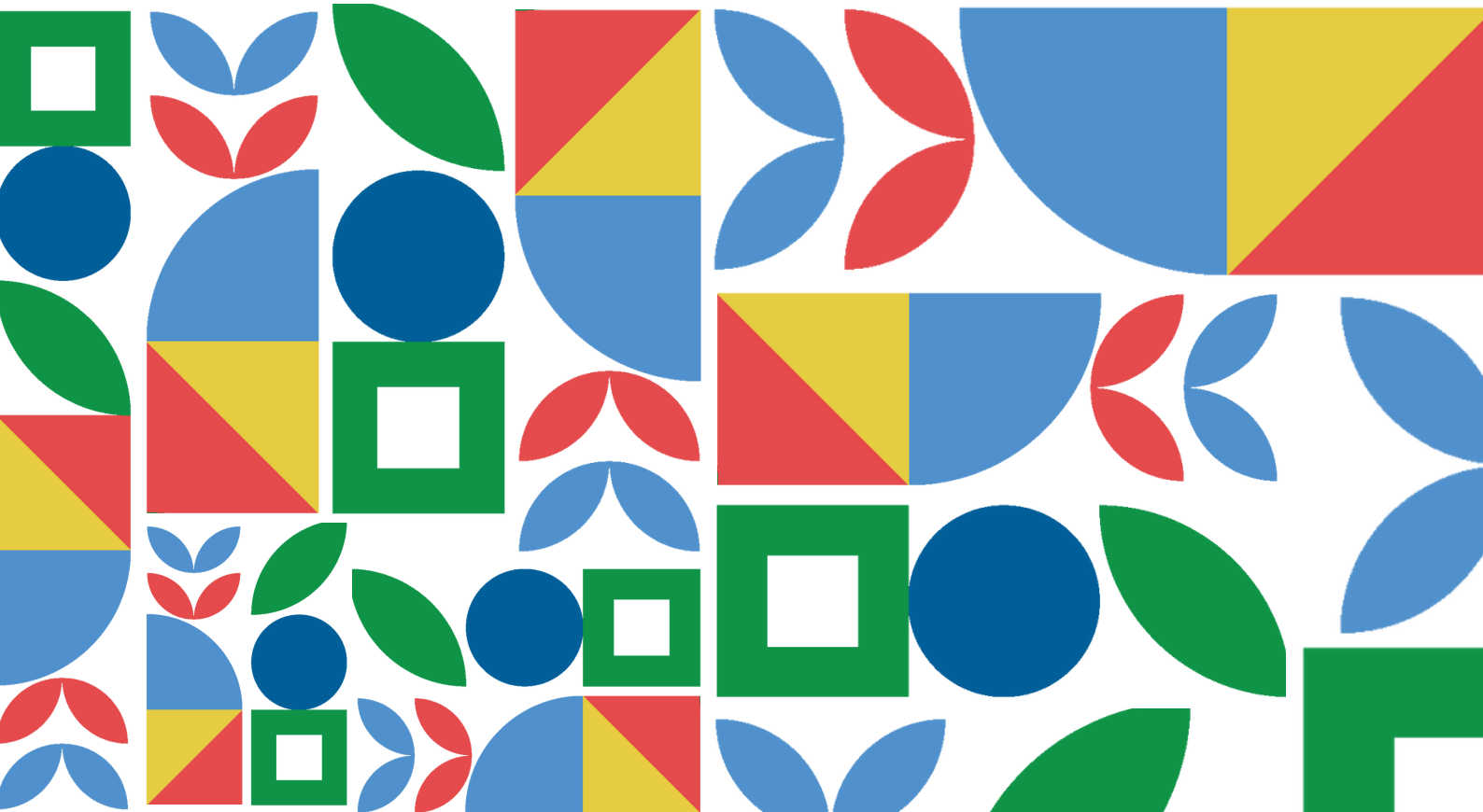
CLIMATE RISK INSURANCE

CONSIDERATIONS FOR OPERATIONALIZING MICRO AND MESO-LEVEL PREMIUM SUPPORT

WORKING PAPER

December 2023



Climate Risk Insurance – Considerations for Operationalizing Micro and Meso-level Premium Support

WORKING PAPER

This publication is brought to you by the Pacific Insurance and Climate Adaptation Programme, which is jointly administered by the United Nations Capital Development Fund (UNCDF), the United Nations Development Programme (UNDP) and the United Nations University Institute for Environment and Human Security (UNU-EHS). The programme receives financial support from the Governments of Australia, India, Luxembourg and New Zealand.

The Pacific Insurance and Climate Adaptation Programme aims to improve the financial preparedness and resilience of Pacific Islanders towards climate change and natural hazards through the development and implementation of market-based meso- and microinsurance schemes. The programme will offer an option for the national and subnational governments to consider subscribing to a 'macro to micro' scheme, which allows government-level insurance policies to pay out to individuals in order to support the most vulnerable segments. Fiji, Vanuatu, Tonga, Samoa, the Solomon Islands, Papua New Guinea, and other Pacific Small Island Developing States will be covered under the multi-year programme.

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1. Introduction

Climate Risk Insurance (CRI) solutions can strengthen the financial resilience of individuals and households (micro-level), enterprises, institutions (meso-level), and countries (macro-level) against climate risks, helping to protect livelihoods and recover faster from the adverse effects of climate change. Climate insurance can therefore play an important role in climate adaptation but at the same time, inappropriately set up insurance schemes can have unwanted consequences and may neither benefit the poor nor foster climate resilience (Surminski et al., 2016). This echoes IPCC (2012), a report on managing the risk of extreme events which concludes that insurance can be a tool for risk reduction and for recovering livelihoods, particularly in the face of extreme weather events. It also warns that insurance could provide disincentives for risk reduction, if not correctly structured.

Despite the increasing availability of affordable climate risk insurance options over the last two decades, a large insurance protection gap persists, especially for the most vulnerable and poor populations. Reasons for the persisting protection gap are complex and context-specific, but underdeveloped climate risk insurance markets, as well as affordability concerns among the poorest and most vulnerable, play an important role. Premium support can help address and overcome insurance market inefficiencies and affordability concerns, as well as reduce existing inequalities in protection through and improve access to climate risk insurance. In doing so, premium support contributes to the resilience-building effect of Climate and Disaster Risk Finance and Insurance solutions in general.

Reviewing 18 insurance schemes, Schaefers and Waters (2016) find that climate risk insurance can increase the resilience of the poor and vulnerable and identify seven distinct factors ("Pro-Poor Principles for Climate Risk Insurance") that are important to make climate risk insurance schemes solidarity-oriented and to address equity concerns. These factors include comprehensive needs-based solutions, client value, affordability, accessibility, participation, sustainability, and enabling environment.

Premium support schemes for Climate and Disaster Risk Financing and Insurance (CDRFI) schemes exist and have been assessed, however, to date, mostly macro or sovereign-level insurance offers and schemes. This paper seeks to focus on a less-studied and discussed topic: premium support for micro and meso-level climate risk insurance schemes.

While literature is still scarce to provide detailed best practice guidance on how such premium support should look, we discuss the key considerations for operationalizing micro and meso-level premium support as well as the persisting knowledge gaps to address.

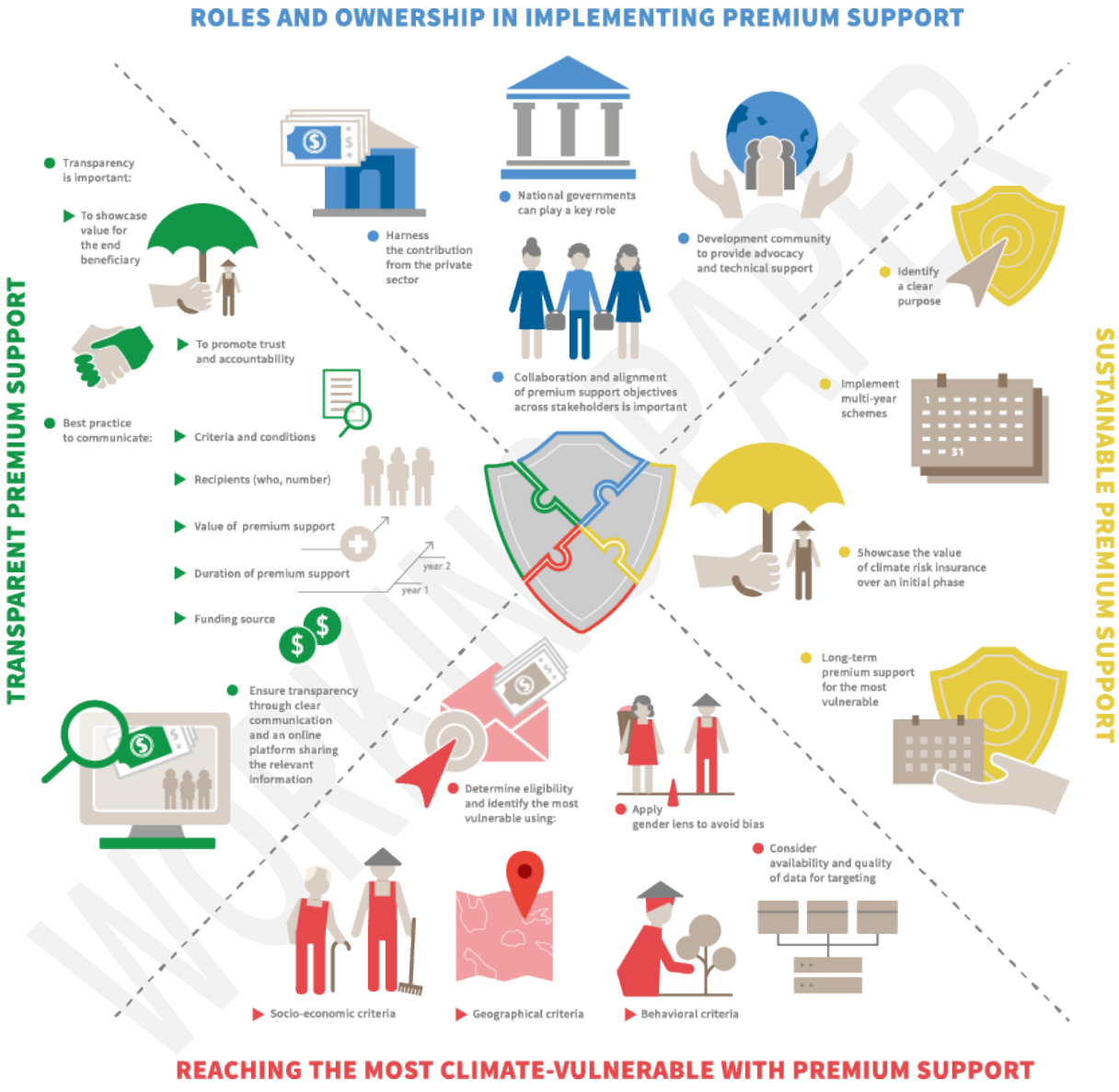
Summarizing discussions with the V20 and MCII, the InsuResilience Global Partnership (IGP) published a set of five SMART Premium and Capital Support Principles (Toepper and Stadtmueller, 2022). The SMART Premium and Capital Support Principles apply to all levels of premium support. With our new paper, we do not propose a different set of principles but highlight and discuss the considerations to operationalize premium support at the micro- and meso-level. The focus thereby lies on the implementation of climate risk insurance premium subsidies.

Methodology

The information in this paper was collected through a combination of desk research (including peer-reviewed and gray literature), consultations with private and public stakeholders (through individual expert interviews and two online workshops, on 30 August 2023 with Pacific stakeholders and on 5 September 2023 for stakeholders across other time zones) as well as own analyses by the authors. Through these consultations and exchanges, arguments emerged around four dimensions that together cover the different elements that define and constitute a premium support scheme and considerations of how they are and should be operationalized. These four dimensions are: Roles and Ownership, Sustainability, Targeting and Transparency. The considerations in this paper are presented along those for dimensions.

This paper is structured as follows: After a reminder of what premium support encompasses, we explain the rationale for premium support for micro and meso-level climate risk insurance solutions. Afterward, different considerations for operationalizing such premium support are discussed in more detail. First, the roles and ownership of different actors, second, considerations for sustainable premium support, third, targeting or how to ensure that premium support reaches the most climate-vulnerable and lastly the case for, and good practices for transparent premium support. The paper concludes with a short section on the way forward.

2. Infographic - Key Considerations for Operationalizing Micro and Meso-Level Premium Support



*Source: Authors' own.

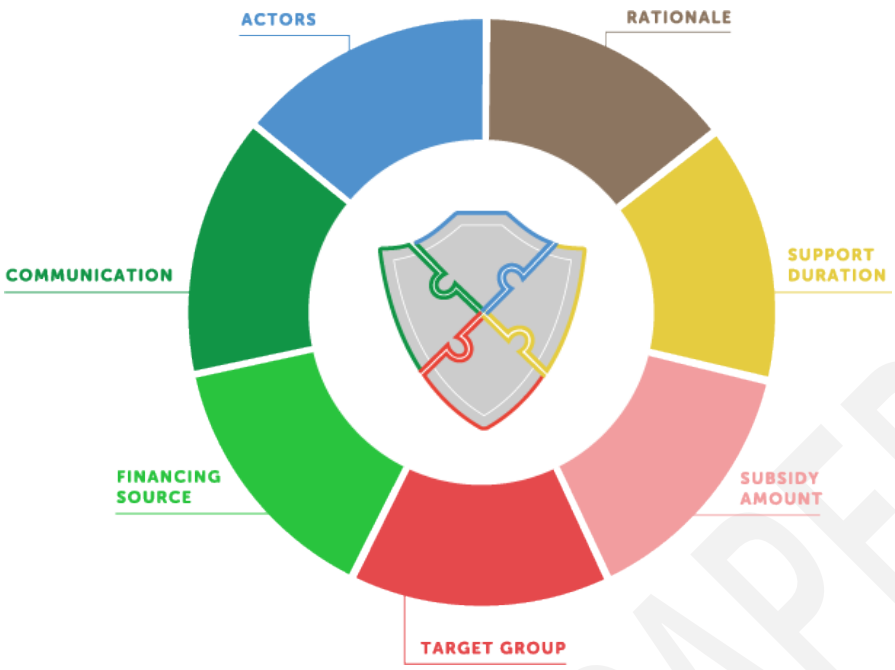
3. What is premium support?

There is a range of concessional support tools available. They include not only direct premium support or premium financing but also the provision of concessional capital for insurance providers, the payment of reinsurance premiums, subsidizing operational costs, technical support, capacity strengthening, financing risk reduction measures, and concessional credit.

Premium support refers to the partial or full subsidy of insurance premiums. In this paper, we focus on direct premium support. There is also indirect premium support. Programs covering for example insurance product development or outreach and distribution costs would indirectly lower premiums by covering underwriting expenses that otherwise would be priced and delegated to policyholders.

Designing a successful premium support scheme requires defining and deciding on the objective and ultimate purpose of the scheme (rationale), where the financing will come from (financing source), how much of the premium will be subsidized (subsidy amount), how long the support is planned for (support duration), for whom it is intended (target group) and importantly, how all these different aspects will be organized, operationalized and implemented and by whom (actors). Lastly, transparently communicating these design aspects to the premium support beneficiaries and stakeholders should be an integral and non-negligible part of any premium support scheme (communication).

Figure 1: Elements of Premium Support



**Source: Authors' own.*

4. Why premium support?

Climate risk insurance aims to strengthen the financial resilience of individuals and institutions in coping with climate risks. However, despite the growing availability of climate risk insurance solutions globally, including in Least Developed Countries (LDCs) and Small Island Development States (SIDS), a large insurance protection gap persists.

The protection gap describes the difference between the amount of insurance that is economically beneficial and the amount of insurance coverage that is purchased (Schanz, 2018). It is estimated at 98% in vulnerable countries. Based on a review of relevant empirical literature and his own assessment, Schanz (2018) finds that the root causes of the protection gap in frontier and emerging markets are affordability, awareness, trust, culture, behavioral biases, transaction costs, and institutional obstacles and shortcomings.

Affordability concerns and lack of access are common key aspects that continue to hinder a more widespread use of financial risk transfer solutions amongst the most vulnerable and this is where premium support comes in. Premium support can play a part in addressing both concerns directly and indirectly and thereby helps close the insurance protection gap.

Premium support can be understood as a subsidy for insurance premiums. It has a direct positive effect on the price a policyholder pays for her cover. Henceforth, with premium support, climate risk insurance prices decrease and the financial protection against climate risks becomes more affordable for the recipients of such support. This way, affordability concerns are directly addressed.

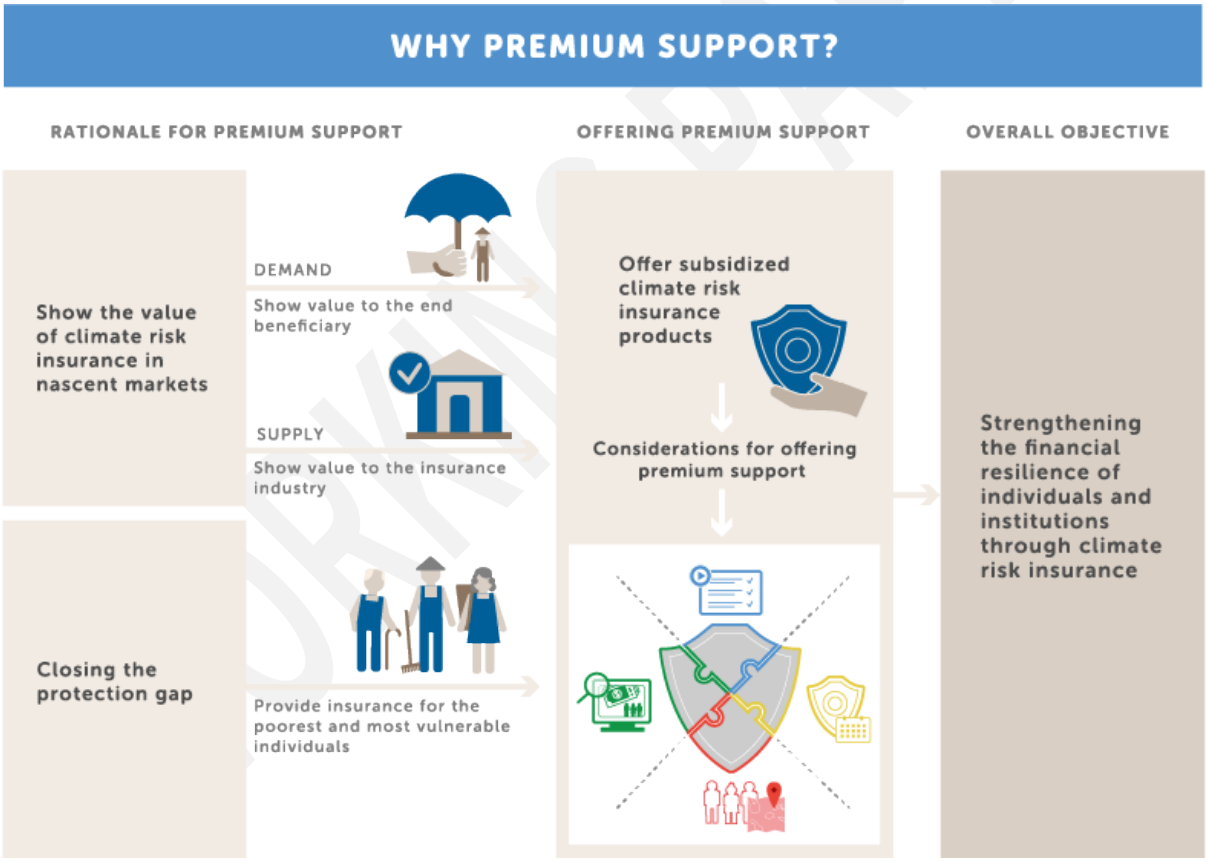
A decreased premium and thereby lower insurance costs for policyholders not only increase affordability, they also help showcase the value of climate risk insurance for demand and supply side actors in new and nascent insurance markets.

On the demand side, end beneficiaries such as smallholder farmers are disproportionally affected by the effects of extreme weather. For some of the most vulnerable and poor individuals, this insurance is their first contact with the formal financial system. Receiving insurance at a lower price over an initial period of one or more years can help the recipients experience the benefits of climate risk insurance (payouts after extreme weather events) and how it works before potentially being asked to pay the full premium in subsequent years.

By subsidizing premiums and thereby facilitating a larger demand for climate risk insurance in new markets, insurers (supply side) also learn about the value of offering these products and how it can help them open new markets as well as reach new target segments. The expectation is that afterward, insurers and reinsurers will scale up their offer and operations. With the same argument, Schanz (2018) calls amongst others for subsidized programs in frontier and emerging markets to close the protection gap as it finds that insurance penetration can be increased with subsidized programs through public-private partnerships.

Vivideconomics (2016) finds that premium subsidies should be considered in the wider policy context, considering other potential barriers to insurance development beyond affordability. They are most appropriate when demand-side barriers are the key obstacles to insurance uptake.

Figure 2: Why Premium Support?



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5. Considerations for Operationalizing Micro and Meso-Level Premium Support

Having shed light on what premium support is and what the reasons are to provide premium support for climate risk insurance solutions, the remainder of this paper discusses the considerations and aspects to think through when implementing micro and meso-level premium support. The focus lies on how to operationalize premium support and the ideal interplay of public and private actors to successfully do so. The question of where funding can and should be coming from is not the subject of this paper apart from the acknowledgement that the funding source for sustainable premium support needs to be clear.

Collating arguments from the literature and consultations with the CDRFI community, four dimensions emerge that allow the categorization of the considerations for operationalizing premium support for micro and meso-level climate risk insurance solutions (see also Figure 2):

- Roles and Ownership in implementing Premium Support – What roles can, do, and should different stakeholders play in the implementation of premium support given their position and leveraging their capabilities? Who should take ownership in initiating and organizing premium support?

- Sustainable Premium Support – How can premium support best be structured and organized to implement sustainable and longer-term schemes? What are the considerations to think through when determining the amount of premium support, its duration as well as the development of premium support over time?

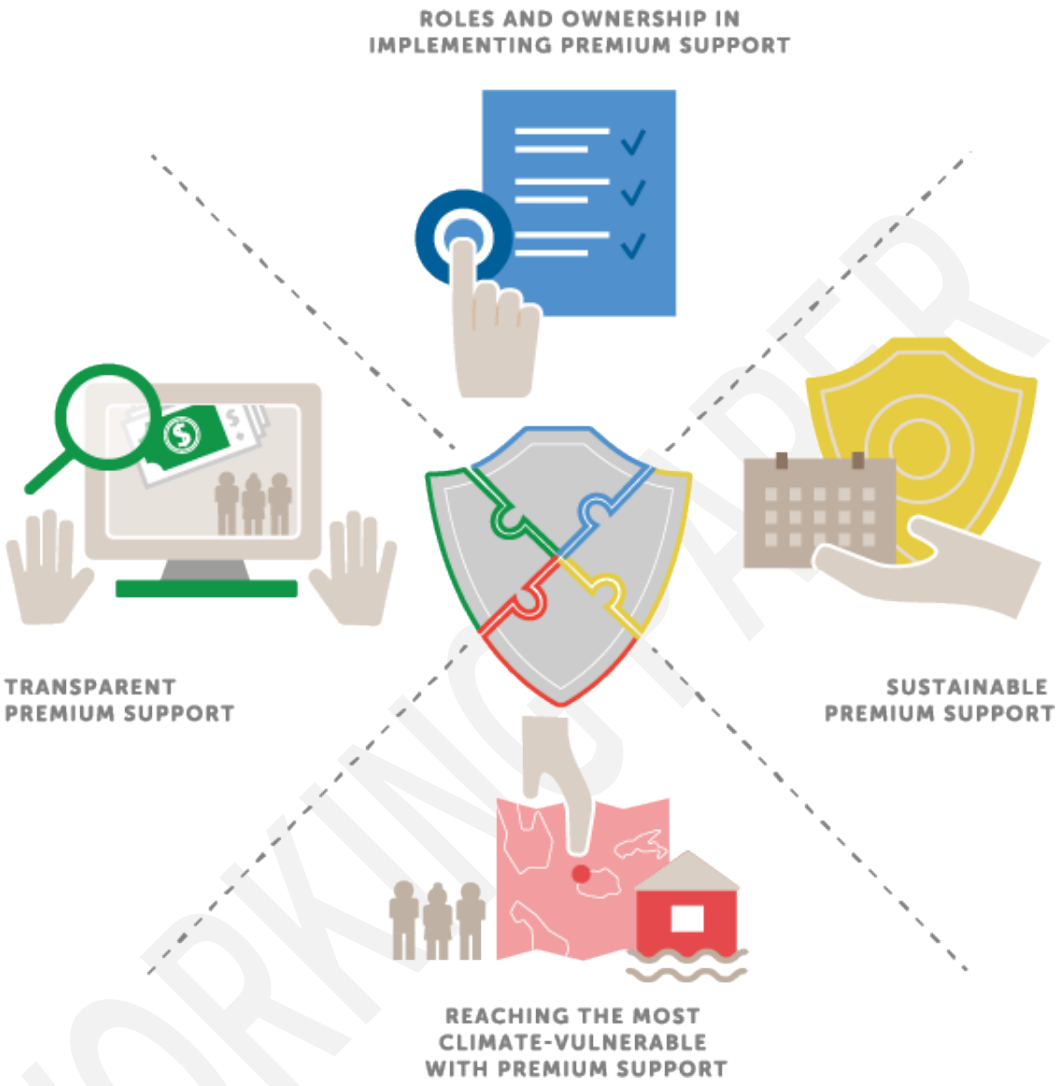
- Targeting: Reaching the most climate-vulnerable – How can we ensure that premium support really targets the most vulnerable to climate risks? What are the considerations for operationalizing the targeting?

- Transparent Premium Support – Which information is important to communicate transparently when implementing premium support – to the recipients of premium support, but also to the wider CDRFI community?

All four dimensions are interconnected, and this paper subsequently discusses each of them in more detail, drawing upon macro-level experiences that are also applicable to micro and meso-level CRI

solutions and including considerations that are emerging from the community and first projects that are being implemented.

Figure 3: Dimensions of Considerations for Operationalizing Premium Support



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Roles and Ownership in Implementing Premium Support

To effectively and sustainably provide premium support for micro and meso-level climate risk insurance programs, robust stakeholder engagement is required. Stakeholder consultations and workshops that led to the development of this policy paper highlighted the varying roles of different actors in terms of the ownership, initiation, and organization of premium support schemes.

These stakeholders are governments, the insurance industry, donors, the development community, NGOs, and others engaged in strengthening financial resilience against climate risks and closing the

insurance protection gap. Each of the actors has unique capacities and mandates and can contribute to building the resilience of the most vulnerable by engaging in offering and implementing premium support.

National governments as key actors for facilitating premium support

An analysis of key actors revealed the vital role of national governments in vulnerable countries in terms of ownership and facilitation of premium support for micro and meso levels. Similar to the discussions regarding premium support at macro level, which has been extensively researched before (Surminski, 2014; Toepper and Stadtmueller, 2022; Panwar et al. 2022), the considerations outlined below highlight the central role of national governments in vulnerable countries in terms of ownership and facilitation of premium support for micro and meso levels.

The national governments of the most vulnerable and low-income countries are the ultimate bearers of risks as the negative impacts of climate change on micro and meso-level have macro-fiscal implications (Aligishiev et al. 2022), hence it is important for governments to prioritize ex-ante financing as part of a holistic climate change adaptation strategy. Against this background, state institutions should build capacities so that they can play a key role in initiating and owning premium support for climate risk insurance. By taking the leading role in facilitating the premium support scheme, governments can signal their dedication to protecting the most vulnerable. Additionally, national governments are best positioned to allocate and channel resources to target the most vulnerable in the country, reach scale, and ensure equitable access to the protection against climate risks.

In addition, governments are also well-positioned to address inefficiencies in insurance markets, before considering traditional premium subsidies, as Hill et al. (2014) found. Whether it is addressing regulatory challenges (Noordhoek et al, 2022), encouraging market competition, or contributing to awareness and financial literacy strategies (OECD, 2023), addressing inefficiencies supports the sustainability of climate risk insurance schemes in the long run. By taking ownership, governments can foster long-term commitment, resource allocation, and policy coherence, making climate risk insurance one of the central components of a nation's resilience-building efforts and closing the protection gap.

Additionally, as regional organizations such as the Caribbean Community (CARICOM) in the Caribbean, The Association of Southeast Asian Nations (ASEAN), or Pacific Island Forums Secretariat (PIFS) are growing in number and expanding in scope, they can also take an increasing important role in facilitating premium support schemes. Such organizations can be an important forum for

advocacy and engaging in global negotiations regarding climate finance and mainstreaming the utilizing premium support as part of the national planning frameworks as can be observed in the case of Pacific Island Forum´s Secretariat´s engagements in the region and on the international arena.

Insurance Industry and the wider private sector

Next to the national governments of vulnerable countries, private sector engagement is crucial in addressing challenges caused by climate change and several initiatives and facilities have been established to involve private firms' climate-resilient development in line with the Paris Agreement and the 2030 Agenda[1] .

Private sector stakeholders, such as insurance and reinsurance companies and brokers, can play a vital role in helping to address and adapt to climate change and its related risks through engaging in premium support programs for climate risk insurance. Through their expertise, they can contribute by developing risk analytical tools and refining risk assessment models, creating affordable, sustainable insurance products, cooperating with policymakers to promote market-driven risk adjustments, and advocating for climate resilience (OECD, 2023).

In some Sub-Saharan African countries, insurance providers tend to take center-stage roles when implementing premium support programs[2] , which has impacted the scalability of these programs. The insurance industry's role becomes particularly crucial during the phase-out stage of premium support implementation, especially if its objective is to enhance climate risk insurance uptake at micro and meso levels. When the provision of premium support is phased out, the insurance sector remains central in upholding demand by ensuring transparent communication. While the insurance and reinsurance industry can play a crucial role in implementing premium support, it is important to strike a balance between harnessing the resources and expertise of the private sector and safeguarding against profit-driven motives that may compromise programs' social objectives or jeopardize the affordability of climate risk insurance solutions for the most vulnerable.

Besides actors in the insurance industry, wider private sector players can contribute to operationalizing premium support in several ways. On the one hand, intermediaries such as insurance and reinsurance companies, development banks, brokers, and multinational companies can finance adaptation measures by providing funding for premium support. On the other hand, other private sector players, such as the tech industry, risk modelers, hazard data providers, and mobile network

[1] UNFCCC. https://unfccc.int/topics/resilience/resources/adaptation-private-sector-initiative-showcasing-good-practice

[2] World Bank. https://www.indexinsuranceforum.org/project/acresyngenta-foundation-sustainable-agriculture-kenya-rwanda-tanzania

operators can contribute to premium support schemes by providing data requirements, and technological and payment solutions. Leveraging their technological expertise can reduce the overall cost of insurance premiums and make insurance more affordable for vulnerable populations. In addition, demand aggregators in collaboration with insurers could select policyholders who will receive subsidies based on the information contained in their client base. Vulnerable clients who are most likely to continue purchasing this product after the subsidy phase-out would be selected.

Although different private sector actors can meaningfully contribute to closing the protection gap through premium support, their current engagements are often limited to philanthropic, corporate social responsibility (CSR) contributions or as Seifert and Lindberg (2012) found - with the aim of distinguishing themselves from the competition. Although engaging in CRI or philanthropy for competitive purposes is not necessarily negative and can serve as an initial step towards addressing the protection gap, such approaches may lack sustainability and real impact. Hence, the private sector should go beyond mere marketing purposes and consider the long-term impact of their contributions.

Roles of other actors for ensuring transparent, fair, and impactful premium support

Engaging neutral and independent actors in the establishment of climate risk insurance programs is essential for ensuring transparency, fairness, and effectiveness. The development sector, donors, foundations and NGOs among others play pivotal roles in this process.

Currently, the development sector and intergovernmental organizations often lead the process and subsidize climate risk insurance programs in the most vulnerable countries (See examples: DRIVE, COAST, PICAP). However, such programs always have limited years of engagement, priorities of donors and funding allocations can shift. Increasing national governments´ leadership role is important to achieve sustainability of various PS programs. In this process, the development sector is well-positioned to offer technical assistance to design and implement such programs, while also building the capacity of local entities to increase their ownership.

A key consideration regarding the role of the donor countries or institutions, in addition to providing funding for premium support, is to ensure accountability through fund transparency, monitoring, and evaluations of the schemes, along with supporting the creation of such standards. In this process, local NGOs and CSOs can also play an important role by advocating for transparency, vulnerable communities' inclusion, and raising awareness about climate risk insurance for strengthening resilience.

Considering the above, the importance of collaboration between various actors, including government, insurance providers, private sector aggregators, and donors, in setting up successful premium support programs for climate risk insurance is crucial. Ownership and responsibilities should align with the nature of the scheme and its objectives while keeping in mind the goal of providing affordable insurance coverage to vulnerable segments of the population.

Roles and Ownership in Implementing Premium Support – Key Considerations

National governments can play a key role - National governments are well-positioned to lead premium support schemes, ensuring equitable access to climate risk insurance for the most vulnerable and addressing market inefficiencies.

Harness the contributions from the private sector - Apart from the insurance industry, financial resources, expertise and capacities of additional private sector players can be harnessed in developing affordable CRI products and establishing sustainable premium support schemes.

Development community to provide advocacy and technical support - The development sector plays a crucial role in promoting transparent, fair, and impactful premium support by providing technical assistance and capacity-building support.

Collaboration and alignment of premium support objectives across stakeholders is important - Ownership and the distribution of responsibilities among different stakeholders should align with premium support schemes' objective, prioritizing affordable and sustainable insurance coverage for vulnerable populations.

Sustainable Premium Support

The sustainable provision of premium support for climate risk insurance (CRI) is crucial for reaching the objectives of the premium support schemes – whether it be building insurance markets and ensuring the long–term viability of insurance solutions or safeguarding the most vulnerable. This sub-chapter explores key considerations for sustainable premium support, including identifying a clear overarching objective, developing multi-year schemes, and showing the value of CRI. Tailoring the strategy to align with the purpose of premium support is essential for effective implementation.

Defining the clear purpose and objective of premium support for a given context

As also discussed in the introduction of the paper, the rationale for providing premium support at micro and meso levels is twofold: increasing insurance uptake and safeguarding the most vulnerable (Panda et.al, 2020; Toepper & Stadtmueller 2022). Hence, it is critical to recognize that the

considerations for sustainability in achieving these objectives can significantly differ. Consequently, the strategy for implementing and structuring premium support programs should be tailored to align with the overarching objective of the premium support provision, whether it's primarily focused on increasing insurance enrollment or safeguarding the most vulnerable.

Subsidies should have a well-defined purpose, targeting specific market issues or equity gaps while having effective exit plans or sustainable financing strategies (Hill et al, 2014). Inadequate premium support structures have the potential to disrupt the efficiency of entire insurance mechanisms (Hazell & Varangis, 2020).

Stakeholder consultation has emphasized the critical importance of establishing a comprehensive framework during the initial stages of a project. This framework should articulate a clear strategy for the gradual phase-out of subsidies, delineating the support structure for premiums and specifying the duration of subsidy assistance. The overarching goal is to facilitate a smooth transition as both the supply and demand sides of the insurance market mature. By carefully planning the phase-out process, such frameworks should aim to foster sustainability in the market, ensuring that the insurance landscape can evolve organically as it becomes more robust.

Importance of multi-year/ longer-term premium support commitments and schemes

Case study analysis and the stakeholder consultations showed, that to ensure its continued success and achieving the objectives whether it is enhancing insurance uptake or protecting the most vulnerable multi-year commitments from premium support providers are crucial. Besides, this stability in funding and long-term outlook creates a secure environment for key stakeholders' engagement (MCII, 2016), the introduction of multi-year premium support schemes for climate risk insurance schemes is crucial for ensuring sustainability.

In pursuit of increasing the insurance uptake or enhancing the market, a structured framework must be established to determine the duration of premium support (Panda et.al, 2020; Toepper & Stadtmueller 2022). For the most economically disadvantaged and vulnerable communities, ongoing premium support may be necessary, so the establishment of a clear phase-out strategy and determining the duration can pose challenges. In such instances, premium support schemes must develop strategies to sustain and finance assistance in the long term. This sustained assistance could be linked to poverty indices or household income levels, incorporating a defined threshold. Consequently, premium support would continue as long as households fall below this specified threshold, ensuring that the poorest and the most vulnerable receive the necessary support. Once a

household surpasses this threshold, the subsidy mechanism would cease, reflecting an adaptive approach that aligns with the economic progression of the supported households.

The issue regarding the long-term commitments to providing the subsidy is observed in the context of small island development states in the Pacific when targeting the most vulnerable, where after providing premium support for a two-year pilot, funding is a concern for the Pacific Insurance and Climate Adaptation Programme (PICAP)´s shock-responsive social protection component. Although the parametric microinsurance product launched by PICAP was market-based, implementing partners recognized the need for premium subsidies to support the most vulnerable social welfare beneficiaries (UNCDF, 2022). In 2021, the World Food Programme (WFP) paid the premium cost to insure 275 social welfare recipients against climate risks; whereas in the second year, the Fijian government provided premium support for 2,000 social welfare beneficiaries. For the 2023-2024 cyclone season, discussions are underway and it is unclear whether enough resources can be allocated to continue subsidizing the product. Discussions are renewed every year.

Case Study 1: PICAP Support for Social Welfare Beneficiaries

Since 2021, the Pacific Insurance and Climate Adaptation Programme (PICAP) has collaborated with the World Food Programme (WFP) and Fiji's Ministry of Children, Women, and Social Protection to introduce a climate-risk insurance product for social welfare beneficiaries in Fiji. This specific insurance product aims to gradually protect the entire population covered by the national social protection system through a macro-to-micro insurance mechanism. The insurance contracts are made with the policyholder individually, and when payouts are triggered, they are directly transferred to the respective social welfare beneficiaries. Premiums are 100% by the government of Fiji.

The premium support scheme for social welfare beneficiaries is going into its third year and although the Fiji government is committed to scaling up the scheme and supporting more and more beneficiaries each year this is subject to annual discussions and the renewal of funding commitments.

Examples such as PICAP, where long-term premium support for climate risk insurance solutions cannot be guaranteed, can undermine the value of the scheme, even before the first payouts have been disbursed to the beneficiaries. Moreover, the fluctuation of government administrations could impact the continuity of such support. Hence, to ensure the sustainability of premium support for the most vulnerable, sources for multi-year premium support should be identified from the very beginning and commitments should be made accordingly with a long-term perspective.

Showcasing the value of CRI through premium support and thereby sustaining the supply and demand of CRI

Developing sustainable insurance products presents challenges and opportunities, including designing climate-conscious products (Nogueira, Lucena & Nogueira, 2018). Challenges include adjusting premium pricing or limiting coverage in high-risk areas where the climate risks are likely to increase. One example of effectively implementing premium support and making insurance sustainable is offering bundled insurance products and establishing a partial subsidy of the premium payment.

According to OECD (2015), climate risk insurance may be expanded by combining it with other insurance policies, such as fire insurance. Climate risk insurance products can also be linked with savings accounts. An illustrative example of bundling insurance and of beneficiaries paying part of the insurance premium is the World Bank's recent Horn of Africa project. The DRIVE project, which is targeting pastoralists, outlines a plan to offer partial premium subsidies for up to five years. The project integrates a drought index insurance product with savings accounts to ensure sustainability (World Bank, 2022).

Case Study 2: De-risking, Inclusion and Value Enhancement of Pastoral Economies in the Horn of Africa (DRIVE)

The project "De-risking, Inclusion and Value Enhancement of Pastoral Economies in the Horn of Africa (DRIVE)" aims to improve the resilience and sustainability of the livestock sector in the East African countries of Djibouti, Ethiopia, Kenya, and Somalia. Led by the World Bank and the reinsurance company ZEP Re, the project aims to commercialize livestock production and enhance climate resilience. According to the project partners, 60% of overall budget will be allocated to the premium subsidy.

Pastoralists are expected to contribute to the costs of the services provided and each project country will select the level of premium support to ensure demand and economic sustainability. The project will support a transition to progressively higher coverage of the premium costs by the beneficiaries over time. Additionally, the drought index insurance is linked with the savings account and the pastoralist groups will be incentivized to save in a savings account rather than in cash, with the project providing a performance-based savings bonus if they save a certain amount.

To ensure long-term sustainability and showcase the value of CRI, a strategic approach can involve proposing a gradual transition away from external premium support as done by the DRIVE project (See case study 2). As supported vulnerable communities progressively enhance their resilience and

adeptness in implementing effective risk management practices, they can gradually assume a greater portion of the insurance premiums. This transition empowers communities to actively participate in their risk mitigation efforts, fostering a sense of ownership and accountability. By gradually shouldering a larger share of the financial responsibility for insurance, communities contribute to building a sustainable demand for CRI. This, in turn, ensures that the insurance ecosystem remains viable and responsive to their evolving needs over time.

In the absence of such measures, the provision of premium support on insurance products can further exacerbate the moral hazard and can also undermine the effectiveness of premium support for promoting resilience and adaptation to climate change and can hinder efforts to build resilience and reduce vulnerability to climate change.

Sustainable Premium Support – Key Considerations

Identify a clear purpose - What is the overarching objective of the premium support provision? It's important to clarify and define the purpose and objective.

Implement multi-year schemes – Try to establish medium to long-term premium support through multi-year instead of single-year or one-off commitments.

Showcase the value of climate risk insurance over an initial phase – Premium support should help showcase the value of CRI for beneficiaries and for new climate risk insurance providers over an initial phase to build insurance markets with a sustainable supply of and demand for CRI solutions and adapted to the needs of the most vulnerable.

Long-term premium support for the most vulnerable – For the poorest and most vulnerable communities, premium support may be needed on a continued basis without a clear phase-out strategy. In these cases, premium support schemes need a strategy for how to finance and maintain support in the future.

Reaching the most Climate-Vulnerable with Premium Support

To reach the most vulnerable individuals and communities with premium support, the actors that organize the support must develop and implement a targeting strategy that addresses the structural obstacles to the adoption of climate risk insurance faced by marginalized groups.

Targeting for maximum subsidy efficiency

In 2018, Oxfam estimated that disasters resulting from natural hazards push approximately 26 million people to extreme poverty each year, driving increasing inequalities (Hillier, 2018). Numerous studies show that the demand for insurance products is price-sensitive: demand increases as premium prices decrease (Hill et al, 2014). As subsidized schemes tend to attract wealthier households (Cole et al, 2009), intentional targeting of vulnerable individuals may be necessary (Hill et al, 2014), particularly in contexts of restricted financial resources. Consequently, policymakers may set up targeted subsidy schemes that enable low-income individuals to afford climate risk insurance and therefore promote greater equity. To reach its goal and avoid perverse effects, a premium support scheme must include a targeting strategy that is clear and considers hurdles preventing women from purchasing insurance products. What's more, targeting requires access to databases allowing the identification of selected groups.

This section presents three ways to proceed with the targeting of premium support beneficiaries, as well as the data collection methods enabling them.

Socio-Economic Targeting of Premium Subsidies

The socio-economic approach aims at targeting the most vulnerable by providing different tiers of subsidies to categories of policyholders determined using criteria such as profession (economic sector), company size, income, or gender, amongst others.

Premium support may aim at favoring climate risk insurance uptake within a specific economic sector. For example, as seen in the previous section, within the framework of the COAST project, the World Bank and CCRIF SPC target fisherfolks and the fisheries sector in Grenada and St Lucia. Similarly, the World Bank targets pastoralists within the framework of the DRIVE program, to facilitate livestock trade.

Alternatively, premium support can be provided to Micro-, Small and Medium-sized Enterprises (MSMEs) regardless of their economic sector. Indeed, MSMEs represent roughly 90% of all businesses globally, and more than 50% of employment (Ganne et al,2022). According to the V20-led Sustainable Insurance Facility, "Worsening climate-related natural hazards will further drag down economic productivity and resilience if the MSME sector does not have adequate insurance protection and investment capacity" (Seifert & Ahmed, 2021). As demand aggregators and policyholders, MSMEs can be the recipients of premium support.

Climate risk insurance subsidies can also be attributed according to income levels: individuals earning below a set salary benefit from lowered premium prices. Subsidies can also be thought of as an adjustable instrument that would adapt to each policyholder's financial situation. In such a configuration, an increase in the policyholder's revenue would lead to a decrease in the premium subsidy. At present, the feasibility of such a measure is up for debate: taking into consideration the financial situations of thousands of clients remain a challenge.

Premium support targeting also has a gender aspect: extreme weather events affect women and men differently and tend to widen the financial gender gap. Indeed, women are more likely to lose income as their livelihoods are linked more closely with natural resources or they more commonly work from their homes, which may be damaged or destroyed. What's more, their caring burden may increase in such a context (Dudley et al, 2023). Consequently, the social norms preventing women's access to climate risk insurance should be studied in order to create gender-responsive subsidy schemes. In 2023, the Adrienne Arscht-Rockefeller Foundation Resilience Center (Arscht-Rock), in partnership with the Self-Employed Women's Association (SEWA), an Indian trade union, and the impact InsurTech company Blue Marble have put in place a gender-focused premium support scheme, for the launch the Extreme Heat Income Insurance. This parametric insurance product helps Indian women working in the informal sector recover wages lost due to climate-driven extreme heat events. It is designed to trigger payouts to replace the income of beneficiaries during a heat event. In the pilot phase, the premium will be fully paid by the program[3].

It should be noted that gender is a cross-cutting issue. Consequently, it should be taken into consideration regardless of the targeting method, and beyond targeting, throughout design, implementation and phase-out.

[3] "First-of-its-kind extreme heat microinsurance launched in India to protect women workers", Geraldine Henrich-Koenis Jessica Dabrowski, 2023: https://www.preventionweb.net/news/first-its-kind-extreme-heat-microinsurance-launched-india-protect-women-workers

Case Study 3: Pacific Insurance and Climate Adaptation Program (PICAP) - UN Women-led premium support scheme targeting women cooperative members

UNCDF Pacific and UN Women signed a partnership agreement in December 2022 to offer parametric microinsurance to beneficiaries under the Women's Resilience to Disasters (WRD) and Markets for Change (M4C) projects in Fiji. The partnership aims to develop better financial preparedness for Pacific women towards climate change and natural hazards, leveraging PICAP to result in faster post-disaster recovery, rebuilding livelihoods, and improved resilience levels. The project will cover 14 communities and involve 400 Fijian women beneficiaries from November 2022 until the end of 2024, providing a 50% premium subsidy in the first year and a 25% premium subsidy in the second year. This gradual reduction of the premium subsidy aims at easing women's access to weather index insurance and ultimately reaching a long-term adoption of this product among Fijian women farmers. What's more, this subsidy scheme is implemented alongside financial and insurance literacy training.

Operationalizing socio-economic targeting

The socio-economic approach may be implemented by extending pre-existing social protection mechanisms, combining public safety nets with private micro or meso insurance products. Yu and Aleksandrova (2021) argue that creating synergies between weather index insurance and social security devices can help farmers face a wide range of risks, from extreme weather events to slow onset processes. The expansion of the social protection system can be achieved in different ways. In a joint report (O'Brien et al, 2018), Oxford Policy Management (OPM) and the Overseas Development Institute (ODI) define the vertical expansion of social protection as "the temporary increase of the value or duration of an intervention to meet beneficiaries' additional needs (i.e. a top-up). (...). For such top-ups to be relevant the program, or programs, must have good coverage of the disaster-affected area, and also of the neediest households. (...). Non-beneficiaries who are affected will, of course, miss out so must be reached by other means". According to the same source, "Horizontal expansion is the temporary inclusion of a new caseload into a social protection program, by either extending geographical coverage, enrolling more eligible households in existing areas, or altering the enrolment criteria. This expansion is the premise of on-demand enrolment onto poverty-targeted programmes for example during economic shocks, i.e. where anyone who has temporarily fallen into poverty can be enrolled."

Expanding the social protection system through premium support therefore requires the leveraging of lists kept by ministries, governmental agencies, or NGOs. These include lists of social welfare beneficiaries, informal establishments, food voucher beneficiaries, cooperative members, and industry associations, among others. These data sources can be combined for greater coverage and

precision. OPM and ODI (O'Brien et al, 2018) have identified five criteria to determine the suitability of databases: "relevance (what variable they contain), completeness (how many records they have), currency (how up to date they are), accessibility (who can use them) and accuracy (data quality)".

Nevertheless, socio-economic categories can be flawed. Therefore, some individuals might estimate that they have been excluded from the subsidized scheme for no valid reason. For example, some premium support schemes exclude farmers involved in commercial value chains to focus on those who do subsistence agriculture. One might argue that making subsidies available to the first category of farmers can also be relevant, given that those who farm for business will tend to want to ensure their crops.

The specificities of the income of vulnerable individuals, such as income seasonality, condition their ability to afford insurance premiums. Income seasonality could be addressed through product bundling. Indeed, Hazell et al (2021) argue that "it is often better to market subsidized insurance through intermediaries that can create bundled packages, such as an FSP [Financial Service Provider], farmer cooperative, or agribusiness". Thus, subsidized climate risk insurance could be paired with single repayment loans - meaning loans that can be reimbursed in one installment at the end of a season – or products that increase productivity such as seeds or input.

Additionally, the interactions between formal and informal financial markets and methods of coping with risk influence the design of the premium support Scheme. Clarke and Dercon (2009) highlight the importance of considering how insurance provision should relate to safety nets, credit schemes, and existing informal insurance schemes. They recommend building on informal insurance systems such as self-help groups and funeral societies to distribute formal financial products that complement the informal insurance offer and relying on them to target poor individuals. Premium support beneficiaries lists could therefore be established in collaboration with these informal local groups.

Geographical Targeting of Premium Support

The geographical targeting of premium subsidies consists of providing support according to the severity of the damages related to climate change: individuals located in the zones most affected by climate change get the most support. This method can be used at the global level (to select countries), or within a country (to determine eligible areas). For example, the Uganda Agriculture Insurance Scheme (UAIS) is a public-private partnership between the government of Uganda, represented by the Ministry of Finance Planning and Economic Development (MoFPED), and the private sector. It provides a weather index insurance product that covers droughts and excessive rainfall. Within this framework, the Ugandan Government subsidizes premiums by 50% for farmers

located in non-high-risk areas, and by 80% for those located in disaster-prone areas. However, it should be noted that these subsidized premiums are available for a set list of crops[4].

The geographical targeting method can also generate perverse effects. Indeed, Ben-Shahar and Logue (2015) have observed that in the United States, it has led to excessive risk-taking and real-estate over-development in storm-prone coastal areas. Such perverse effects must be taken into consideration.

Operationalizing geographical targeting

The geographical targeting of premium support requires access to data from satellite imagery, weather stations, and rain gauges. Kramer et al (2019) argue that there is a tension between the use of weather stations and rain gauges instead of satellite data. On the one hand, weather stations are increasingly set up at a lower cost but usually are not equally distributed throughout the territory and provide different levels of side-specific historical records (for example, new stations will have none). On the other hand, gridded satellite data are available for longer periods of time at lower costs, but tend to be less precise, as they provide estimates of weather conditions.

Behavioral Targeting of Premium Support

Müller, Johnson, & Kreuer, (2017) highlight that the implementation of weather index insurance can cause maladaptive environmental effects, including unsustainable agricultural practices such as overgrazing and increased use of fertilizer and pesticides. This tends to impact the rural poor significantly, as their livelihoods strongly depend on ecosystem goods and services. Therefore, Yu and Aleksandrova (2021) recommend integrating a comprehensive environmental impact assessment throughout the design, implementation, and evaluation of index insurance schemes. They also suggest exploring opportunities for "building ecological resilience through insurance schemes for nature-based solutions".

Within the framework of a premium support scheme, incentives are needed to encourage insured households or institutions at the meso-level to take climate change mitigation activities and counter the potential perverse effects generated by subsidies. This could be achieved by linking insurance premiums to adaptation and mitigation activities: premiums could be reduced when such activities are undertaken by policyholders (Wright, 2013; Carter et al. 2016; Wason et al., 2020). Such a measure could encourage ecological behaviors such as land and coral reef restoration and may also help reduce insured losses.

[4] Agro Consortium Uganda: https://aic.ug/our-services/weather-based-index-insurance/

Operationalizing the Behavioral Targeting of Premium Support

Such a targeting would require an extensive monitoring and evaluation system. How to ensure that the conditions linked to behavior are verified and which stakeholder would pay for this remains open questions. Furthermore, this method may lead to increased inequalities between those who have the financial means to adopt such behaviors and those who do not.

Reaching the Most Climate-Vulnerable with Premium Support – Key Considerations

Targeted subsidies in a context of resource constraints – In a context of limited financial resources, policymakers may favor targeted subsidies over universal subsidies for the sake of equity.

Determine eligibility and identify the most vulnerable to receive premium support – Identifying the most vulnerable to receive premium support can be based on different eligibility criteria or a combination of them:

- Socio-economic criteria (economic sector, income, company size)
- Geographical criteria (regions more affected by climate change get the most support)
- Behavioral criteria (policyholders taking risk reduction measures receiving support)

Apply a gender lens to avoid bias – Premium support targeting must be considered through a gender lens to benefit men and women equally. For any targeting decision, gender implications should be assessed (the choice of recipients from a certain sector or mapping may lead to an inherent bias towards one gender).

Consider the availability and quality of data for targeting – Premium support targeting relies on the availability and quality of information and datasets (list of beneficiaries and satellite imagery). Transparent Premium Support

The smooth running of a premium support scheme depends on stakeholders' ability to collaborate effectively in the long term. In this respect, communication and access to information are particularly important.

Why should premium support schemes be transparent?

Transparency can be defined as "Clear, open and accessible disclosure of plans, processes, decisions and actions" (Swithern,2023). Transparency fosters trust: stakeholders are more inclined to trust each other when information is clear, easily accessible and regularly updated.

Transparency also enables the subsidy provider's accountability, which can be defined as "being responsible for using power and resources properly, taking into account the views of those affected by decisions and actions, and being able to be held to account for the consequences of those decisions

and actions". (Swithern, 2023). This aspect is particularly important for donors who must abide by the legal obligation to report the use of funds to the taxpayer. What's more, the NGO Transparency International highlights that the risk of corruption is heightened in the wake of a natural disaster. Thus, " shining a light on the inner workings of index-linked policies is the single easiest way to tackle the risk of corruption at the policymaking level" (Hewitt Jones, 2018).

Moreover, a lack of information about premium prices might lead to an inaccurate evaluation of the insurance product's value by beneficiaries. For example, farmers who are unaware that they are buying insurance at a lower price may not anticipate the price increase and consequently, may not be able to keep purchasing the insurance product after subsidies phase out.

What should be communicated?

Within a transparent premium support scheme, the information relating to key premium support features is easily available to the subsidy provider, beneficiaries and all other parties involved. These include:

1. The funding source.
2. Methods employed for selecting both individuals who will benefit from reduced premiums and the insurers that sell subsidized products.
3. The percentage of premium covered by the subsidy.
4. The total budget allocated to the scheme.
5. The duration of the project.
6. The total number of beneficiaries reached.

How to ensure premium support schemes' transparency?

The premium support owner must tailor its communication strategy to local contexts to ensure wide dissemination of the scheme's key features. Indeed, the low levels of financial literacy, financial inclusion, and insurance awareness are all elements influencing the communication around insurance products and premium support schemes. Clarke and Dercon (2009) recommend relying on informal mutual assistance groups to raise vulnerable people's awareness of formal insurance. Furthermore, Matias et al (2018) point out the crucial role of community-based organization leaders, as they can convey messages relating to insurance knowledge efficiently. Premium support awareness raising could therefore be integrated into financial education activities rolled out at the community level.

Additionally, access to information could be facilitated through an online platform hosted by an institution that would play the role of a neutral convener. This tool would gather the above-mentioned key features of micro and meso-level premium support schemes set up around the globe in a single place, making it easier to access for stakeholders and the public at large.

Transparent Premium Support – Key Considerations

Why should premium support schemes be transparent? – Transparency is important:

-To showcase value for the end beneficiary.

-To promote trust and accountability.

What should be communicated? – Best practice to communicate:

-The funding source.

-Criteria and conditions for the provision of premium support.

-The value of premium support (percentage of premium & total budget for premium support).

-Recipients of premium support (number of beneficiaries reached).

-Duration of premium support commitment.

How to ensure premium support schemes' transparency?

-Clear communication with beneficiaries publicly.

Online platform sharing relevant information and aggregating information on premium support schemes around the world.

6. Way Forward

The presented working paper builds upon the conceptual framework for premium support for climate risk insurance solutions, examining its rationale and providing considerations pivotal to its implementation at micro and meso levels. By gathering insights from existing literature, analyzing case studies, and engaging with the CDRFI community, four interconnected dimensions have emerged and been thoroughly analyzed. The findings outlined in the working paper have been the result of collaborative efforts and as an ongoing process paper, remains receptive to the evolving discussions. Specifically, discussions and feedback within the framework of the upcoming COP 28 in Dubai will shape and refine main arguments to be finalized in a policy report.

This working paper provides an overview of the key considerations that are important for setting up a climate risk insurance premium support scheme. There is, however, not yet enough evidence to provide more specific guidance on the exact design.

This paper constitutes a first attempt to close this gap, albeit without claiming an exhaustive representation of existing debates and projects on the topic. The objective of this paper is foremost on discussing the main aspects to consider for the CDRFI community and different stakeholder groups when implementing premium support, highlighting experiences of what was already done, but also what challenges persist when designing and implementing a successful pro-poor micro or meso-level premium support scheme. As more premium support schemes are being implemented and studied over time, additional research is welcome and necessary.

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