



Making Climate Risk Microinsurance Work

CASE STUDY

**Sanasa General Insurance
Company Ltd (SGIC), Sri Lanka**

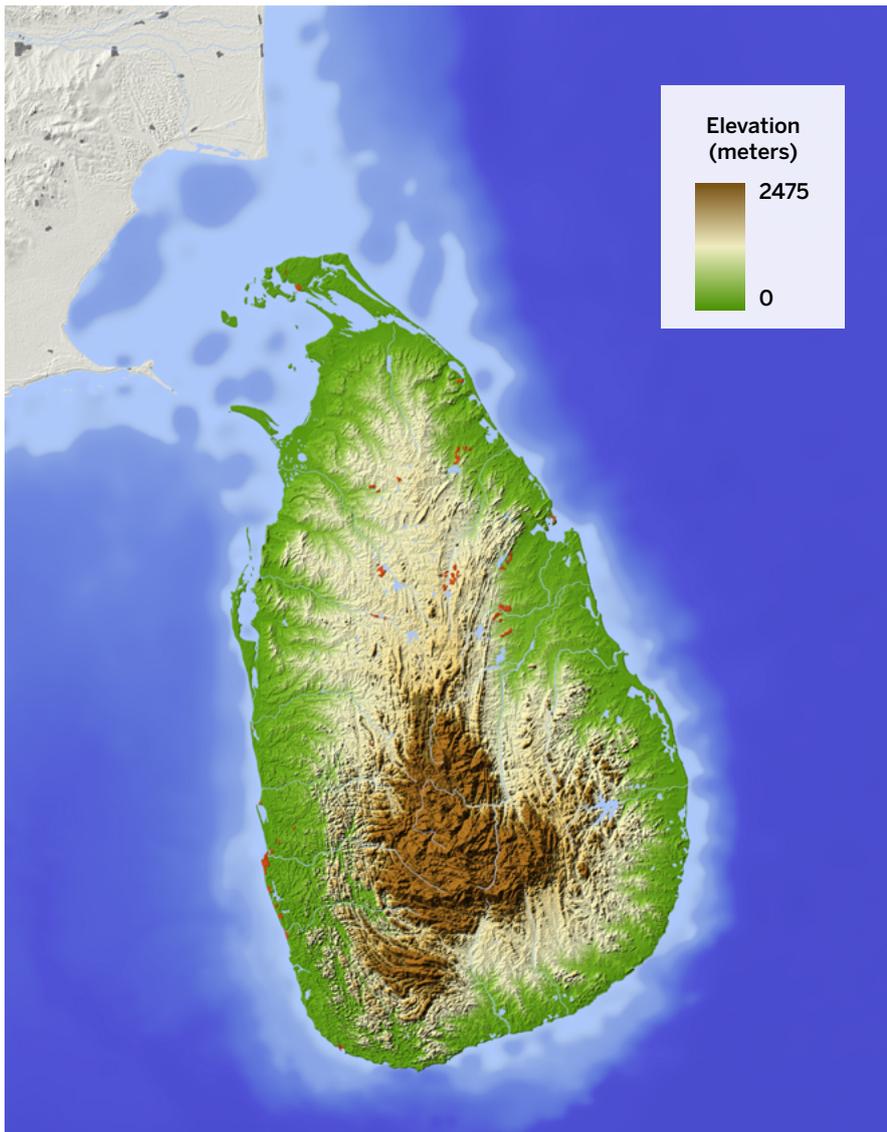
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Strategic Need

Sri Lanka is an island in the Indian Ocean consisting of both mountainous terrain (in the southcentral part) and a vast coastal plain. According to the World Bank's Climate Change Knowledge Portal, the country's "high temperatures, unique and complex hydrological regime, and exposure to extreme climate events make it highly vulnerable to climate change."¹ As an island nation, sea level rise, storm surges, flooding and coastal erosion are major concerns for Sri Lanka and threaten agricultural and fishery livelihoods that are prominent in the coastal areas. In addition, more than two-thirds of Sri Lanka's forest cover has been removed for human use. Changes in land use as well as the projected increase in frequency and intensity of extreme climatic events are expected to further negatively impact coastal areas, important economic sectors, and the health of Sri Lankans. It is estimated that "nearly 87% of Sri Lankans live in areas likely to experience extreme temperatures and rainfall that will impact their lives."² Poor and marginalised communities in the country are likely to be disproportionately affected.³

Figure 1 shows the extent of low elevations, with a large proportion of the country vulnerable to flooding.

Figure 1: Topographic Map of Sri Lanka ⁴



Though agriculture accounted for only 8.4% of Sri Lanka's gross domestic product (GDP) in 2020⁵, the sector engaged 27.1% of the labor force, making it an important livelihood for nearly a third of the country's economically active population.⁶

The combination of the country's topography, the impact of climate change and the importance of the agriculture sector has created an opportunity for insurers in Sri Lanka to address climate-related risks through innovative insurance products. Such products could help protect the livelihoods and food security of Sri Lanka's low-income households.

Origin, Objectives & Overview of SGIC's Climate Risk Initiatives

Sanasa General Insurance Company Ltd (SGIC) is a Colombo-based insurance company which launched as a subsidiary of Sanasa Life Insurance Company (previously Sanasa Insurance Company Limited, SICL) in 2019. It is affiliated with the SANASA movement and therefore is focused mainly on serving lower-income and middle-income clients, particularly in rural areas. SANASA, meaning "Federation

¹ World Bank Group. Sri Lanka. Climate Change Overview. Retrieved 8 October 2021 from <https://climateknowledgeportal.worldbank.org/country/sri-lanka>

² Ibid

³ World Bank Group (2021). Climate Risk Country Profile: Sri Lanka. Retrieved 8 October 2021 from https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15507-WB_Sri%20Lanka%20Country%20Profile-WEB.pdf

⁴ <https://www.floodmap.net/Elevation/CountryElevationMap/?ct=LK>

⁵ World Bank. Agriculture, forestry, and fishing, value added (% of GDP), Bangladesh, Sri Lanka. Retrieved 8 October 2021 from https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=BD-LK&name_desc=false

⁶ Sri Lanka Labour Force Statistics Quarterly Bulletin, Q2 2020. Retrieved 8 October 2021 from <http://www.statistics.gov.lk/LabourForce/StaticInformation/Bulletins/2ndQuarter2020>

of Thrift and Credit Co-operative Societies of Sri Lanka,” is the umbrella organisation of more than 8,000 primary societies dealing in microfinance, mostly in rural areas of Sri Lanka. Around 20% of the country’s population are members of these societies (directly, or indirectly through family membership).⁷

Because most of their clients are farmers from rural areas, SGIC (then called SICL) ventured into crop insurance in 2010 as a response to member needs. They started by offering weather index-based insurance for paddy rice, tea and banana; this product currently accounts for 5% of SGIC’s crop insurance portfolio. Simultaneously, they ventured into indemnity-based comprehensive crop insurance.⁸ This product covers around 70 crops and currently accounts for the other 95% of SGIC’s crop insurance portfolio.

At the onset, SGIC treated its crop insurance offering as a mix of corporate social responsibility (CSR) and business. Their premise was that, even if crop insurance didn’t make significant profits, building trust in insurance and building brand recognition among the rural communities could eventually enable SGIC to cross-sell motor insurance and other products (though this is not happening yet). The product line is primarily sold via financial institutions that require their clients to purchase the crop insurance with agricultural loans. The indemnity-based product dominates SGIC’s portfolio largely because lenders want to cover their loans comprehensively (whereas the weather index insurance product covers fewer risks).

This case study examines the indemnity-based comprehensive crop insurance product in detail. **Figure 2** provides an overview of this product line.

Figure 2: Overview

Policy Terms	2016	2017	2018	2019	2020
Avg. Premium Rate (% of sum insured)	6.5%				7.05%
Premium Subsidy	None				
Risks Covered	Flood, drought, excess water, pest damage, plant disease, damage by wild animals and other natural perils such as storms, earthquakes etc.				
Crops Covered	70 crops including paddy, tea, fruits, vegetables and grams ⁹				
Seasons Covered	1-year policy covering both Yala (April to September; bigger monsoon) and Maha (October to March; lesser monsoon) seasons				
Voluntary/Mandatory	Mandatory to obtain an agriculture loan (voluntary for 10%)				
Bundling	Bundled with loan (except for the 10% voluntary segment)				

Pricing

SGIC prices products on an actuarial basis without premium subsidies. The premium rates shown above are the average premium rate for the portfolio, as rates vary by crop. In 2020, premium rates for some crops like paddy and maize were increased based on the claims performance of previous years.



CHALLENGE: AFFORDABILITY

SGIC is aware that its customers find the premiums to be very high and buy insurance mostly because it is mandated with loans they need. Their willingness to buy insurance voluntarily has been considerably low because it increases the cost of cultivation.

SGIC believes that it can improve customer demand by offering them additional value-added services that provide a tangible benefit regardless of whether they make a claim. To achieve this, they launched an app called “iFarm” in 2020 with some financial support from a donor. The app is provided free to all enrolled farmers, and offers a variety of benefits, such as a news portal, predictive weather information and soil consultations. Eventually, SGIC hopes iFarm will also help reduce expenses through digital modes of delivery and claims payment. (See the Sustainability section below for more information on the application.)

⁷ SANASA Federation. What Is SANASA. Retrieved 8 October 2021 from <https://sanasa.coop/what-is-sanasa>

⁸ Indemnity-based comprehensive crop insurance, also referred to as multi-peril crop insurance, covers farmers against many risks. It is a yield-based policy that provides a payout if the farmer suffers a yield loss due to one of the covered risks, as determined by a loss adjustor

⁹ “Paddy” is rice, the staple food of Sri Lanka. “Grams” are garbanzo beans

Delivery Model

SGIC has adopted a predominantly business-to-business-to-consumer (B2B2C) distribution model by partnering with financial organisations that provide credit to farmers and reach their client bases through compulsory individual policies, typically bundled with loans. The table in **Figure 3** provides details about the partners involved in SGIC's indemnity-based comprehensive crop insurance programme.

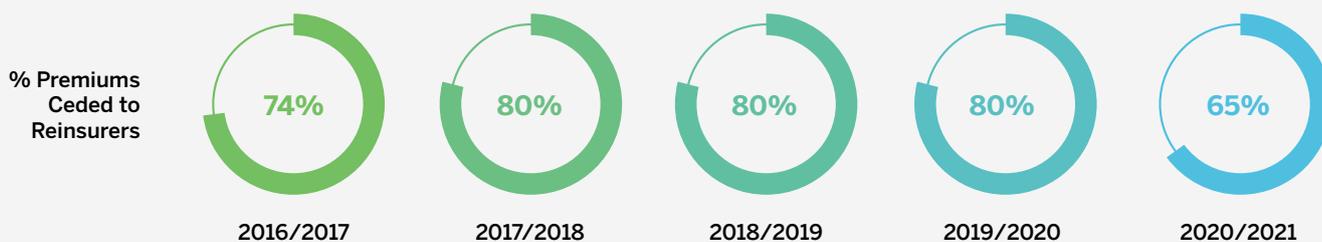
Reinsurers

General Insurance Corporation (India) and National Insurance Trust Fund have reinsured the indemnity product since its inception in 2010. The proportion of premiums ceded has varied over time based on the reinsurers' comfort and SGIC's need, as shown in **Figure 4**.

Figure 3: Partners (2016-2020)

Partners	Description
Distribution Channel(s)	<ol style="list-style-type: none"> 1. Financial institutions, such as banks or credit unions (including the SANASA societies) (80% of sales) 2. Microfinance institutions (MFIs) (10% of sales) 3. In-house marketing staff (10% of sales through direct sales efforts)
Reinsurer(s)	<ol style="list-style-type: none"> 1. General Insurance Corporation (India) 2. National Insurance Trust Fund (local reinsurer)

Figure 4: Reinsurance: Premium Ceded



Performance

Key components of successful performance include scale (in terms of the number of insureds) as well as frequency and cost of covered events. Considering these components with the cost of product sales and management (and other costs) helps provide an idea of the overall sustainability of a particular effort by an insurer, through its combined ratio. These factors are discussed below.

Because climate change is characterised by extremes in climatological events, the expected frequency of covered events

is often difficult to predict and should be evaluated over a period of many years. Thus, conceptually, insurers and reinsurers of a particular climate change product should generally see a limited number of claims for several years and then a sudden increase in claims when an extreme event occurs. Our study was only able to look at five years of institutional performance data, which may be an insufficient period to fully assess sustainability. Additionally, the data provided was in some cases sparse, requiring the application of informed assumptions.

Coverage

As can be seen from the table in **Figure 5**, the outreach of the indemnity-based comprehensive crop insurance has fluctuated over time. Since 2016, SGIC has sold a cumulative total of around 160,000 policies (many, but an undetermined number, of the policyholders would be repeat policyholders and thus many fewer than 160,000 individual farmers were likely covered). While this is a very small fraction of the estimated 2.1 million farmers¹⁰ in Sri Lanka—ranging from 0.3% to 2.5% coverage in a given year—it is a reasonable volume of business for a programme run by a private insurer providing crop insurance without any subsidy. Around 40% of SGIC's policyholders are women, in part due to the focus of the company's distribution channels.



INSIGHT: COURSE CORRECTION

In 2018, SGIC's management reduced enrollment in crop insurance while taking a strategic call on the role of crop insurance in its portfolio. This was prompted by a high claims ratio in 2016 (as can be seen in Figure 6 below), which was mostly an issue with inadequate pricing for maize and some other specific crops. This was rectified by excluding coverage for some crops until better data could be obtained on them and, eventually, increasing the premium rates for maize in 2020. During these strategic discussions in 2018, SGIC's management decided that crop insurance was an important product to allow the company to better protect the unserved populations. Starting in 2019, crop insurance was mandated to be at least 10% of SGIC's portfolio.

Figure 5: Performance

Portfolio	2016	2017	2018	2019	2020
Total Number of Policies Sold / Clients Covered	31,300	46,929	21,760	53,136	6,728 ¹¹
% Women Clients	45%	35%	50%	47%	40%
Total Annualised Gross Collected Premiums (USD)	417,333	433,191	261,120	602,321	96,705
Avg. premium per client (USD)	13	9	12	11	14
Total annualised sum insured (USD)	6,420,513	6,664,473	4,017,231	9,266,482	1,371,284
Average sum insured per client (USD)	205	142	185	174	204
Total area insured (hectare)	10,850	9,650	5,810	11,740	2,241
Avg. premium per hectare (USD)	38	45	45	51	43
Avg sum insured per hectare (USD)	592	691	691	789	612
Avg. area insured per client (ha)	0.35	0.21	0.27	0.22	0.33

Claims and Incidence Ratios

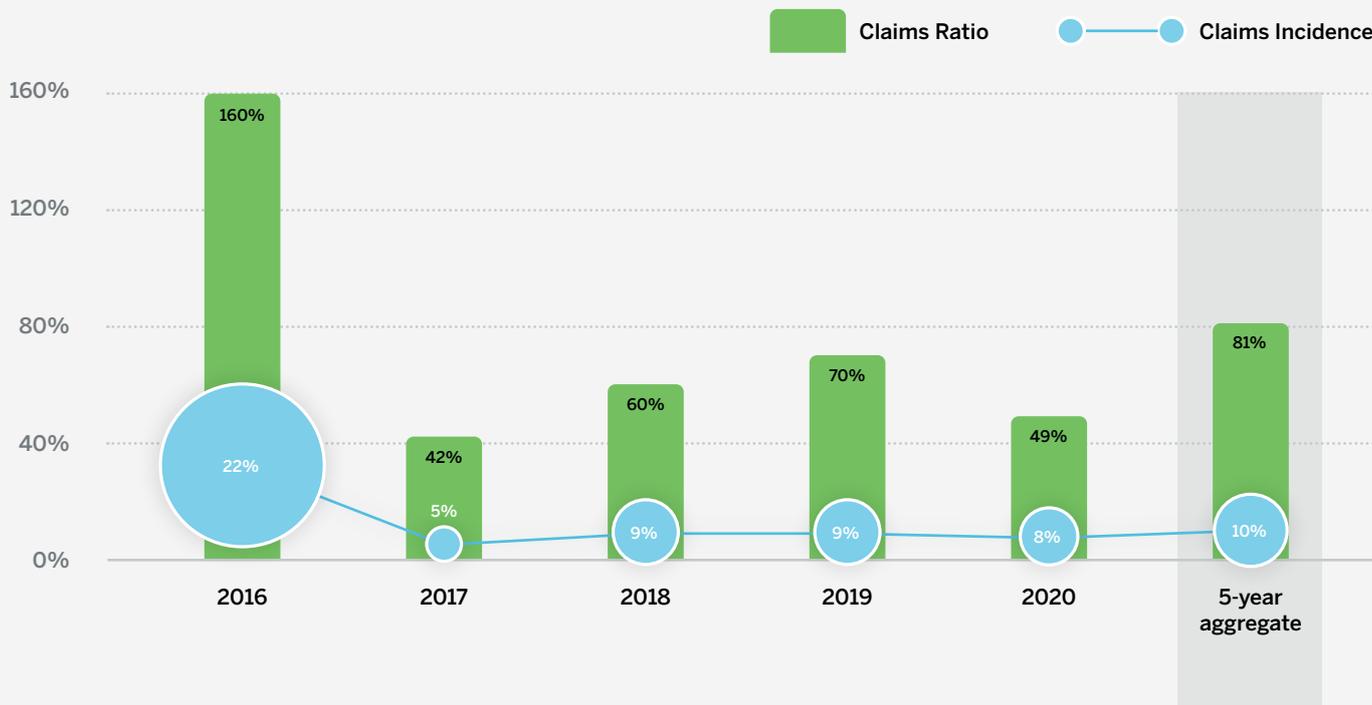
Figure 6 shows the claims ratios and incidence rates of the indemnity portfolio for 2016 through 2020 (includes claims paid by both SGIC and reinsurance). There is wide variance in claims ratios from one year to the next, as can be expected due to variances in covered climatic events. The steep drop in claims ratio after 2016 is also explained by the fact that, in 2017 and 2018, coverage for some crops was excluded while SGIC management inspected the reasons behind the high claims ratios of 2016.

The five-year aggregate claims ratio is 81%, while the five-year incidence rate averaged 10% per year (meaning that one out of 10 customers who purchased a crop insurance policy incurred a claim during the five years). SGIC reports that they pay claims within three weeks, on average. It employs its own loss adjustors, who respond to claims as soon as possible and coordinate with the head office to ensure quick turnaround times for clients.

¹⁰ Sri Lanka Labour Force Statistics Quarterly Bulletin, Q2 2020, op cit

¹¹ In 2020, performance of the indemnity-based crop insurance suffered due to COVID-19

Figure 6: Claims Ratio and Claims Incidence



The table in Figure 7 shows details of SGIC's claims experience.

Figure 7: Claims Experience

Claims Experience	2016	2017	2018	2019	2020
Number of paid claims	6,751	2,463	1,967	4,796	538
Average claim amount (USD)	99	73	80	88	88
Total amount of claims paid (USD '000)*	668	180	157	422	47

*Includes claims paid by both SGIC and reinsurers.

The expense ratio ranges between a manageable 13% and 30%

Sustainability

A crop insurance programme's sustainability depends on whether there is reasonable profit for insurers and distributors on one end, and clear value for farmers on the other.

To measure profitability, this case attempted to assess combined ratios and thus sought data on SGIC's expense and claims ratios. Distribution costs were reported between 11% and 20% of net premiums, and administrative expenses (including loss adjustment expenses) were estimated by SGIC as ranging between 2% and 10% of net premiums (but averaging closer to the higher end of the range). The resulting expense ratio therefore ranges between a manageable 13% and 30%.

While the 5-year aggregate claims ratio for the scheme, including reinsurance, was 81%, data on SGIC's specific reinsurance arrangements were not available and its proportion of claims paid therefore unknown. However, SGIC indicated it has a target average claims ratio of 60%. If it can maintain this average over time, with a distribution cost of up to 20% and other expenses of up to 10%, it stands to have a profitable product (combined ratios up to 90%). However, SGIC is not clear on how long it will take to reach the 60% claims target, and over what time period it will apply; this is important given the temporal vagaries of climate-linked catastrophic events.

To increase the value of the product for farmers, in 2020 SGIC developed iFarm, "a simple and secure online insurance platform to support the local farming community."¹² The platform provides local farmers access to the weather index and indemnity-based crop insurance products offered by SGIC. In addition to facilitating a simple method for enrolling in insurance and making claims, the web- and mobile-based platform offers free value-added services to its users (described in the Insight Value-Added Services below).

Overall, the iFarm app has the potential to impact the business case for SGIC in several ways: reducing distribution expenses (it estimates a 5% to 15% reduction in expenses), reducing claims (as farmers use the tools to better manage their own risks and reduce losses) and improving value for and demand by clients (by providing tangible, value-added services that benefit farmers regardless of whether there is a claim).



INSIGHT: VALUE-ADDED SERVICES

The iFarm app provides benefits to farmers who buy crop insurance from SGIC. The following is an excerpt from an article published by Lanka News Web about iFarm's offering to farmers:¹³

News Portal: will contain information on farming best practices, insights and tips on regional farming, crop care, information on blights and diseases, in addition to a host of other agriculture related topics.

Predictive Weather: app users will have access to regularly updated, real-time predictive weather reports so that they can make decisions and anticipate drastic weather changes ahead of time, ultimately leading to reducing losses.

Market Prices: will list the prices of all agricultural products from different wholesale markets throughout the country. This information is expected to help farmers keep track of market prices in an easy and convenient manner.

Market Place: farmers who use the app can connect with buyers directly via the iFarm platform. This is expected to assist during periods when farmers have excess stock of specific crops. It also helps non-frequent bulk buyers to directly connect with farmers, instead of having to follow a supply chain.

Soil Consultation: farmers can request for consultations on soil and fertilizer requirements prior to planting crops in their fields and plantations, to maximise output. The consultations will be carried out by professionals who have partnered with iFarm.

Key Learnings

While SGIC initially developed its climate insurance portfolio with a mix of social and business motivations, the company is finding ways to enhance its portfolio so it will be a sustainable business case. Some key lessons for how it is doing so include:

01

Improving client value with informational services

Because SGIC operates without subsidies, the overall price is a bit higher than most clients would voluntarily spend. To add value for farmers while maintaining the same price point, SGIC launched the iFarm app to provide a variety of tangible information-based services.

02

Intermittent course correction

With the management review in 2018 evaluating the recent performance of the indemnity portfolio, SGIC learned that it's important to take stock at regular intervals and make any changes necessary to ensure the portfolio maintains the right overall strategic direction.

03

Holistic risk management

With the introduction of the iFarm app, SGIC has enabled its farmers to benefit not just from transferring their risk via insurance but from a variety of value-added services that will help them reduce their exposure to extreme climate events.

¹² Lanka News Web (28 January 2020). iFarm Platform Offers Value-Added Services to Empower Local Farmers. Retrieved 8 October 2021 from <https://www.lankanewsweb.net/67-general-news/55522-iFarm-Platform-Offers-Value-Added-Services-to-Empower-Local-Farmers>

¹³ Ibid

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