, interviews with regulators indicated the following summary of past engagements, many of which are now largely on hold due to the pandemic.

1. Fiji has engaged an Australian consultancy and the IMF in drafting its insurance Act.

2. Vanuatu has established an internal committee on setting up a regulatory sandbox drafted with PIRI and AFI. It has also engaged with World Bank and the IMF on the topic but is awaiting response.

3. Samoa has engaged an Australian consultancy and had a legal review conducted by the IMF. It is also part of PCRAFI.

4. Tonga is part of PCRAFI and in 2018 accessed a significant payout of US$3.5 million for Cyclone Gita, followed again by another payout of $4.5 million for Tropical Cyclone Harold in 2020, the maximum amount on its index insurance policy.

These engagements have heightened awareness among regulators on index insurance and the functioning of disaster risk financing overall. However, the PCRAFI programme does not appear to have made an impact on the development and implementation of either meso-level or micro-level index insurance products in the region, in terms of products being introduced by insurers or being initiated by distribution channels or governments.

B. Regulatory sandbox guidelines

This section further explores the point of regulatory sandboxes in Pacific countries, referenced above, with a focus on the 'Pacific regional regulatory sandbox guidelines' published in March 2020.[5] The purpose of a regulatory sandbox is to balance the need to encourage organic market growth with compliance. With new financial products, like index insurance, uncertainty around compliance could push industry players away from launching innovative solutions in the

[5] 'Pacific regional regulatory sandbox guidelines', Alliance for Financial Inclusion, https://www.afi-global.org/publications/pacific-regional-regulatory-sandbox-guidelines.

market. A sandbox provides an environment in which companies can test new products within parameters defined by regulatory authorities.

The guidelines were published by PIRI under the AFI in the context of fintech. While not specifically targeted towards insurance, the underlying principles are relevant. These guidelines provide a detailed outline through which to create an official digital platform via which companies can apply to participate. Details on the application procedure are provided. The platform allows regulators to evaluate applicants and facilitates the harmonization of policies and requirements. The publishing of these guidelines is consistent with findings from our interviews, which indicated a general awareness of regulatory sandboxes and an appetite to incorporate insurance into a similar framework. Of the five countries interviewed, Fiji, Tonga and Vanuatu have prior experience with implementing sandboxes for financial products, while Samoa and Solomon Islands do not yet.

It should be noted that many of the Pacific regulators have been using sandbox approaches for financial services even without using the specifics of the 'sandbox' terminology. For example, for the approval of using mobile wallets, in Solomon Islands, airtime credit was used as currency for transacting for informal sector superannuation. These sandbox approaches were taken using conditional approval letters and controlled pilots followed by approvals under existing regulations.

Legal considerations

As outlined by A2ii in its survey in 27 countries published in 2021, a major factor for a successful index insurance scheme relates to the underlying legal frameworks in the jurisdiction. From an industry perspective, the top barrier was the absence of index insurance regulations. The top facilitators were regulatory sandboxes or innovations hubs and upfront clarification of the 'insurable interest'. From a regulatory perspective, the top two challenges in including and defining index insurance were:

- Ambiguity between index insurance and weather derivatives
- In jurisdictions where insurance was defined by indemnification of loss, index-based approaches were not recognized as insurance.

Legal review conducted by the consultant team for Samoa and Vanuatu also provided observations consistent with the A2ii findings, where index insurance products were not specifically accounted for within the countries' respective insurance Acts.

Given the above factors, it is crucial that index insurance be included within the current legal framework in the different countries in the region, and that it is unambiguously recognized as insurance. A2ii cites three approaches by which regulators can do this:

- Approve laws specific to index insurance
- Issue a legal opinion to include these products within the governing law on insurance
- Have a regulatory sandbox whereby products can be tested before introducing alterations to laws.

Taking into account the current state of the market, the potential best-practice guidelines for the insurance regulators to consider, in chronological sequence, are the following:

1. The regulator can provide conditional approval of index insurance products or provide a letter of no objection, subject to the approval criteria and/or best practices being followed by practitioners, as per the recommendations in the following sections.
2. The regulator can consider a regulatory sandbox approach.
3. Based on learning from the sandbox approach, the regulator can then consider approving laws specific to index insurance.

Given the relative lack of experience on index insurance products in the region, it would be appropriate to adopt a regulatory sandbox approach prior to drafting appropriate legislation for index insurance products. The objective of such an approach is to allow the testing of new products and business models within a controlled environment. Based on the observations and learning gained by the use of the sandbox, adequate and proportionate legislation for index insurance can be developed afterwards. This has been the approach taken in countries such as South Africa.

Best-practice considerations for regulators

These best-practice guidelines for insurance regulators can be categorized into the following.

A. **General definitions:** These are some high-level definitions and differentiation, which the regulators should take into account to clearly define whether the products can be classified as insurance in the first place. These also help to differentiate between different index and indemnity-based insurance, and different categories of index insurance products, and give some of the key considerations in defining an index and in managing basis risk.

B. **Consumer protection considerations:** There are several aspects of index insurance products, processes and scheme designs the regulator should be aware of, or review, from the perspective of ensuring adherence to principles of fair treatment of consumers, as per ICP 19 Conduct of Business. This topic looks at how regulators can influence the design and implementation of index insurance products in order to optimize consumer protection and value for the policyholders and beneficiaries. Regulators can challenge insurer best practices through product review processes, ongoing on-site and off-site monitoring and reporting, and conduct-of-business requirements.

C. **Prudential supervision and supply-side guidelines:** These are guidelines the regulator should take into account to ensure that the index insurance products are financially viable and potentially profitable for the insurance sector, so that more insurance and reinsurance companies are encouraged to participate in the sector and develop new and innovative products. Concurrently, the insurers should be able to set aside reserves and manage their risk exposure adequately, so that they are able to make timely payments as they fall due, without causing any concerns from a solvency perspective for the insurers.

These best-practice guidelines for index-insurance regulations for insurance regulators are described in the following sections A to C.

A. General principles

The following general principles are important for insurance regulators to consider deciding whether the products can be classified as insurance in the first place. These principles also guide differentiation between different product categories within the regulatory framework.

1. **Clearly differentiate between index insurance and derivatives:** There should be a clear differentiation between index insurance and derivatives (e.g. weather derivatives), in order to decide whether the products would fall under the scope of the insurance regulator and whether they can be permitted in the first place. This is because exposing customers

– particularly low-income households and smallholder farmers – to derivatives can be very risky and may not be allowed by law. It is thus important simply to consider whether the proposed product can be classified as an insurance product to start with.

2. **Ensure there is an insurable interest:** It is a crucial prerequisite for index insurance to be classified as an insurance product. Since index insurance bases compensation on an underlying index and not on the insured party's actual losses, there is room for the possibility that either the insured party and/or the policyholder may actually want the insured event to take place (i.e. they may be using the index insurance product as a derivative or a bet to financially gain from, for example, a bad weather event). From an insurance regulatory perspective, policyholders and the insured party should have a clear insurable interest in the underlying risks being insured. From the regulator's perspective, it should be demonstrable that the policyholders and insured beneficiaries both have an insurable interest.

   However, the establishment of the insurable interest should be the insurer's responsibility during the product development phase, and the onus for proving insurable interest should not fall on the insured party and/or policyholder after they have incurred a loss. Ensuring insurable interest can include by putting limits on coverage to avoid over-insurance. This can be done by linking the value insured to relevant proxies such as the cost of the underlying loans (for credit-linked products) or the cost of production, the lost income, an expected harvest value, and so on. There should also be limits in place to prevent the insured party from having multiple policies related to the same insurable interest.

   Ensuring insurable interests is important against speculative behaviour, and to mitigate moral hazard and adverse selection, which would otherwise lead to the products becoming very risky for insurers and also very expensive and unaffordable for policyholders. However, the concept of insurable interest should not be so restrictive that it becomes a barrier to developing index insurance.

3. **Differentiate between index and indemnity insurance:** The distinction between index and indemnity insurance should be made clearly, so that it is clear whether regulations apply relating to indemnity-based products, or to index products.

4. **Differentiate between different categories of index insurance:** The relevant subcategories of products that may be relevant in the region are weather-index agriculture insurance, weather-index climate disaster risk insurance (for non-agriculture sectors, e.g. energy, MSMEs), crop-yield index insurance, hybrid products (combinations of index insurance products or combinations of index and indemnity-based products), and non-meteorological natural disaster risk insurance (e.g. volcanic eruptions, earthquake, tsunamis) on an indexed or indemnity basis. There should also be a differentiation as to whether the products can be considered to be micro, meso or macro in nature.[6]

[6] *Micro-level* index insurance covers individuals. *Meso-level* index insurance covers "risk aggregators" such as banks, microfinance institutions, agribusinesses, national export companies, and so on. *Macro-level* index insurance covers contingent liabilities that the government might face in the case of a disaster or weather-related event. (Source: 'What is macro-level, meso-level and micro-level index-insurance?', Global Index Insurance Facility, https://www.indexinsuranceforum.org/faq/what-macro-level-meso-level-and-micro-level-index-insurance.)

It is important to define and differentiate between the different categories of index insurance as otherwise there is a risk of some index insurance categories being confused from the regulator's perspective with indemnity-based insurance. For example, in Nigeria, yield index insurance has been underwritten for years under the licence that insurers have for indemnity-based crop insurance, which can lead to disputes in the event of claims and a lack of adequate supervision for such products. However, so as not to limit future product innovation, it should be clearly stated that new types of index can be designed, such as pandemic-based indices, tourism revenue indices, and so on.

5. **Structuring of the underlying indices:** Regulators should specify the key characteristics of a 'good index', such as objectivity, transparency, that it can be independently verifiable by a third party, that the source of data is stated and clear, that data can be accessed objectively and quickly, that the liability of the insurer and the payouts can be clearly and objectively calculated, and so on.

The types of index should not be restricted by regulations. This is to enable innovation, including the use of indices for sectors beyond agriculture, such as the energy sector, tourism, healthcare, and so on. The use of multiple indices in the same product, and a scope for integrating index and indemnity-based products (e.g. cyclone index combined with indemnity-based fire cover for MSMEs), should be enabled. The ideal requirements of a good index should be defined either as regulations or as best-practice guidelines for the market. These would guide insurers, reinsurers, brokers and other insurance service providers on innovations for developing and improving indices.

The regulations should allow for the use of satellite data and other forms of remote sensing, but there should be the requirement for insurers and service providers to put into place quality control checks to ensure the accuracy and suitability of the satellite data sources being used – in terms of the data being representative of the experiences on the ground and from a long-term viability perspective.

6. The **digitization** of index insurance should be considered by regulators to reduce the cost of distribution and to enable scale-up. Regulatory best practices should centre client ease and value, and allow digitization and innovation for these functions:

   - Digital distribution, which can reduce the cost of distribution and transactions, and increase scale
   - Allowance of mobile money for premium and claims payments
   - Flexible premium payment, i.e. allowing payment through multiple channels (including digital), and non-fixed payments for clients with seasonal income patterns
   - Flexible claims payments, i.e. allowing for partial and discretionary payments to mitigate basis risk
   - Allowance of photographs of claims documents instead of requiring physical copies
   - Electronic policy document issuance without requiring physical copies
   - Allowance of e-signatures for customer identification without requiring physical signatures.

To facilitate the above, there would need to be sufficient coverage and affordability of mobile networks and mobile money, particularly for unbanked populations. Countries can develop

this infrastructure in tandem with others in the region and by liaising with other regulatory bodies with similar goals. The extent to which the digital ecosystem is leveraged should take into account national factors, such as the mobile connectivity in different remote rural areas and the usage of mobile money, including in rural areas in the different countries. Regulators should keep in mind that customers without adequate access to digital channels should still be able to pay premiums and to receive claim payouts in a timely way.

The digitization of the processes is usually done by technical service providers, e.g. fintechs or 'insure-techs'. Regulators should be cognizant of any such outsourcing arrangements. They should also be aware of the cost structure in place (e.g. commission or administration fees) to ensure that it is in line with any regulatory guidelines on the levels of commissions/fees and does not impinge on customer value. Other risk factors include the track record and competency of the service providers, the exit strategies, in case the partnership between insurers and service providers comes to an end, and so on.

To sandbox or not to sandbox – what is the regulatory sandbox approach?

Where supervisors are not yet ready to institutionalize the definitions covered in this section in hardwired regulations, supervisors can adopt the sandbox approach.[7] This is a framework in which insurers would apply to participate so that they can test their products and business models. This is in the form of a live trial of new index insurance products, with reporting and monitoring based on key performance indicators related to uptake, compliance and consumer protection. Following the sandbox trial, supervisors have the option of approving the commercial launch of the products alongside a more permanent regulatory framework, or of winding them down, depending on the outcome. This allows supervisors some flexibility to test the effectiveness of their own regulatory principles prior to setting regulations that are difficult to amend later.

Best-practice guidelines on regulatory sandboxes have been published in the context of fintech in the Pacific Island countries, constituting primarily the Pacific regional regulatory sandbox guidelines by PIRI. The IMF has also outlined details on sandboxes, in its strategy for fintech applications in the Pacific Island countries.[8] The UNCDF Pacific Financial Inclusion Programme has also produced guidelines for the creation of an enabling regulatory environment for microinsurance markets, which includes sandboxes. The best practices for the sandbox approach tailored to index insurance are as follows.

- Eligibility criteria and application process for participants must be clearly defined and aligned with regulator's strategic objectives and mandate. The defining principles of index insurance set out in this section A should be used as a guide in approving index insurance under sandboxing arrangements.

7 Regulatory sandboxes allow for financial innovation and introduction of new solutions to market within a live and controlled environment. These are voluntary programmes where firms apply to participate and test their products and business models. They also enable regulators to address potential risks and identify regulatory gaps early on without curbing innovation.

8 See https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2019/08/21/Strategy-for-Fintech-Applications-in-the-Pacific-Island-Countries-46862.

- Accepted applicants must be sufficiently supported by the respective regulators to proceed with the sandbox process – from guidance on parameters for live testing, to monitoring, to finally giving notice on either guidance towards commercial launch or on winding down.
- There must be an upfront regulatory position on parameters for timeframes, key performance indicators and scale for live testing, with allowance for tailoring by participants. Key performance indicators that are unique to the index insurance scheme should be set, communicated to the insurer and monitored.
- Digital platforms and simplified administrative processes should be utilized to minimize cost because the establishment and maintenance of sandboxes is resource-intensive.
- Publicity should support the call for index insurance applications to be submitted to the regulatory sandbox, and applications use should be encouraged in the market. The definition and purpose of the index insurance sought should be made explicit.
- Coordinated institutional support and staff technical capacity will be required. Stakeholders for index insurance would include central banks, insurance supervisors, financial inclusion units, disaster risk management units, and government ministries on agriculture, meteorology, energy, environment, climate change, gender focus, and so on. Ideally the team should include a subject matter expert on index insurance.
- Regulatory sandboxes should be complemented by innovation hubs. These should be centralized points of contact for industry players to find support and guidance with product development. These hubs can be set up by the regulators, in collaboration with other regulators, participating insurance companies, distribution channels and other relevant government stakeholders, together with the UNCDF PICAP, A2ii and other such specialists in this area.

The sandbox process itself comprises the following five stages.

1. *Application.* Interested participants submit their proposed product ideas on a central, simplified portal via a clear and concise application form. This would include a technical note on the product details (e.g. product term-sheet).
2. *Preparation.* Guidance is provided by regulators on the parameters for live pilot and exit.
3. *Experimentation.* Live testing of the product, with reporting and monitoring based on key performance indicators for uptake, use, compliance and consumer protection. The experimentation process should start within 60 to 90 days of application receipt.
4. *Exit.* After the approved time frame has elapsed, the regulator completes assessments and provides an exit notice indicating guidance either for commercial launch or for winding down.
5. *Commercial deployment.* This consists of giving firms the approval to proceed with wider market launch and modifying regulatory frameworks to support this deployment.

Capacity-building and advice are important to provide to regulators, to ensure they can effectively develop and implement the regulatory sandbox approach and can capture the learning to develop specific legislation on index insurance.

B. Consumer protection

There are two main regulatory areas where it is important for supervisors to integrate consumer protection considerations relating to product oversight (approval or review), and intermediary and distribution channel requirements.

Product oversight: considerations for review and approval

The following aspects are particularly important to consider at the point of product review. Supervisors should examine the end-to-end customer journey from product design to claims.

1. Basis risk management

Basis risk[9] in index insurance arises when the index measurements do not match an individual insured's actual losses. There are two major sources of basis risk in index insurance. One source stems from poorly designed products and the other from geographical elements. Product design basis risk is minimized through robust product design and backed by testing of contract parameters. Geographical basis risk is a factor of the distance between the index measurement location and the production field. The greater the distance between the measurement instrument and the field, the greater the basis risk. Some households that experience loss may not receive compensation while others that experience no loss may receive payments. This basis risk is reduced when the area covered by the index is homogeneous both in terms of weather and in terms of farming techniques. Therefore, as the density of weather stations and satellite pixels is increased, basis risk is minimized.

Basis risk can be defined as the risk of mismatch between beneficiary/policyholder's experience and the insurance payouts due to a difference in the basis of the loss and the basis of the index. Basis risk should be considered from the perspectives of the insured party (e.g. farmers), policyholders (e.g. microfinance institutions) and insurers. Ideally, ways of measuring and managing basis risk should be stipulated both before (ex ante) and after (ex post) a basis risk event occurs. To define and measure basis risk, the insurers should ideally be able to disclose to the regulator the underlying data and methodology used to calculate the index.

The regulator should review how insurers have defined and measured basis risk during their product design, underwriting and pricing process. This review should occur at the product approval stage or when the insurers inform the regulator about the new index insurance product in a 'file and use' system. Basis risk should be disclosed in the insurance policy document and awareness-raising/marketing materials. Moreover, there should be some clear options in place on how the basis risk was managed both before (ex ante) and after (ex post) a basis risk event occurring.

Ex ante ways of managing basis risk include a detailed correlation analysis between historical simulated payouts and actual losses. Such analyses should ideally be a key component of the product design and pricing process and should ideally be reviewed by the regulator as well. A relatively simple yet informative analysis for the ex ante management of basis risk that should be done is to correlate major loss events or actual losses and the simulated payouts for the index insurance product. Such correlation analysis can be used to measure the potential basis risk inherent in the index insurance product, and

9 https://www.indexinsuranceforum.org/faq/what-basis-risk.

also to assess the levels of basis risk for different product options (since generally cheaper products have higher basis risk compared with more expensive options). The implications of very cheap products leading to higher basis risk should be clearly communicated to the policyholder and beneficiaries at the outset.

Since the actuarial pricing of index insurance products is strongly influenced by the expected frequency and severity of the risks being insured, a very cheap product will result in very infrequent (e.g. 1-in-50 or 1 in 100-year) events being covered, or events with very small expected average payouts (e.g. 10 percent of the sum insured). However, severe reductions in the frequency and severity of indexed payouts, particularly the frequency, can lead to high basis risk. For example, a product that covers only 1-in-20-year cyclones (to accommodate a lower premium) may not trigger a payout in the event of a more frequent 1-in-10-year cyclone. However, a 1-in-10-year cyclone would probably be seen as devastating and, if the product does not trigger a sufficient payout in that event, it could be seen as a basis risk event. Hence, regulators can consider specifying some minimum levels of correlation (e.g. + 60 percent) between simulated historical payouts and historical losses. Regulators should also recognize that cheaper products would generally have lower positive correlation and so higher basis risk. More expensive products would generally have higher positive correlations and so lower basis risk.

Other ways of managing basis risk before it occurs include the use of more granular data, the use of granular GPS coordinates for the insured parties, and so on.

The regulations should allow for hybrid indices, whereby multiple indices (e.g. combining rainfall and wind speed or multiple sources of windspeed data, and so on) can be implemented as a way of managing basis risk and increasing the relevance of the product.

In addition, there should be the scope for integrating index and indemnity insurance components. This integration can lead to more comprehensive coverage (e.g. from both aggregate shocks such as cyclones and individual losses, such as from fire). The integration can also lead to a lower basis risk, if the indemnity-based claims assessment can also be used for settling risks related to the associated index.

The scope for basis risk should also be integrated within the awareness raising and marketing of index insurance products, both to aggregators/distribution channels and also to the end customers/beneficiaries, such as farmers. The chance for basis risk events to occur and the ways in which basis risk has been taken into account when developing the product should be explained to customers at the outset.

Ex post ways of managing basis risk include:

- Use of secondary triggers
- Use of fallback methodologies for verifying losses and calculating payouts
- Calculation of payouts based on a higher-resolution region or using more localized GPS coordinates, to manage spatial basis risk
- Potential consideration of *ex gratia* payouts.

Ideally, the roles and responsibilities of different parties in managing basis risk (e.g. insured party, distribution channel, insurer, regulator, meteorological department) should also be clearly specified in advance.

In the event that a basis risk event occurs, it should be clearly explained to both aggregators/distribution channels and also to the end

customer/beneficiary. Although these are usually very difficult discussions to have with affected customers, the insurer can actually improve the transparency of their communication processes by explaining the reasons for a basis risk event, any ex post ways of dealing with it, and also ways in which basis risk could be reduced.

2. Product design features

At the point of product submission, insurers should clearly define and, if needed, explain to the regulators the methodology behind key components of product design such as those in the following checklist.

Checklist of product design features

- ☐ Group versus individual insurance
- ☐ Insurable interest
- ☐ Index used
- ☐ Basis risk potential
- ☐ Deductible
- ☐ Trigger, exit, rate of payment
- ☐ Sum insured
- ☐ Maximum payout
- ☐ Rate of payout
- ☐ Coverage dates
- ☐ Waiting periods
- ☐ Payout timelines
- ☐ Exclusions
- ☐ Distribution channels
- ☐ Premium payment structure
- ☐ Sample of data used for design of product and source of data

It is important for the regulator be aware of the rationale behind the product design choices made by the insurers/reinsurers and the extent to which consumer protection and client value have been taken into account for the product design process.

The product approval of index insurance products should ideally be standardized across Pacific countries as much as is practical. Approvals should ideally be done with a relatively quick turnaround (e.g. 30 to 60 days).

In addition to basis risk management and the product design features, the following are other aspects regulators should consider at the product approval stage.

3. Setting the sum-insured value

This is a key aspect of consumer protection and setting the sum-insured value mitigates moral hazard and anti-selection. The difference between the sum insured and maximum payout per peril should be clarified, and the scope of partial payouts should also be made clear. The insurer should be able to explain the rationale behind setting the level of the sum insured, setting of the minimum and maximum payouts per peril, and potentially even the rate of payout. There should be some simple benchmarking done of the sum-insured values and other relevant measures to determine the adequacy of the insurance coverage (e.g. in respect of the cost of production, cost of income loss for MSMEs, and so on).

Consumers should have some options for selecting the sum-insured values for non-mandatory index insurance products. The selected sum should not, however, be excessively below or above the associated economic values (e.g. those linked to the cost of production, the loss of revenue from harvest, or the expected loss of income) to avoid under- or over-insurance.

4. Disclosure and marketing

Key terms and conditions and other features of the product should be disclosed to

policyholders and the insured parties (if different) and samples of the policy document and marketing materials should be provided to the regulator. Simple and concise language should be used on consumer-facing communications, exclusions should be minimized and simplified, and clear instructions should be provided on the processes customers may use to ask questions and report complaints.

The regulator should review the policy document and marketing/awareness-raising materials to be used with distribution channels and end customers, from a consumer-protection and value-for-clients perspective, in terms of the relevance of the risks covered and excluded, the simplification of exclusions, the use of excess/deductibles, the use of waiting periods, and so on.

The following checklist is proposed both for insurers and insurance supervisors/regulators.

Checklist for assessing suitability of awareness-raising and marketing strategy for index insurance

- ☐ Methods used to raise awareness of product – target beneficiaries' meetings, use posters, train trainers.
- ☐ Content for any training of trainers produced, with a specific focus on the risks covered, the indexed claims process calculation and payout process, the basis risk occurrence and management, the value insured, the basis for measuring the index, and so on.
- ☐ Qualifications of trainers.
- ☐ Sample of marketing literature/poster/leaflet.
- ☐ General key messages on product, and clarification that product insures specific index only.
- ☐ Plan for raising awareness during the season and when there are claims payouts.
- ☐ Monitoring process in place to monitor the effectiveness of the training implemented.
- ☐ Process in place to answer farmers' and aggregators' questions and complaints, including those of field staff.
- ☐ Calendar and duration over which awareness-raising has occurred and was accessible to farmers, and so on.

5. Claims calculation, complaints and disputes

There should be clear provisions for policyholders and insurers to resolve disputes. For claims calculation, ideally an independent claims calculation agency should be involved for the calculation of the index insurance payouts. The cost of the claims calculation agency should be factored into the pricing of the product, or this role can be performed on the basis of publicly available open-source data to minimize the cost. Alternatively, there should be the scope for an independent audit of claim events, done by agencies such as the national meteorological department, for weather-related claim events, or consumer councils, for damages incurred by policyholders.

6. Claims adjudication

This is a key operational process. The effectiveness of claims adjudication is crucial to building public awareness and instilling market trust in index insurance products. It is achieved through the flexibility of payouts, holistic claims verification, quick claims payment and minimal reporting required by the end client.

Flexibility over payouts

There should be provision for partial payouts and also scope for potential *ex gratia* (non-contractual and discretionary) payouts. Both features can lead to flexibility over payouts, which can help to mitigate severe basis-risk events. The scope for partial payouts can also lead to more lenient trigger levels and/or lower pricing, which can, respectively, reduce basis risk and improve the affordability of these products.

Fallback methodologies

It is important for there to be fallback methodologies for monitoring the insured event. For example, if a satellite source is used for monitoring parameters relating to cyclones, there should be alternative satellite data sources, which are accessible and potentially priced into the product from the outset. Alternatively, weather stations – or even other forms of claim verification such as physical verification of cyclone occurrences and reports from the meteorological department – could also be used in case the primary data source for the index is missing. Fallback methodologies for index insurance have been used in countries like Sri Lanka and Zambia, particularly in 2020 due to COVID-19, which caused challenges with obtaining the primary data sources for index calculation. Fallback methodologies are relatively less relevant if satellite-based data are used for the index calculations. However, it is advisable to still have some fallback methodologies even in this case, in order to manage basis risk arising due to the nature of the satellite data source itself and also for stakeholder acceptance, particularly in the early years of introducing index insurance in the region.

Time limit for claim payment

Importantly, there should also be a time limit within which the insurer needs to make payouts once the index has been triggered. Such time limits will lead to the efficient approval of products (or requests for further information) and will also ensure speedy claim payouts, which are crucial for inclusive insurance products.

Claim-reporting requirements

To leverage the speed of index insurance payouts, it should usually not be required for the policyholder to report claims and/or the insurer to verify claims. However, this feature may be necessary for the integration of index and indemnity components and as a way of managing basis-risk events. For example, if indemnity-based loss assessment were admissible, payouts could still be made in the event that the index component did not trigger adequate payouts due to the nature of the data, index used, or the nature of the underlying risk (e.g. microclimatic weather event). There should be scope for payouts to occur automatically based on the underlying index, to reduce claims handling costs for the insurer (and so potentially lower the premium) and also to enable speedy claim payouts.

Insurers should regularly (e.g. monthly) update the policyholder and/or beneficiaries on the indexed payout status and also potentially on the interpreted index values themselves. This would give the opportunity for the policyholders/beneficiaries to revert back to the insurer in case they feel that the index or payouts do not accurately reflect their actual loss experienced on the ground. This feature can apply for pure index insurance products as well as index and indemnity-based hybrid products. For the latter, there should be a clear process and reminder in place in case the policyholders/beneficiaries want to report an indemnity-based claim in light of the index payout notification from the insurer.

Claims calculation role

Ideally, an independent claims calculation agent should be responsible for monitoring and calculating payouts based on the underlying index, and the data and calculations should be easily accessible to all parties. As much as possible,

the national meteorological departments of the country should be involved or consulted in the role of claims calculation, even if the payouts are being processed based on satellite data. For example, the meteorological department can play a role in the validation of the accuracy of the satellite data sources used for payout calculations.

The following checklist can be used by regulators to assess claims-related processes for index insurance products.

Checklist for assessing claims-related features and processes for index insurance products

- ☐ Frequency, process and reliability of weather reports.
- ☐ Time taken to obtain underlying data (e.g. weather, yield data).
- ☐ Method used to derive yield estimates (e.g. crop cutting experiments, survey, through aggregators).
- ☐ Basis of claims payment – first loss, lowest, highest, or average payout – in the case of multiple events.
- ☐ Contingency plan for dealing with significant basis risk events (e.g. second trigger, field inspection).
- ☐ Process followed to explain claim payouts to aggregators and farmers.
- ☐ Sharing of claims information with aggregators and farmers and potential conflicts of interests.
- ☐ Methods in place to ensure claim payouts via aggregators are paid/ reflected for farmers.

Intermediary and distribution channel requirements

Efficient distribution channels

Efficient distribution channels are crucial for the viability of index insurance products and can play a role in customer awareness, enrolment, premiums collection and payment, basis-risk management, representation of the end customers and negotiation with insurers, increasing consumer trust, and so on. Regulators should consider the insurable interest between distribution channels and the end customers.

Interviews with insurance supervisors indicated traditional insurance-based channels of brokers, agents and branches as the most common distributors, with varying licensing requirements. The interviews also indicated an appetite for expanding potential distributors. Combining interview feedback with insights from the PFIP guidelines for microinsurance markets, the following are best-practice recommendations for regulators concerning distribution channels.

1. Standardize agent and distributor licensing requirements across Pacific countries.

2. Complement this with a mechanism for meso-level non-financial institutions to distribute insurance within defined parameters.
   - Such institutions may include churches, mutuals, cooperatives and other associations, many of which have a high level of community trust. Allowing them to distribute insurance within defined parameters could increase trust in and awareness of index insurance and potentially expand the market.
   - At the same time, it is important for the product to be communicated clearly along with the roles and responsibilities of the distribution channels and insurers, so

that any dispute arising from the insurance product does not affect the existing relationship between the local institutions and the end customers.

3. Create a mechanism for quickly responding and allowing digitized technologies to distribute insurance at each point in the product cycle, including premium payments, client onboarding and claims payments.

Distribution channels should practise responsible marketing, selling and/or potentially bundling of index insurance with other services (e.g. loans, farming inputs). The roles and responsibilities of the distributor should be clarified concerning the roles for the insurer, end customer, and so on. Other aspects to consider in terms of the role of distribution channels is the ease of enrolment and transactions with end customers, compatibility with non-insurance regulations, and the disclosure of incentives, such as sales commissions, and of administration fees and profit shares, and so on.

The group insurance model for implementing index insurance should be considered along with meso-level insurance, whereby the corporates or institutions could be both policyholders and end customers themselves, and the risks would be insured at a meso-level rather than at a household level. Group insurance should be encouraged in order to reach a large number of beneficiaries cost-effectively. This will reduce concentration risk and anti-selection compared with individual insurance and allow for higher volumes, which are important given the early stage of the market. Interviews indicated that while group insurance was common in Pacific countries, there was no specific regulatory guidance on it.

Despite the advantages and relevance of the group insurance model, regulators should be aware of some of the limitations of this model from a consumer-protection perspective. Key processes such as communicating the features of the product, transparency over premium collection, reflection of claim payment, and so on, should be implemented for individual customers belonging to the group. If the group has not been sensitized sufficiently, is not well organized, or if there are financial irregularities, then consumer protection at the individual customer level can be compromised.

The regulator should also be aware of aggregator risks in terms of conflicts of interest, of delayed claims payments, or even of the failure of claims payments to beneficiaries despite these being paid from the insurer to the aggregator.

Both regulators, and more importantly insurers, should keep in mind the importance of having a strong business case for aggregators/distribution channels, so that they are motivated to continue supporting the insurance product design and implementation both from a financial and an operational perspective.

The following checklist can be used by the regulator to assess the suitability of the distribution channels proposed for distributing the index insurance products.

Checklist for assessing distribution channel related factors for index insurance distribution

- ☐ Insurable interest for aggregator and use of product as insurance instead of derivative.
- ☐ Roles and responsibilities between insurer/aggregators/brokers/loss-adjustors and others.
- ☐ Method used to enrol farmers for other business and for insurance.
- ☐ Compatibility with other regulations (e.g. mobile regulator/ministry of agriculture/ministry or department in charge of information and communications technology).
- ☐ Policy wording used for group policy and compatibility with any individual policy certificate.
- ☐ Business case for aggregator (e.g. reducing credit exposure, farmer incentive, marketing tool).
- ☐ Method used to pay premium – pre-financing/collection from farmers/subsidy.
- ☐ Incentives used for enrolling policies – commission, administrative fee, profit-share and so on.
- ☐ Scope for delegation of claims payment to aggregator.

7. Bundling

The scope for bundling index insurance with other insurance products and also with non-insurance services (such as loans, farming inputs) should be considered along with the scope for providing index insurance on a mandatory or voluntary basis in such bundled arrangements. When considering this scope, the effect of bundling on the underlying services should also be considered, such as to increase the effective cost of lending or reduce the underlying credit risk.

The insurance regulator may need to consult with other regulatory bodies, such as the banking regulator or the agriculture input regulator to verify whether such bundling would be within scope and whether it would be compatible with these other regulations or require changes or adaptations.

While regulations allow for the bundling of non-life insurance with financial products like loans, interviews indicate it is not common in practice.

C. Prudential supervision and supply-side guidelines

There are two main regulatory areas where it is important for supervisors to integrate prudential considerations relating to product oversight (approval or review) and solvency requirements.

Product oversight: considerations for review and approval

1. Prudential supervision

Prudential supervision for index insurance should require actuarial pricing and design, which should be reviewed on approval and then annually or on repricing. There should be adequate reinsurance in place, preferably with highly rated international reinsurers with experience of reinsuring similar parametric products in other countries. Such reinsurers are appropriate due to their capacity for paying large claims in case of catastrophic losses, their technical experience and expertise with parametric insurance and the speed with which they can provide reinsurance recoveries to insurers. Local insurers can also learn from the technical assistance provided by reinsurers, if that is in scope.

Ideally, there should not be any premium caps, but premium floors can be considered to avoid underpricing of products or designing products with very high basis risk.

Insurers should be able to explain their pricing in comparison with the historical simulated payouts and/or expected frequency and severity of payouts. Regulators should ideally review simulated historical payouts in the event of major catastrophe events, such as key cyclones in the recent past. Insurers should also present the relevant data sets and risk models used and the reserving methodologies used.

Given the frequency of catastrophic events and the risk of concentration in the Pacific region, it is widely understood that reinsurance and co-insurance are allowed and necessary from a prudential underwriting perspective. Interviews indicate, however, that most countries do not have explicit regulations governing these arrangements. There are also no specific solvency requirements for index insurance. In line with previous recommendations, the first here would be to issue simplified and standardized guidelines for reinsurance, co-insurance and solvency requirements across Pacific countries for index insurance.

There should be requirements for the actuarial pricing and design of index insurance products. The product design and pricing should be reviewed regularly (e.g. annually), at least in the early years after launching the products. There should be adequate reinsurance in place with highly rated international reinsurers. The actuarial reserving methods and solvency requirements used should be suitable for index insurance products.

Regulators should consider the following aspects of pricing, reserving and solvency functions.

1. Pricing of index insurance products should be done on an actuarial basis and preferably based on appropriate deterministic and stochastic methods.

2. Pricing should be reviewed on an annual basis and based on the claims experience, and there should be scope for reducing or increasing the pricing to maintain the profitability of the products while still ensuring they give good value for money.

3. The reserving of index insurance should take into account suitable provisions for the outstanding claims reserve (OCR) and

unearned premium reserve (UPR), depending on the specific structures of the underlying product. For example, if the cover starts in August 2021 and continues until July 2022 (annual cover), then at the end of the 2021, there should be suitable reserves calculated, which should take into account the premium earned in 2021 and the UPR based on the risk pattern for the remaining coverage period. Similarly, OCR should also be calculated based on the indexed events triggered in 2021. In general, reserving for index insurance products is relatively easier than for indemnity-based products since elements such as incurred-but-not-reported reserves are not relevant for pure indexed products, where claims cannot be reported by the policyholders but are automatically triggered by the index.

4. Solvency requirements should be consistent with those that insurers have for other similar product lines. For example, the solvency requirements should take into account the 1-in-50-year and 1-in-100-year scenarios, and so on, based on different projections from appropriate climate models.

5. Solvency considerations should also take into account the appropriateness of the reinsurance coverage in place by insurers, in order to manage risk concentration and catastrophe risk.

2. Premium caps

There should not be any premium caps, as the pricing is driven by the nature of underlying risks, and different types of product (e.g. meso-level) are priced differently. However, the insurers should be able to explain their pricing in comparison with the historical payouts and expected frequency and severity of payouts. The link between basis risk and pricing should be made clear in communications materials with the policyholders and insured parties.

Furthermore, although the risk-based actuarial premium should not be capped, the regulator should ensure that expenses or the commission associated with these products are not very high, so that the index insurance products are being priced at relatively high target claims ratios (e.g. 60 to 70 percent). Regulators should consider the target claims ratios being used to ensure that the products are being designed with good value for money being kept in mind, and to mitigate basis risk.

3. Additional pricing and underwriting areas

Regulators should be cognizant of the items in the following checklist.

Checklist of product design and pricing-related technical topics to verify

- ☐ Accuracy of weather data used alongside a summary of quality checks.
- ☐ Methodology underlying product design parameters (e.g. triggers, deductibles).
- ☐ Methodology underlying pricing, including incorporation of extreme catastrophic events.
- ☐ Pricing versus payout, and basis risk calculations for different scenarios.
- ☐ Key assumptions used for the product design and pricing.
- ☐ Premium rates versus costs, and the end client's margin.
- ☐ Ongoing access to data requirements and data sources used.

This checklist of product design and pricing requirements can be issued by regulators as per their practices of issuing policy or practice guidelines. The checklist can enable insurers to streamline their product submissions, and this

can improve the turnaround time for approvals as well.

In line with the overall objective of regulators to encourage local index insurance markets, **the above prudential guidelines must be balanced against the risk of inadvertent market barriers** and should be implemented following input from the industry.

The following checklists of factors should be considered by insurers as part of their underwriting/product design, pricing and claims settlement processes to integrate value for clients into their product development while also optimizing the profitability of index-insurance products. These checklists can also be used by insurance supervisors for the approval, monitoring and capacity-building of insurance companies in relation to product development and implementation for index insurance products.

Checklist of underwriting and product design factors for regulators and insurers

- ☐ Suitability of product for targeted farmers/crops/value chain.
- ☐ Relevance of perils insured for targeted farmers/crops/value chain.
- ☐ Steps taken to reduce basis risk and any measurement of underlying basis risk, and reasons.
- ☐ Correlation between historical payouts and losses incurred by farmers (yield/ground-truthing).
- ☐ Payout structure – partial payouts/binary/step-wise/linear/min-max payout/rate of payout.
- ☐ Basis of sum insured (e.g. loan amount, cost of production, expected yield, fixed cash amount).
- ☐ Hybrid structures – compatibility with other types of cover (e.g. weather index insurance with indemnity insurance, or weather index insurance with area yield index insurance).
- ☐ Use of deductibles/excess vis-à-vis use of triggers.
- ☐ Rationale for coverage dates, waiting period, exclusions, and so on.

Checklist of pricing factors for regulators and insurers

- ☐ Source, accuracy of and access to the weather data (weather stations or satellite).
- ☐ Summary of underlying data for index (number of years/seasons/gaps/quality checks/statistics).
- ☐ Method used to derive parameters (e.g. trigger levels, payout levels).
- ☐ Pricing method used for extreme events (deterministic/stochastic/blended approach/loading).
- ☐ Pricing versus payouts and basis risk for different options.
- ☐ Pricing key assumptions (burn cost/office premium, target claims ratio, expense ratio), catastrophe loading.
- ☐ Premium rates compared with production cost, expected yield and farmer's expected margin.
- ☐ Access to basic data requirements (e.g. GPS coordinates of reference points, duration of season).
- ☐ Different sources of data used (e.g. weather station, satellite, yield, farmers' feedback, etc.).

4. Minimum solvency requirements

The key principle in solvency is proportionality and sustainability. We cannot be prescriptive at this time when it comes to solvency, but we can state some principles. The main goal of solvency is that, when claims exceed the premiums, the insurer still has some capital from which they can pay out the claims. This protects the policyholders as well as allows insurers to have buffers in place for smoothening the profit position over time and not becoming insolvent even if one year faces a loss ratio above 100 percent. Yet solvency buffers have to be looked at in the local context because if the capital requirements are too high, they will mean onerous capital requirements for insurers, which can be a barrier for insurers to start such new products.

Another key principle is industry and regulatory capacity. Introducing a risk-based capital regime, as advocated by the International Association of Insurance Supervisors, is better suited for index insurance than prescriptive rules-based ratios required to be held for solvency. Calculating and inputting data into hundreds of forms for this also requires, however, an operational capacity that is so far not feasible in the Pacific Island nations. Any solvency legislation introduced must therefore be practical, feasible and enforceable in the local context.

Solvency specifically for index insurance is so far unheard of, as index insurance itself is such a developing area. Thus, currently we would not recommend holding specific clauses in solvency for index insurance; any current solvency regulation on general insurance, or better yet, microinsurance will suffice.

Some ways to introduce sustainability in index insurance without requiring very high solvency levels are continuous government support on premium subsidies, a stop-loss reinsurance layer of index insurance to be covered by local governments/macro investors – potentially reducing the number of payouts in the case of high losses (index insurance with a mutual insurance basis of pool sharing) – and so on.

Fit and proper governance. Regulators should have an overview into the governance structures applied by insurers for index insurance products, such as the following considerations.

- Accountability and oversight of the index insurance product within the insurance company (e.g. is there a dedicated and qualified lead staff working on this topic?).
- Insurer's expertise or access to actuarial expertise for the pricing and design of the index insurance product.
- Insurer's expertise and processes for claims handling.
- Key performance indicators being used by the insurer for monitoring product performance in terms of profitability, risks and value for clients.
- Provisions in place for managing basis risk, both during the product development stage and in the event that a basis risk event occurs.

In general, regulators should have powers to carry out on-site and off-site monitoring, and periodic audits. Regulators should also have the provision to intervene, such as to amend or suspend a product, based on their findings during the regular monitoring of these products.

Suggested implementation considerations

It should be noted that we do not recommend that all of the considerations described above are enforced at the same time, or indeed that all of these factors have to become criteria for the approval of index insurance products. Our recommendation is that the regulator should be aware of all of these best-practice considerations. Then, based on the regulator's perceived relevance of the specific guidelines, they can choose to apply these considerations in the following ways.

- **Apply the considerations as general principles** to decide on whether regulations relating to index insurance should be applicable in the first place or whether the regulations relating to indemnity-based products or financial derivatives are applicable instead.

- **Apply the considerations as best-practice guidelines for practitioners**, which can be disseminated to insurance companies, insurance service providers, and so on. This guidance should be taken into account from a consumer protection and prudential supervision perspective. Based on the relevant areas identified as risks for consumer protection and prudential supervision, insurers should demonstrate how they intend to mitigate these risks. Then, based on how satisfactorily the risks have been mitigated, regulators could approve and continue to monitor these products.

- **Apply the considerations as prerequisite criteria for index insurance product approval.** Depending on the jurisdiction, if regulators either have to approve new products or be informed of new products, with scope to raise objections or ask questions, then concise, proportionate and adequate criteria should be applied by regulators before product approval is given, or for insurers to be able to address key aspects of the product features and the implementation plan.

Although some of the Pacific countries use a 'file and use' system for launching new products, given the new nature of the product and target market, regulators should require insurers to approach/seek approval from regulators in advance of launching product/submitting for approval. To incentivize, supervisors can implement fast-track approval of 30 days, for example. This is the common practice for regulatory approval time in some countries such as Cambodia. Insurers should also see benefit in this, given the nature of the target market and the high risk of reputational damage if there are major disputes between insurers and policyholders relating to index insurance products.

An insurance regulator can decide itself which categories the different considerations should fall under for its jurisdiction. The following table, though, is our recommendation on how the different considerations outlined previously can be categorized in terms of their implementation or enforcement by the insurance regulator to achieve a good balance between adequate but proportionate regulations. This also takes account of the relative lack of experience so far with index insurance in the Pacific Island countries.

Suggested implementation considerations for regulators

		Apply as general principle	Apply as best-practice for practitioners (e.g. insurers, insurance service provders)	Apply as prerequisite criteria for index insurance product approval
General principles	1. Clearly differentiate between index insurance and derivatives	✓		
	2. Ensure insurable interests	✓	✓	✓
	3. Differentiate between index and indemnity insurance	✓	✓	
	4. Differentiate between different categories of index insurance	✓	✓	
	5. Structure the underlying indices		✓	
Consumer protection	1. Basis risk management		✓	✓
	2. Product design features		✓	✓
	3. Associated processes		✓	✓
	4. Set the sum insured value		✓	✓
	5. Claims adjudication		✓	✓
Supply-side and prudential supervision	1. Efficient distribution channels		✓	
	2. The scope for bundling	✓	✓	
	3. Digitization	✓	✓	
	4. Prudential supervision		✓	✓
	5. Additional supply-side technical areas		✓	✓
	6. Minimum legal and solvency requirements		✓	
	7. Supervision and enforcement	✓		

Best-practice considerations for other stakeholders

The Pacific Islands consist of small countries with small populations that cannot sustain many insurance companies, so insurance is provided by regional players that operate in several countries. Even so, their revenues are relatively modest, so they do not have significant budgets to spend on the considerable development work required for innovations like index insurance, focusing instead on more conventional products that can be sold without too much local adjustment across jurisdictions, such as those to cover motors or homeowners. By contrast, index insurance needs to be tailored to very specific circumstances in every country (at least in the case of agriculture).

Given the relatively nascent state of the index insurance markets in the Pacific Island countries, it is important that different stakeholders, including different government ministries, insurance companies, distribution channels and others are aware of the different potential best-practice considerations that could be relevant to their perspectives.

It should be noted that the recommendations in this section are *not* essential success factors for index insurance to be implemented in the Pacific Island countries. These recommendations are, however, important best-practice guidelines or best-practice considerations for different stakeholders to consider, in order to provide an enabling environment for index insurance and to continue developing and improving on index insurance products.

A. Recommendations for different government stakeholders

Index insurance, including agriculture insurance, while being a financial sector instrument, also plays a role in achieving broader government objectives, such as food security, climate change adaptation, disaster risk financing, and so on. It is therefore important to embed index insurance into broader national development programmes and comprehensive risk management strategies that increase the financial inclusion and resilience of the most vulnerable members of the population. To establish a financially sustainable market for index insurance, it is essential to take into account all policy interventions that impact the sector.

Agriculture insurance shows how index insurance in isolation cannot function as an efficient risk management strategy. Linking agriculture insurance to measures such as early warning systems, disaster risk financing, land-use planning, waste management, irrigation planning, and so on, can strengthen the effectiveness of the overall risk management framework.

The public sector plays a pivotal role in creating the enabling environment of supporting infrastructure and services. The policy objectives and government strategy for agriculture or disaster insurance should be based on a wider

stakeholder consensus. For the government to create a conducive policy environment, it needs to actively engage the private sector and civil society, where ideally all stakeholders have a common vision and understanding of the development needs. The following best-practice recommendations for government stakeholders provide considerations for different ministries and government institutions on how they can provide an enabling environment and support index insurance development and implementation.

1. Ministry of finance

Designing and launching index insurance can require considerable upfront funding. But continually fixing a market failure – for example, the absence of financial products that allow farmers to transition to more productive livelihoods – may require ongoing financial support. This is why many countries choose to financially support index insurance such as agriculture insurance, especially when aimed at small-scale farmers, with measures such as the following.

- **Tax exemptions:** exempting certain insurance products (or certain target customers) from value added or other sales tax, or from taxes on reinsurance concessions abroad, can contribute decisively to affordability. In Fiji, the UNCDF PICAP-supported weather-index insurance product has successfully incorporated a waiver of the value added tax for the product launched in August 2021.

- **Subsidies:** Governments and/or donor agencies can subsidize insurance premiums to make index insurance products more affordable and hence viable. This has been indispensable for the scale of agriculture insurance on all continents, and for inclusive insurance in developing countries. India alone provides several examples of schemes designed specifically to make insurance work for low-income households. But to catalyse market development, subsidies on premiums must be predictable beyond the short term, and this implies fiscal commitment. To help ministries of finance with this decision, there is a growing body of literature discussing 'smart subsidies'.[10]

Subsidies can take various forms, including:

- **Direct premium subsidies**, where governments or donors pay the full or part of the premium on behalf of the insured party;

- **Premium prefinancing** (or lending the premium to the insured), where the insured can pay the premium themselves but not upfront – for example for agriculture insurance premium payment – is usually due at the beginning of the farming or the rainy season, when farmers are usually very short of disposable cash due to the investments required for farming;

- **Indirect subsidies**, where governments contribute to upfront expenses (e.g. to gain access to data) or ongoing operational expenses (e.g. cost of crop-cutting experiments or of collecting loss data);

- **Other financial support**, such as access to credit linked to insurance.

- **Investing in public goods:** index insurance requires good-quality historical and ongoing data (e.g. on meteorological data, asset damage, crop yields or livestock mortality) and their provision may require investments in weather station networks or data infrastructure. Financial literacy and insurance awareness is another example.

[10] See, for example: Global Index Insurance Facility, 'When and how should agricultural insurance be subsidized? Issues and good practices', International Labour Organization and International Finance Corporation, 2017, https://openknowledge.worldbank.org/handle/10986/31438.

- **Creating a government-owned specialized insurance or reinsurance company**, to provide what the market is not providing. However, this option requires very significant investment and resources within government, and it may not be advisable for the Pacific Island countries to consider the government setting up a specialized insurance or reinsurance company, given the relatively very small experience with index insurance in the region so far.

When considering the subsidy of insurance products in general, the ministry of finance should consider the following policy and strategy-related matters in good-practice recommendations.

- **Objectives of the subsidy:** What is the intended outcome of the subsidy? How is it linked to broader policies? Are there more cost-effective ways of achieving the intended outcome, apart from subsidizing index insurance?

- **Targeting:** Who can access the subsidy and how? Should the targeting be means-tested (e.g. more subsidies for smallholder farmers than for large-scale farmers)? How can the recipients understand the availability of and access the subsidy? Which insurers will be eligible for accessing the subsidy – could it be accessed by all general insurers or a few specific companies? Which types of indexed product would be eligible for the subsidy?

- **Form of the subsidy:** What are the applicable ways of implementing the subsidy? Example approaches include the full/part/excessive risk component of insurance premium, tax waiver, infrastructure and operational investment.

- **Sustainability:** How can the subsidies be sustained over the intended duration? To what extent are subsidies affected by political cycles? What are the estimates of subsidy required over time, with higher uptake of insurance?

- **Distortion effect:** What are the potential adverse effects of the subsidy (e.g. promoting higher-risk or poorly performing sectors, increasing moral hazard, promoting unsustainable farming practices, distortion of insurance markets and reducing competition if only a few insurers can access the subsidy)?

- **Exit strategy:** What is the exit strategy for the subsidy? How can it be reduced or phased out over time? What would be the impact on the recipients of the subsidy in terms of uptake of insurance, risk management and undertaking of underlying activities such as farming?

2. Ministry of agriculture

Agriculture insurance is the most widespread use case for index insurance, but experience has shown that it is best applied in combination with other tools and should be rooted in the larger government policy for resilient rural livelihoods and food security. The insurance industry needs to be confident that government policy will remain supportive to agriculture insurance.

Policy

There are different categories of risk in agriculture, namely those related to (i) production, (ii) markets and (iii) business environment. Not all risks are equally insurable, and insurance is best suited to transfer production risks. But farmers' appreciation of and benefit from insurance depends also on how market and business risks are managed, and this is determined by agriculture policy, which therefore is of relevance for insurers. Knowing that there is a good, predictable and reliable agriculture policy is an important criterion for insurers to invest in agriculture insurance; being consulted in respect of risks is even better.

One reason is that risks related to agriculture can be more or less insurable depending on how they are managed. Risk-mitigating measures like livestock vaccination and registries, drought-resistant seeds, extension services and access to finance for irrigation projects are subject to the ministry of agriculture's policies. These policymakers thus determine the residual production risks that insurers need to quantify, so insurers need to be informed about and confident in the ministry's implementation of mitigating measures. An example of policy that is bad for insurance demand is the established practice of predictable government handouts as a response to agricultural losses, or disaster funds that reimburse lenders for defaulted agriculture loans in the case of a calamity.

Agricultural data

The availability of good-quality data and access to such data are key to the successful development of the agriculture insurance market. They determine which risks are insurable, and are crucial for the success of any insurance. Crop and livestock productivity statistics of sufficient temporal, geographical and crop granularity are indispensable for the proper actuarial quantification of insurable risks, and their absence or poor quality will require expensive pricing features such as uncertainty margins, and may deter international reinsurance to the point of thwarting national efforts. Ministries of agriculture can support agriculture insurance market development by generating data or by providing access to their infrastructure and resources to be used for data generation through public-private partnerships, following transparent processes with verifiable standards.

Operational and other roles

Ministries of agriculture often are the government champions for new agriculture insurance projects, and occasionally also play some administrative role in agriculture insurance schemes. The ministry's outlets throughout the country (and extension services, if existent) can contribute to communicating the availability, features, advantages and limitations of the insurance products in remote rural areas where insurers may have limited presence. They can contribute to the logistics, by sharing lists of suitable associations or other distribution aggregators, by making enrolment and claims forms available and by disseminating positive customer testimonials. Ministry agronomists and veterinarians can supplement the often scant private-sector specialists in areas such as farming advisories, risk mitigation extension services, livestock vaccination, and can support initial assessment and claims verification where required.

Insurance can be tied to government-provided farming inputs and also integrated with farm-input subsidies, such as the case in Zambia, where since 2017 around 1 million smallholder farmers have been successfully insured annually, linked to the farmer-input subsidy programme.

Where the agriculture policy includes access to finance, insurance can be incorporated in various ways. Where subsidies for premiums, claims, upfront development, or ongoing necessities of agriculture insurance are required, it is sometimes the ministry of agriculture's natural role to negotiate these with the ministry of finance and possible donor agencies. The ministry of agriculture's inputs may also be of value in discussions with the insurance regulator tasked with deciding the regulatory treatment of innovative insurance. Ministries of agriculture often are also ideally positioned to represent rural populations in respect of social safety nets and disaster assistance policies (both of which can be designed with insurance elements), to make sure that the objectives and approaches of the different ministries involved are consistent and reflect the particularities of rural people and economies.

3. Meteorological department

Government meteorological agencies are one of the key stakeholders of the data and technical expertise that is indispensable for the design of any weather-related index or indemnity insurance. Only when sufficient weather data are available to them, can insurance and reinsurance companies with their technical partners relate it to asset and crop damage and impacts on livelihoods, to develop suitable product parameters for index-insurance payouts.

So meteorological agencies have the critical responsibility to maintain good-quality data and provide easy access to those historical and up-to-date data sets. If that access is made too expensive, this will add to the cost of the insurance, making it affordable to fewer people and discouraging insurers. Ideally, therefore, meteorological agencies make these data available free of cost if possible. If not, fair and transparent agreements that any insurers can adhere to are important. This includes data quality, without which insurance will be poorly designed and mispriced, risking many adverse outcomes for insurers, policyholders and distribution channels.

International standards for weather data codification provide guidance, and there are methods for temporal and geographical interpolation of missing or faulty historical data. The meteorological information used to design index insurance will often also be used for its operation; that is, to determine if the corresponding parameters have triggered an insurance payout as they crossed the relevant thresholds. So the meteorological information has to be available in the same quality and formats once the insurance has been launched, and it has to be updated regularly (e.g. every 10 days or every month at least). The processes of the meteorological agency have to be efficient and robust if they are to support the implementation of index insurance products.

Increasing the network of weather stations is mostly welcome, but touches on what is often regarded and regulated as a sovereign privilege, and additional, privately funded weather stations need to be suitably incorporated into national protocols, roles and responsibilities. When index insurance is to be based on data from weather stations, and the density of the weather station network is not sufficient in the area in question, donors and promotors of index insurance sometimes volunteer to fund additional weather stations specifically for the purposes of the insurance. To support index insurance, meteorological agencies should be flexible in balancing national interests with the insurance needs. Otherwise, they add unnecessary cost to the insurance, which can result in the value of index insurance products to clients being eroded.

Ground-based weather stations are increasingly supplemented with data from satellites. Ideally, satellite-based data, especially those that can be accessed freely and easily by practitioners, should be allowed for use for index-based insurance products – subject to quality control checks by the meteorological departments and also extensive validation checks by the insurance companies and other practitioners, as part of the product development process (including the checks outlined in the best-practice considerations for regulators given in this document).

Some countries' legislation, however, requires that only data provided by the national meteorological agency may be used in that country. For satellites, this would imply that their freely available data would need to be procured from the meteorological agency, threatening the viability of index insurance. It is therefore important that insurance companies are allowed to use different sources of satellite-based and weather station-based data (both from public and private sources), as long as they can demonstrate the skill and accuracy of the underlying data sets, as per the correlation analyses and information

on the product design stage as described in the best practice considerations for regulators.

Outdated meteorological regulations may need to be updated to be more supportive of index insurance and other important applications such as adaptive social safety nets and the design of disaster risk financing strategies.

Where the capacities and mandates of the meteorological agency allow, the agency may play a role in the design and/or operation of index insurance – be it in respect of climate zones and crop models, or the ongoing calculation of indices from weather data. Even where index insurance is available, calculating the damage from weather-related events is required. Meteorological agencies have an important role to play in this. Meteorological information can warn people of impending floods and high wind speeds so that they can take protective measures. It can also indicate the best sowing window to farmers and warn them of coming temperature or precipitation anomalies. Taking into consideration such risk mitigation is important when designing and pricing insurance, and insurance is often better appreciated when it comes with these types of value-added service.

Importance of index insurance for national disaster risk management

An important part of disaster risk management is the financing of residual risks, so a good disaster risk management strategy should include a systematic disaster risk financing strategy to ensure that post-disaster liquidity is reliably available when needed, is financed cost-efficiently, and effectively reaches the intended beneficiaries.

The disaster risk management strategy will usually include instruments that retain risk – such as disaster and emergency funds, budgetary reallocations, contingent lines of credit arranged ex ante and additional debt issued ex post – and instruments that transfer risk. For most countries, insurance is the only instrument to transfer disaster-related financial risks, particularly index insurance that underlies multinational sovereign risk pools, like the Caribbean Catastrophe Risk Insurance Facility, the Pacific Catastrophe Risk Assessment and Financing Initiative, the African Risk Capacity, and the Pandemic Emergency Financing Facility. Such macro-level index insurance can be customized by various parameters to best balance each country's vulnerability, risk appetite and ability to pay the premium.

Governments that qualify to purchase sovereign risk transfer need to understand how index insurance works in order to best set the parameters consistently with their financing strategy, and have to build this technical capacity.

Payouts from sovereign risk pools usually provide unspecific budget support, but governments also own numerous assets that can be insured with conventional commercial insurance: vehicle fleets, buildings, state-owned enterprises, transportation infrastructure, and so on. Insurance for these can be procured from the same insurance companies that insure households and businesses, which rarely is index. Governments are therefore exposed to the same delays in claims payment as other insurance customers, which often happen after disasters because

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many of the scarce claims assessment experts are required and may have difficulties travelling to the sites of the damages. In such situations, index insurance – or hybrid indemnity insurance with index elements to accelerate claims payouts – can be beneficial for all insurance users in the public and private sectors. As index insurance develops in their country, governments and state-owned enterprises should explore this possibility with the insurance industry.

In addition to the impact that disasters have on government budgets and government assets, they also give rise to explicit and implicit contingent liabilities. They create budgetary uncertainty, which can be reduced with insurance, especially index insurance. Adaptive social safety nets can be funded or part-funded by insurance that provides the money to scale up and/or scale out benefits when the additional need is caused by events such as droughts, earthquakes or tropical storms that can be captured through indices. And to the extent that people procure their own insurance, they are less dependent on government handouts after a disaster – provided the insurance works well and the insurer is reliable. Every disaster risk financing strategy should consider incorporating insurance risk transfer. To use and promote this responsibly, the stability and fairness of the market needs to be assessed, and of the existing supply of suitable products.

If a low use of insurance is due to obstacles on the demand rather than the supply side, these need to be addressed. If suitable products are not available – for example, for rural or low-income populations – the costs and benefits of bringing such products to market and promoting their widespread use should be discussed between the government (in particular the agency in charge of disaster risk management and financing) and the insurance industry. Given the advantages of index insurance, this tool should play a prominent role in these discussions.

B. Recommendations for insurance companies

Business case and business plan

Disaster and agriculture insurance have a huge developmental impact, but need to be profitable and sustainable for insurers, who need to develop realistic, long-term business plans with reasonable growth paths from pilot-testing to self-sustaining scale. Government and donor agencies often provide support for pilot tests of index insurance. This lowers the barriers to market entry, but risks discontinuation of the scheme when external funding expires. Therefore, insurers in collaboration with the government or donor agencies should, from the onset, develop a framework for the sustainable transition and continuation of the scheme when the government or donor support ends. The following strategic recommendations for insurance companies can enable the sustainability of index insurance products in the long run.

- **Consideration of vital insurable interests** – in long value chains (like agricultural production), insurers should understand the overall alignment of interests for the different stakeholders, their share of the insurable interest and their share of the profit margin – to see which stakeholders would appreciate insurance and which stakeholders could afford it at fair premium rates.

- **Uncovering of economic potential thwarted because of insurable, but currently uninsured, risk** – if insurers can quantify what profits or development impact could be achieved by unlocking that economic activity through appropriate risk management, insurers may find it easier to achieve buy-in from different stakeholders, from the public to the private sector to donors.

- **Developing a thorough understanding of every stakeholder along long insurance value chains**, and updating this understanding regularly. What is in it for them? What understanding of insurance can the insurer presuppose? These questions should be asked not only of an organization (e.g. distribution channel) but also of the different actors within that organization. Insurers should not assume that the alignment of interest and a shared understanding at the top management level of a distribution channel or aggregator automatically percolates down all ranks. Insurers should be prepared to help all relevant stakeholders to understand what they need to understand and to have the required resources to explain it to the end customers of index insurance products.

- **Accessing the expertise of international reinsurers** – large reinsurers can afford research departments beyond the means of most insurers, and many innovative insurance products are influenced by reinsurers. As index insurance requires no traditional claims assessment, reinsurers will be less exposed to insurers' expertise in this field, and may be willing to partner with insurers in different ways (e.g. assuming large cessions). But reinsurers must still be convinced of the insurers' professionalism.

- **Ensuring everyone's roles and responsibilities in a partnership are clear** – any innovation and any partnership implies a reputational risk to the insurer's brand when things go wrong, and they often do when there are ambiguities or differences of opinion regarding who does what.

- **Paying attention to efficient processes** – product development, pricing and regulatory approval may be more or less laborious for insurers, but for the insured customer, only the experience counts. This experience is driven by the processes of onboarding, claims, renewal and customer service. Insurers should leverage technology for improving processes. However, client-facing technology should not be overestimated. Even where people have smartphones, the variety of specifications of hardware and operating systems may foil smart solutions.

Monitoring and evaluation

An effective monitoring and evaluation system is necessary for the long-term success of the index insurance. Product performance should be measured for indicators such as loss ratios, renewal ratios and growth ratios. There should also be a mechanism in place for receiving stakeholder feedback and incorporating it into future product development. Key performance indicators serve as a source of business intelligence and will allow insurers to adapt to changes in the market, while continuing to provide valuable index insurance products to customers.

For the feedback loop from customers, it is important for the insurer to be able to separate the frontline staff's feedback from customer feedback itself to deal with perceptions biases and vested interests around commissions. Independent research and strong independent feedback loops need to be in place; otherwise, good intentions can go wrong very easily when the insurer does not have a good ear to the ground and is receiving filtered information

about client preferences.[11] The fact that years can pass before an index insurance product is triggered to make payments adds a particular dimension to monitoring and evaluation.

It is important to note global emerging practices for index insurance and to try to apply them to the local context, but it is also important to be creative about the use of first principles and not to be bound by the need to introduce only such products that have been launched previously in some part of the world.

Examples of the creative use of first principles to tailor index insurance to the local context include double indices to reduce basis risk, El Nino index forecast-based insurance that pays before the full onset of floods, or tourist arrival counts that correlate with livelihoods in the tourism industry in the countries that could be insured. Applying the principles of index insurance to life, health and accident insurance may also be appropriate – natural disasters such as major cyclones can substantially increase mortality and morbidity risk.

C. Recommendations on consumer education

Where insurance is to be made available to people who have not previously used insurance, it is of crucial importance to help them understand what insurance is (and is not) and how it works.

In addition to being intangible, insurance is a credence good that defies the evaluation of even the most sophisticated buyer before a claim is settled. Index insurance is particularly difficult to understand, because of two salient reasons: (i) claims payment is not directly – but statistically – linked to damage and (ii) the relation between premium and cover is not linear, because of the various parameters such as trigger and exhaustion points and the possibility of partial payouts. So it is important to make sure that consumers understand the benefits, workings and limitations of index insurance products.

Increasing the general insurance awareness and understanding of everyone goes only so far. Consumer education for index insurance has to be more specifically tied to product design – to ensure useful input from focus group discussions and the right insights from dry-run simulations – and more specifically tied to the sales process – to ensure that clients understand what they are buying, but also that everyone else in the value chain also understands. "Everyone else" includes policymakers, regulators, distribution partners and even the media. This requires appropriate resources.

Games and simulations are excellent ways to help people grasp statistical concepts, to make the abstract tangible and to create emotional buy in. But they are resource-intensive and of small outreach. As index insurance products differ considerably – not only between countries but also within their geographies – transferring successful games from elsewhere is rarely possible without considerable adaptation. Technology is yet to live up to its potential to scale out index insurance-related simulations to large numbers of people through mobile phone-based edutainment.

The most important concept for emerging consumers to comprehend is the disconnect between physical damages and insurance payouts, and the resulting possibility of basis risk.

[11] https://agoramicrofinance.com/amk-cambodia-and-amz-zambia-success-built-on-similar-principles.

Customers rarely mind getting a payout when they did not experience a loss, but can be very annoyed when they did suffer a loss, but the insurance was not triggered by the index. Even when product design is meticulous, this can happen.

It has to be clear at the sales stage that the possibility of basis-risk events is the price to be paid for the various advantages of index insurance (e.g. no indemnity insurance alternative, no individual underwriting, claims payments can be quick and effortless). But insurers should also show how they made every effort to get the product design right so as to minimize the likelihood of basis-risk events. A convincing way to do that is via historical as-if simulations: if the same insurance had been in place in the past, would it have made payments consistent with losses (both those documented by statistics and those recalled by the target group)?

The perception of basis risk can be aggravated where customers do not fully understand the difference between index insurance and government disaster relief: interviews with insurance regulators highlighted the frequent mismatch between the expectations of victims of natural disasters regarding government support and what they end up receiving. It is important that they understand that (index) insurance follows very different mechanisms aimed to make payments rules-based and predictable.

A second major source of discontent is that the relation between premiums and benefits in index insurance defies even the most educated consumers (including government stakeholders considering premium subsidies), because it is generally not a linear relation. Negotiating the initial premium rate down to 50 percent does not usually reduce cover by 50 percent; only sophisticated models can tell what the impact on cover levels will be. This is important, because (i) index insurance premium is often subject to negotiations of affordability and willingness to pay, and (ii) index insurance can be calibrated to any desired level of premium rate. While everyone along the value chain understands what a 50 percent reduction of premium means, they will not usually understand that it implies that insurance is no longer triggered by a 1-in-6-year drought but perhaps by a one-in-fifteen-year drought – they realize this only when the one-in-six-year (or 1-in-12-year) drought happens, and the insurer's perfectly legitimate refusal to make payments is misunderstood. Easier to understand – but sometimes controversial – are partial payouts, when the index crosses a threshold but not far enough to indicate losses that warrant full payment.

Dry-run simulations of ready products that are provided to customers on an as-if basis (or sometimes for free in the context of research projects) are a great way for potential customers to understand the insurance. Such dry runs often arise when delayed projects missed the seasonal sales window (e.g. before the start of the hurricane or planting season). If during the dry run, there are events that trigger the insurance, the learning effect (for consumers and providers) is considerable. The same seasonality of risk implies that such dry runs cannot be done infinitely. In most countries, there is only one window of opportunity to sell – and to experience – index insurance in any one year, and missing more than one in a row can threaten the venture.

The fact that index insurance addresses mostly covariate risk – that either many people are harmed at the same time, or no one is – further hinders understanding. Even though index insurance covers can be calibrated to any frequency of payouts, too-frequent payouts result in unaffordable premiums. Too-seldom payouts, on the other hand, can easily erode trust over the years in the absence of any real-life demonstration of how the insurance works.

Aware of these challenges, Kenya's 2015 draft index insurance policy paper asks that "The industry, in cooperation with the authority, should address these issues by providing consumer awareness and education on how the product works, under which circumstances it is expected to pay benefits and what benefits it brings ..." and that the insurance policy "should also indicate the likely frequency at which the index would trigger a payout and highlight the catastrophic or else working cover nature of the product."

Customers' trust and perceived value

Building a sustainable index-insurance market is dependent on customers' demand for such products, and awareness raising is a key component to achieve this desired outcome. It is essential to educate customers and other value chain stakeholders on index insurance and how the products can be beneficial to them. It is also important to educate customers on the limitations of the insurance products being offered to them so as not to create unrealistic expectations.

Insurers should have both awareness-raising and marketing campaigns, and these events and materials should clearly explain product features, the risks covered and excluded, eligibility for the product, cost structures, and consumer rights and feedback mechanisms. There can also be joint awareness campaigns involving the insurance regulator and the association of insurers to reach a wider audience and create knowledge of agriculture insurance and insurance generally. Customers' trust in the insurance process is crucial for success, as negative experiences can result in low demand for insurance products. Regulators and policymakers need to ensure that consumers' rights are protected and contractual agreements are met. Insurers must also ensure that claims are settled within the stipulated timeframe and that farmers' concerns are addressed in a timely fashion.

D. Recommendations for distribution channels

In the last 20 years, numerous attempts have been made to engage non-traditional channels to distribute microinsurance under the partner-agent model, often in the form of group insurance. They include the following types of distribution channel or aggregator:

- Utility companies[12]
- Cash-based retailers (like supermarkets and clothing retailers, but also small shops)
- Credit-based retailers (like furniture and white goods stores)
- Third-party payment providers
- Money transfer companies
- Churches and religious organizations
- Nongovernmental organizations (e.g. Save the Children, Women's Fund Fiji, Live and Learn, CARE Foundation)
- Employers of domestic servants
- Pawnshops

[12] This and similar distribution channels are often referred to as "affinity" distribution, to denote that insurance is targeted at people who primarily have a (no-insurance) relationship to the distributing entity in common. Sometimes this is also referred to as proxy salesforce.

- Rural banks (e.g. Rural Bankers Association of the Philippines)
- Village organizations, women's organizations and other community-based organizations (e.g. Women's Fund Fiji, Mothers Union Solomon Islands)
- Water rights boards
- Postal networks
- Municipalities and other government bodies (e.g. Kenya Livestock Insurance Program)
- Banking correspondents
- Umbrella organizations (like for credit unions, e.g. Asociación Mexicana de Uniones de Crédito del Sector Social, or Union Technique de la Mutualité Malienne)
- Funeral parlours
- Agriculture input retailers
- Financial and productive cooperatives
- Private schools
- Medical service providers
- Agriculture product off-takers
- Mobile network operators

Banks and other financial institutions have many characteristics that make them ideal distribution channels, but many microinsurance ventures around the world have highlighted challenges. Banks and microfinance institutions often capitalize on their client access by demanding high commissions and putting pressure on insurance premiums. They are often prone to mis-selling insurance, which usually comes in the way of the main objectives of client-facing staff – who themselves often know so little about insurance that they are uncomfortable promoting voluntary products, and poorly positioned to address questions from customers. This conflict of interest is not always properly understood by management, and the amount of commission that reaches the client-facing staff is often insufficient to instigate greater efforts, regardless of management commitment.

Financial institutions considering distribution partnerships for index or other insurance need to be aware that they can threaten the success of the product by asking too-high commissions, and instead should discuss reasonable levels of remuneration with insurers based on the expenses they will incur. The same has been true with other aggregators, especially when they have had a monopoly – for example, electricity, gas or landline phone companies – and with retail store networks.

An important prerequisite for the success of a distribution partnership with a suitable aggregator is alignment of interest. If the insurance solves a problem for the distribution partner – for example, the risk of loan default, low demand for agriculture inputs, persistent poverty of its members, unpaid hospital bills – its motivation to help it flourish is stronger than if the only interest is commission income.

That said, combining (micro)insurance products with other, more tangible services can contribute significantly to success. Typically, these services are provided by the distribution partner, for example loans from microfinance institutions or agriculture inputs from agri-dealers and off-takers. Vibrant microfinance sectors and widespread agri-dealers can thus contribute significantly to successful insurance. So it is worthwhile to explore more such opportunities, which can be specific to a country. For example, it can be related to its green economy initiatives, which sometimes include efforts to provide solar electricity equipment to households off

the grid; the equipment is paid in instalments, and may be vulnerable to insurable hazards, suggesting that insurance is included in the financing arrangement.

Microinsurance tends to be affordable only when distribution is not outsourced to the traditional agents and brokers, as regulatory and other requirements usually make this channel inefficient for selling large numbers of small policies. Instead, aggregators need to be identified that are able to conduct some or all of the tasks associated with distribution, which revolve around:

- Trust – i.e. provide confidence to prospective customers that the insurance is reliable;
- Communication – i.e. inform and explain to prospective customers what is being offered;
- Sales – i.e. convince the prospective customer to buy an insurance policy;
- Logistics – i.e. bring policy conditions and other mandatory presale information, insurance certificates, and so on, to the point of sale and the customer;
- Enrolment – i.e. record and document all relevant information (personal data, policy data, know-your-customer, anti-money laundering) and transmit it to the insurer;
- Premium collection – i.e. physically collect cash and transmit it to the insurer where allowed by regulation.

Further tasks that can be added to this list include support at the claims stage and general post-sale service.

The aptitude of an aggregator to perform these tasks well and cost-efficiently will depend on a number of criteria that need to be ascertained in advance. Examples of these include if they are already present and trusted in the target market, if they have frequent financial transactions with the target market and if they are well organized and computerized. This last one is often especially challenging and rules out many cooperatives, savings associations and comparable organizations (women's, rural and others).

Technology holds the promise to reduce the cost of distributing and servicing insurance. While it has been attracting considerable investor funds under the heading of 'insure-tech' in mature markets, it is even more important in developing markets, where microinsurance intermediated by mobile network operators has shown the potential to facilitate data collection, interaction with customers, and payments. This is of particular value in countries with challenging geographies such as multiple islands. More use cases are being tested. However, the verdict is still out about the degree of digitization versus the more traditional physical interaction that microinsurance customers are comfortable with, and what price they are willing to pay to, for example, interact with real agents as opposed to chatbots.

E. Recommendations for reinsurers

The role of the government as a potential reinsurer is not leveraged enough in most countries but can be critical, particularly in the absence of appropriate commercial reinsurance. Stop-loss or catastrophe reinsurance, or excess-of-loss reinsurance from government need to be given more attention.

However, as Pacific Island nations are small and subject to natural catastrophes with a high concentration risk, regulations that require excessive reliance to be placed on local reinsurers is not advisable, as international reinsurance is needed to diversify the covariate risks from the small populations and the geography of Pacific islands.

The following checklist can be applied by either insurance companies or the regulator to assess the suitability of the reinsurance strategy for reinsuring index insurance products. Given the stage of the market development, this checklist is best applied by the reinsurance departments of the participating insurance companies, who would have more detailed information related to the reinsurance arrangements than the insurance regulator.

Checklist for assessing suitability of reinsurance strategy for index insurance

- ☐ Expertise of reinsurer with index insurance products and sharing of technical knowledge.
- ☐ Type of reinsurance – quota share/aggregate excess of loss – and rationale behind type used.
- ☐ Method used for payment of reinsurance claims (e.g. claim payments or offset from future premium payments).
- ☐ Reinsurance premium compared with insurer's own calculations on burn cost/risk premium rates.
- ☐ Details on reinsurance treaty (e.g. duration of coverage, renewal clause, dispute resolution).
- ☐ Reinsurers' existing exposures in same country and region, and exposure to systemic risks.
- ☐ Contingency plan if exceeding reinsurance cover – other types of reinsurance, ceding to government.
- ☐ Investment strategy employed by insurer, and rationale behind investment.

Concluding comments

According to the data collected from the interviews and the questionnaires completed from the regulators of the five countries in the Pacific, there are no specific regulations in place related to index insurance. Some of the countries are in the process of drafting or amending a legal framework of general insurance, with the assistance of international development organizations. This presents a great opportunity for the insurance companies to collaborate with state regulators to make the necessary changes to the legal framework to allow the concept of index insurance and to enable more detailed index insurance regulations to be put in place.

If the amendments of the legal framework to include index insurance do not appear feasible at the current time, the possibility of setting up regulatory sandboxes should be considered, to allow the launch of a new index insurance products in controlled environments.

Another important aspect is the development of the reinsurance market to encourage the involvement of private insurance companies and to effectively transfer risk from domestic to international insurance markets.

Taking into consideration the relatively small size of the Pacific countries and the challenges they face regarding geographical diversification of risk, they have to explore the opportunities to pool risk across larger geographical regions. This would give access to reinsurance markets and better terms as group countries, rather than approaching them individually.

Considering the complexity of index insurance and the lack of resources and training of the regulators to supervise these products, there is high demand for capacity-building to support the development of index insurance. All stakeholders must consider this need for capacity-building and awareness. Public–private partnerships are essential to implement successful index insurance schemes, so it is important to ensure that the public sector is ready to cooperate with the private sector to support index insurance products.

An important aspect of designing and implementing the index insurance model is the role of actuaries. In general, there has been a low awareness of the added value that actuaries bring to the business. Countries like Samoa and Tonga have shown improvement and provided in their new insurance Act the obligation for the insurance companies to appoint actuaries and auditors (while allowing them five-year exemptions to the rule under certain conditions). This presents a strong demand for capacity-building in this field.

In regard to consumer awareness, there is a general lack of information about insurance products, and misconceptions about their benefits, accompanied by a lack of trust towards the insurance companies and their products. This shows the need for raising awareness and educating the population of Pacific countries regarding the benefits of insurance products in general and index insurance in particular, through efficient marketing and awareness-raising campaigns.

The amendments to the regulatory framework and the proposed regulatory Acts shall protect the rights of policyholders and prospective policyholders in ways that are consistent with the continued development of a viable, competitive, valued and innovative insurance industry.

Appendix: Legal reviews of regulations

Legal review of the regulatory framework of Samoa

Background

The insurance sector in Samoa is considered small and underdeveloped. The insurance industry of Samoa is made up of four local insurance companies (non-life) and the Central Bank of Samoa (CBS), which is the country's monetary authority and acts as the insurance regulator. The CBS collects information to ensure that solvency margins are met and requests information on reinsurance protection. On the other hand, the international insurance companies registered in Samoa are regulated by a separate body, the Samoa International Finance Authority.

The purpose of this document is to analyse the most recent reports of the International Monetary Fund (IMF) and the Pacific Financial Technical Assistance Centre (PFTAC) on insurance regulatory reform legislation, and the answers to questionnaires provided by the Insurance Regulatory Authority of Samoa, plus the minutes of the meeting we had with them on climate risk insurance products in general, and their approach on index insurance products.

Legal review analysis

The regulatory framework of Samoa consists of the Financial Institutions Act 1996 and the Insurance Act 2007, last amended in 2011, with CBS acting in the capacity of regulatory and supervising authority in the insurance sector. Since 2018, at the request of CBS, the IMF and PFTAC have been assisting the authorities of Samoa in the reform and improvement of the insurance regulatory framework. As a result of this collaboration, they developed the Example Insurance Law to be used as a legal foundation by the responsible authorities in Samoa, to improve the current insurance legislation and at the same time to provide for the broadening of the insurance market and to enable the insurance companies to increase their penetration.

The improved approach brought by the example law is to establish a number of key objects that measure the performance of the regulator and the insurance industry. The obligation for the regulator to report on key compliance and solvency issues while analysing the risk factors will have a great impact on the continued development of the insurance industry. In addition, the example law should strengthen the conditions related to the specifications of the minimum capital requirements, the conduct and the reporting requirement compared with the existing insurance Act. Under the current law, the level of the required minimum capital for an insurance company is not based on a risk analysis of the assets and liabilities. Therefore, the example law needs to approach the capital requirements for the authorized insurers from a risk perspective.

Another important finding of the IMF and PFTAC was the need to establish an insurance regulatory reform that will improve the current insurance legislation and broaden the prudential standards. In particular, it was recommended that Central Bank of Samoa, which has the legal responsibility to supervise the insurance companies, uses the following prudential standards.

- **Corporate governance**
  It is fundamentally important that financial sector supervisors set appropriate governance rules and requirements on regulated institutions, to ensure they have a comprehensive governance framework and conduct their businesses with professionalism and integrity. Therefore, it is important for CBS to develop and issue a prudential standard that covers this fundamental area of prudential supervision

- **Risk management**
  To provide effective supervision of insurance institutions, it is important that CBS develops a risk management prudential standard, in line with international good practice, that clearly sets outs its minimum expectations on risk management within insurance institutions.

- **Valuation attachment**
  Considering the complexity and the importance of the valuation of liabilities of the insurance companies as well as the duty to protect the policyholders, setting the minimum valuation expectations on insurance institutions is a key element of effective prudential supervision.

- **Capital adequacy**
  It is essential that the capital held by insurance companies is determined after proper evaluation of the risks and liabilities, which they would undertake to remain solvent. As such, it is important for CBS to develop and issue a prudential standard that provides the necessary level of security without constraining the development of the industry for the benefit of policyholders.

A crucial aspect in the insurance industry – like every other industry that impacts the lives of individuals – is the duty to protect the interest of the policyholders. The example law has included in its main objects the mission to protect the rights of policyholders and prospective policyholders in ways that are consistent with the continued development of a viable, competitive, valued and innovative insurance industry.[13] The following are the provisions included in the example law that are not addressed under the existing Insurance Act 2007 of Samoa.

[13] Example Insurance Act 2018, Part 1, Article 3, Point 1(a).

• Objects' clause	Section 3
• Power to determine certain provisions do not apply	Section 13
• Requirement for insurer's assets to exceed its liabilities in the home jurisdiction	Sections 25 and 214
• Branches must have a Management Committee whose members act as directors of the body corporate under the Act	Section 29
• Duty of directors to give priority to the interests of policy owners	Section 60
• Powers to disqualify senior managers & directors	Section 75
• Powers to disqualify auditors & actuaries	Section 96
• Power to make conduct standards	Section 79
• Power to make reporting standards	Section 80
• Obligation to comply with standards	Section 82
• Definition of prudential matters	Section 7
• Definition of conduct matters	Section 7
• Regulator to monitor prudential and conduct matters	Sections 83 and 209–212
• Power of direct removal of auditor or actuary	Section 113
• Courses of action to be considered by statutory manager	Section 141
• Regulator able to apply for directions to be given to a liquidator of an authorized insurer	Section 167
• Policy owner preference in a winding up	Section 170
• Assets in jurisdiction to be applied to first discharge liabilities in jurisdiction	Section 25
• Assignment of liabilities to enable revocation	Section 175
• Power to make compulsory transfer determination	Section 185
• Approval required to enter arrangement to control directors	Part 15
• Approval required to acquire the right to renew an insurer's contracts	Part 15
• Approval required before contracts are novated	Part 15
• Power to accept enforceable undertaking	Section 216
• Continuing offence provisions	Section 217 applies to offences under sections 14, 16, 17, 21, 24, 25, 29, 30 or 35
• Power to seek injunctions	Section 221
• Civil penalties	Section 222

The example law gives power to the regulator to tailor the prudential, conduct and reporting requirements to fit the circumstances of the particular classes of insurers, agents, brokers, or particular entities, a power that is missing in the existing legislation.

The existing insurance Act does not provide any requirement for the pre-approval of new products. However, the insurer must inform the regulator in advance, providing the necessary information about the new product. In this respect, the example law does not bring any change.

Another important improvement reflected in the example law is the obligation for the authorized insurer to appoint an actuary and an auditor. The authorized insurers have the option to be exempt of this obligation for up to five years, if the regulator is satisfied that the insurer is solvent and can prove access as needed to suitable actuarial advice for the purposes of the prudential standards. The capacities of the actuaries and auditors in this industry need to be improved, which will also facilitate the introduction of microinsurance products planned for 2022.

Based on the discussion with the regulatory authority and the reports of the IMF, we conclude that there are no specific insurance regulations in place related to micro/inclusive insurance, index insurance, climate disaster risk insurance, or agriculture insurance.

Legal review of the regulatory framework of Vanuatu

Background

A review of the legal and regulatory framework, and recommendations for adequate and feasible improvements, is an important step in support of other efforts, such as the implementation of early warning systems, aiming to mitigate the impact of various natural disasters in the Pacific.

Improvement of the regulatory framework contributes to more sustainable solutions and to the capacity strengthening of governance structures. Simultaneously, it contributes to insurance product development, accessibility and delivery as well as to awareness raising and social inclusion.

Legal review analysis

As a general finding, the regulatory framework of Vanuatu consists of an insurance Act adopted in 2005, which has been amended over the years. However, the amendments have been insignificant in regard to the climate disaster risks and their impact as well as in reflecting the recent developments in the insurance market of the region.

The amendments specify the regulatory authority as the Reserve Bank, as of 2010,[14] and introduce measures and structures related to anti-money laundering, anti-tax evasion and countering the financing of terrorism.[15] New terms and definitions have been included in the Act amended in 2009[16] but still do not include new concepts in the field of insurance.

The analysis made in this section does not focus on the scope of responsibility of the domestic

[14] Order No. 6 of 2010, Insurance (Amendment) Regulations of Insurance Act No. 54 of 2005.
[15] Insurance (Amendment) Act No 27 of 2017.
[16] Insurance (Amendment) Act No 29 of 2009.

regulatory authority and requirements on the operation of insurance companies but rather in the insurance products that are important for that particular market. It is based on the best practices identified from the countries with similar risk exposures to natural disasters.

The current insurance consolidation edition 2020[17] provides for traditional insurance products that compensate the insured for actual losses. Such products do not adequately respond to the needs and the level of preparedness required by Pacific Island inhabitants.

Traditional insurance products do not protect against unpredictable but potentially devastating risks faced by Vanuatu residents. In addition, the assessment of the actual loss is a complex and long-term process due to the fact that the claim needs to be supported by proof of loss, financial data and other claim details provided by the insured. In addition, traditional insurance contracts also include restrictions and exclusions that affect the indemnity.

Other types of non-traditional scheme, such as index insurance products, represent a better alternative in the case of the Vanuatu's high risk of exposures, and the probability of losses. Such products may also contribute to increasing access to microinsurance schemes and consequently to the extension of social protection to the most vulnerable groups.

Recommendations

Considering the Vanuatu country profile risk as well as the advantages offered by index insurance products, it is recommended that such a product is introduced first to the regulatory framework and afterwards to the insurance market of Vanuatu.

Once the product is designed and completed with terms and conditions, it needs to be approved and included in the legal framework and recognized as an alternative insurance product.

The definition of insurance product, as provided in the Part 1 of the Insurance Act of Vanuatu, stipulates the right of the Reserve Bank to declare a new insurance product. Due to the fact that index insurance is not a standard insurance product similar to existing ones, the existing insurance Act needs to be amended to provide for the definition of index insurance contracts, and to establish the modalities by which to apply for the licensing, periodic assessment and supervision of such products by the regulatory authority.

The main stakeholders involved in this process include the Reserve Bank of Vanuatu, the minister responsible for finance and economic management, insurance and reinsurance companies, and, potentially, the brokers.

The regulatory review process shall make reference to best identified practices in the region and beyond. The amendments to the regulatory framework or the proposed regulatory Act shall elaborate the rights of policyholders from the perspective of consumer protection, including the right to information, and awareness raising activities.

Successful implementation of the proposed insurance products may also require financial support and budgetary provisions for subsidizing part of the insurance premium, which at the same time will raise awareness and educate the citizens of Vanuatu on the benefits of participating in such schemes.

[17] Order No. 149 of 2020, Approval of the English Text of the Insurance Consolidation Edition 2020.

REVIEW OF THE INSURANCE ACT OF VANUATU

Republic of Vanuatu
Insurance Consolidation Edition 2020
Order no. 149 of 2020
Insurance Act no. 54 of 2005

These are the following amendments to the Insurance Act that we suggest for consideration:

Suggestion 1

Definition Section 1: Significant Owner

There is **error in the subclause (b) of clause 1** of the Insurance Act, it states "give the person at least 10% of the voting rights in the company or the power to appoint or remove director of the reserve bank".

We suggest: the language is flawed in subclause (b) of section 1 of the definition clause, as the Reserve Bank of Vanuatu acts as a regulatory body over the Insurance company, independent of any external influence whatsoever.

So the suggestion is instead of "...remove directors of the Reserve Bank", it should read as "...remove directors of the insurer or insurance company."

Suggestion 2

Section 6(6): Power of the Reserve Bank to obtain Information and Documents

We suggest: Section 6(6) needs to be **reworded**.

Section 6(6):

"When the insurer is a company limited by shares, the Reserve Bank may require further information or documents from the shareholders of the licensee company, such further information or documents which the Reserve Bank considers desirable to do so, to protect the interest of the public or the policyholders, potential policyholders or customers of the licensee or the reputation of Vanuatu as the finance center."

Suggestion 3

Section 8A: Advertisement brochure or similar Documents

We Suggest: Section 8A needs to be **inserted**.

"Section 8A Advertisement brochure or similar Documents: Used as communication intended for sale of a policy to the members of the public, will identify the product as insurance. (b) will describe benefits commensurate with the policy provisions and not beyond that (c) will not make claims beyond the ability of the policy to deliver.

Section 8B: then continue with section 8(1)(2)(3) (as in the Act).

Suggestion 4

Section 17(2): Application for Licence

The following **needs to be added** in Section 17(2) of this Act.

We suggest after Section 17 (2)(a), Section 17 (2)(aa) is to be added as:

"An application for an insurance licence, when made by a company, shall include a certified copy of its Memorandum of Association and Articles of Association."

Suggestion 5

Section 18(4A): Additional Information and Consideration of a licence application

We suggest Section 18(4A)needs to be **reworded as follows:**

"The Reserve Bank will not approve an application for licence

a) unless it is complete in all respects, inclusive of requisite documents;
b) all requisite information given with the application is correct;
c) the applicant has enumerated that it will carry on its functions of insurance business and management investments within its own organization;
d) the applicant is acting in a bona fide manner and will be able to comply with all the requirements needed for approval of the licence;
e) unless the Reserve Bank is satisfied that each beneficial owner and key individuals of the applicant is a fit and proper person. (As in the Act).
f) unless the Reserve Bank is satisfied of the source of funds which will be used to provide for the capital of the applicant. (As in the Act)."

Suggestion 6

Section 31(4): Minimum Capital

We suggest: Section 31(4) needs to be **reworded**.

"The Insurer operating outside Vanuatu shall at all times maintain the minimum paid up capital in the form of the currency of the nation where the insurer is operating or the risk is located."

Suggestion 7

Section 49: Audit, Actuarial, Risk Management Committee

The above three **committees can be broadly defined into three parts** as Section 49 A, Section 49 B, Section 49 C.

We suggest the following be defined in three parts for better understanding.

Section 49A: Audit Committee

Every insurer shall consist of an audit committee which shall oversee the financial compliances of the company, including disclosure procedure during a financial year. It shall oversee the functioning of the procedure and process of attending to issues relating to maintenance of its books of assets, transactions and other matters relating to financial position of the Insurer.

Section 49B: Actuarial Committee

Every insurer shall have an Actuarial Committee which shall comprise Actuaries who shall be responsible for conducting research, review and oversee the functions, such as maintaining the solvency margin of the Insurer at all times, analysis and formulation of actuarial reports, analysis of asset liability management, examination of other reports submitted by insurance company.

Section 49C: Risk Management Committee

Every insurer shall consist of a Risk Management Committee that shall be responsible for implementation of Company Risk Management Strategy, and it would function in such a way that it will be able to monitor the risk involved thereto.

Key Objectives of the Risk Management Committee are enumerated hereto.

i) Review compliance and guideline on insurance fraud;
ii) Strategize and implement plans to counter risk;
iii) Maintain a portfolio of risk at all times;
iv) Advise the concerned authority or Board regarding risk management decisions;
v) Maintain implementation of anti-fraud policy for effective detection and prevention of fraud.

Legal review of the regulatory framework of Tonga

Tonga is considered one of the countries with the highest exposure to climate change and natural disasters. It ranks number two, after Vanuatu, in the global categorization of natural disaster risk. Therefore, it is highly probable that Tonga will be hit or recover from a major natural disaster causing long-term cumulative economic harm. The latest devastation that Tonga suffered after cyclone Gita in 2018 demonstrated the vulnerability toward natural hazards.

The insurance penetration in Tonga, like other islands in Pacific Region, is very low because of the weak financial literacy and limited awareness of the need, benefits and availability of insurance. Most people and businesses in Tonga do not have insurance coverage for natural disasters. The barriers include affordability, inadequate disaster risk mitigation measures, insufficient baseline information for designing insurance products, limited availability of reinsurance, consumer awareness and cultural issues, lack of trust, aid dependence, and so on.

According to financial services demand-side survey for Tonga, almost 90 percent of population is uninsured while 64 percent of people reported that they knew about insurance as a concept but chose not to be insured. Two thirds (66 percent) listed the lack of need as the most dominant reason not to be insured, while 3 percent did not trust the insurance companies.

Nonetheless, the penetration of the insurance products has increased, since the banks operating in Tonga have started to require adequate insurance with a coverage that includes natural disaster and compliance to the building code. This became legally mandatory after the devastation left by tropical cyclone Gita in 2018.

Tonga has no legislation in place to regulate the insurance industry. Therefore, there was no assessment from the government to determine the solvency of the domestic insurers and their ability to pay the claims. This also affected customer protection because there were no

government agencies to ensure the correctness of the insurance product sold in the market and protect the citizens.

Tonga has three non-life insurers operating in the domestic market and most of the risks underwritten are placed with domestic insurers.

However, Tonga was one of five countries that were able to purchase tropical cyclone and/or earthquake catastrophe risk insurance in 2013 as part of a pilot programme, with the support of the World Bank, through PCRAFI, providing index catastrophe insurance against tropical cyclones and earthquakes. The country was able to quickly access the funds needed to finance the disaster response efforts after the tropical cyclones of 2014 and 2018.

The pilot programme has shown that pooling risk across multiple Pacific Island countries can reduce the cost of reinsurance compared with purchasing comparable coverage individually, due to risk diversification and economies of scale.

There is, however, a draft Insurance Bill that is still at its consultation phase with the stakeholders but has been placed on hold due to the pandemic situation.

Currently, the regulator role is given to the National Reserve Bank of Tonga to license and supervise the insurance companies, agents and brokers.

The new draft insurance Act outlines the right that the regulator, which has the legal responsibility to supervise the insurance companies, has to determine prudential standards, and the conduct and reporting standards that are obligatory for all licensed insurers and their subsidiaries. The Act also gives power to the regulator to tailor the prudential, conduct and reporting requirements to fit the circumstances of the particular classes of insurer, agent, broker, or other particular entity.

According to the new draft insurance Act, the regulator has the right to determine conduct standards for matters related to the conduct by insurers in developing inclusive insurance products designed to meet the unmet needs of prospective policyholders in Tonga. This includes the conduct of insurers in marketing, pricing and promoting the insurance products.

A vital aspect in the insurance industry is the duty to protect the interests of the policyholders. However, the new draft insurance Act does not elaborate the rights of policyholders from the perspective of consumer protection.

The new draft provides the obligation of the authorized insurer to appoint an actuary and an auditor. The authorized insurers have the option to be exempt from this for up to five years, if the regulator is satisfied that the insurer is solvent and can prove it has access as needed to suitable actuarial advice for the purposes of the prudential standards. The capacities of the actuaries and auditors in this industry need to be increased. This will also facilitate the introduction of microinsurance products planned for 2022.

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About UNCDF

The UN Capital Development Fund makes public and private finance work for the poor in the world's 46 least developed countries (LDCs). UNCDF offers "last mile" finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development. UNCDF's strategy 'Leaving no one behind in the digital era' is based on over a decade of experience in digital financial inclusion in Africa, Asia and the Pacific. UNCDF leverages digital finance in support of the Sustainable Development Goals (SDGs) to achieve the vision of promoting digital economies that leave no one behind. The goal of UNCDF is to empower millions of people by 2024 to use services daily that leverage innovation and technology and contribute to the SDGs. To achieve this vision UNCDF uses a market development approach and continuously seeks to address underlying market dysfunctions that exclude people living in the last mile.
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The Access to Insurance Initiative (A2ii) is a unique global partnership working to inspire and support insurance supervisors to promote inclusive and responsible insurance. As the implementation arm of the International Association of Insurance Supervisors (IAIS), A2ii identifies supervisory needs, develops tailored capacity building programmes, translates knowledge gained from the regions into global learning tools, contributes to the IAIS standard setting activities and supports the development and implementation of sound regulatory frameworks. A2ii's ultimate aim is to advance insurance markets globally and strengthen resilience of vulnerable populations against risks.
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