

Roadmap to Development of a Regional Risk Transfer Facility for CAREC

Working Paper for Central Asia Regional Economic
Cooperation (CAREC)

TA-9878 REG: Developing a Disaster Risk Transfer Facility in the Central Asia Regional
Economic Cooperation Region

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List of Abbreviations

ADB	Asian Development Bank
ADC	Aggregate Deductible Cover
AIFC	Astana International Financial Center
ARC	African Risk Capacity
CAREC	Central Asia Regional Economic Cooperation
CARICOM	Caribbean Community
CCRIF	Caribbean Catastrophe Risk Insurance Facility (now CCRIF SPC)
CRF	CAREC Risk Facility
CSO	Civil Society Organization
DFA	Dynamic Financial Analysis
DRFI	Disaster Risk Financing and Insurance
DRM	Disaster Risk Management
ESG	Environment, Social, and Governance
GDP	Gross Domestic Product
GMTN	Global Medium-Term Notes
ILS	Insurance-Linked Securities
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PCRIC	Pacific Catastrophe Risk Insurance Company
PCRIF	Pacific Catastrophe Risk Insurance Foundation
SEADRIF	Southeast Asia Disaster Risk Insurance Facility
SPC	Segregated Portfolio Company
SPV	Special Purpose Vehicle
TA	Technical Assistance
UNDP	United Nations Development Program
UNDRR	United Nations Office for Disaster Risk Reduction
WB	World Bank

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Executive Summary

This report considers the opportunities, options, and considerations for developing a risk facility that will provide regional risk transfer for the Central Asia Regional Economic Cooperation (CAREC) member countries. Regional collaboration on risk transfer can offer efficiencies in the cost of financing, support greater risk responsibility and ownership, and produce services and solutions developed to address participating countries' challenges in disaster risk management including, reduction, financing and insurance (DRFI). This report is part of the Asian Development Bank (ADB) regional technical Assistance (TA-9878) project designed to help CAREC member countries strengthen their disaster risk management strategies and public sector budget resilience.

The experiences of creating and operating the existing regional risk facilities in Africa, the Caribbean and Central America, the Pacific islands, and Southeast Asia provide insights into developing a CAREC Risk Facility (CRF). To run such facilities and offer fairness of pricing requires a full understanding of hazard, exposure and vulnerability, catalyzing a better understanding and probabilistic modelling of disaster risk. Key additional lessons focus on two main categories: (i) ensuring the facility's products' affordability and overall sustainability, and (ii) promoting country stakeholders' ownership over the regional initiative. Lessons relating to these overarching themes, including factors contributing to success and challenges hampering progress, have informed our recommended options and considerations for developing a CRF.

The CRF can serve one or several functions, depending on countries' needs in DRFI, the international cooperation and public and foreign relations policy goals of the countries and funding partners, and countries' levels of commitment to participate in the regional risk facility. The CRF could serve the same purpose as the existing regional facilities in other regions, i.e., offering countries insurance coverage and pooling their disaster risks. Alternatively, it could be a risk clearing house (an advisor/facilitator on appropriate risk management, risk reduction and/or risk transfer structure and placement), or an issuer of insurance-linked securities (e.g., disaster relief bonds). Additionally, the CRF can provide ancillary services to support CAREC member countries in developing their capacities for undertaking risk-informed decisions on disaster risk management (DRM), disaster risk reduction (DRR) and adaptation measures and DRFI supporting the CRF's and/or complementing the countries' own programs.

After the CRF's function has been determined, it is necessary to work towards creating a legal entity that can operate and fulfill the CRF's envisaged purpose. In coordination with key advisors with relevant expertise in various fields such as catastrophe modeling, insurance business operations, and reinsurance, the facility's governing body must consider and finalize decisions on several factors to establish this entity. These factors include the entity's country of domicile or recognition, legal nature, ownership structure, and corporate governance structure. At this stage, the CRF's initial product offering, which DRFI modeling exercises will primarily inform, and sources of the facility's initial capitalization must also be agreed upon.

Subsequently, it is necessary to finalize decisions that will allow the CRF's legal entity to operate and fulfill the CRF's functions in a viable, efficient, effective, and financially sustainable manner. Decisions made in this stage are crucial since, without an operational structure, the created entity of the CRF will not provide the relevant services for the CAREC member countries. At this stage, the task of designing the CRF's operational structure is done to ensure that, at the onset, the facility is viable, able to fulfill its function, and, in the future, can

expand its range of product offerings. Identifying alternative sources of capital, developing a reinsurance and Insurance-Linked Securities (ILS) strategy to protect its capital, and crafting a country engagement program are likewise crucial as they help promote the facility's financial and overall long-term sustainability. If offering insurance coverage directly, the CRF will also need to develop a risk pricing strategy and a reinsurance strategy to protect its core capital such that can provide affordable insurance sustainably over the short, medium and long-term. That reinsurance strategy may include ILS as appropriate to need and market condition.

The report concludes by presenting a roadmap for the implementation of the CRF. Early on, the ADB must confirm its role in the regional initiative, which is highly likely to be the role of the lead implementation advisor. Significant work has already been done under the existing technical assistance (TA) project to model the risks that member countries face from flood, earthquake and infectious disease and their financial capability to respond to disaster events. Engagement with stakeholders in each CAREC member country should continue to re-confirm each of their needs, re-assess the results of initial DRFI modelling exercises, and obtain countries' expressions of interest to participate in the CRF. Necessary steps must be taken to convene the first of a series of meetings of the facility's Steering Committee, the CRF's highest governance body overseeing progress in the creation of the facility and establishment of its operations.

Section 1. Introduction

1.1 Technical Assistance Project

1. This report is part of the Asian Development Bank (ADB)'s Technical Assistance (TA-9878) project¹ to Central Asia Regional Economic Cooperation (CAREC) member countries² to strengthen their disaster risk management strategies and public sector budget resilience. The project has developed disaster risk profiles for each country by modeling losses from floods, earthquakes, and infectious disease outbreaks in each country. The design of a regional risk transfer program or facility to support the management of this disaster risk is now being investigated.
2. Regional collaboration on risk transfer can provide efficiencies in the cost of financing. It can also support greater risk responsibility and ownership, producing services and solutions developed in consultation with member countries, reflecting their disaster risk finance and insurance (DRFI) priorities.
3. Regional disaster risk transfer facilities for sovereigns across the world exemplify collaboration's utility and benefits. Many of these facilities are different in their characteristics and functioning to meet the identified needs of member governments. These indicate the possible role and function of the CAREC Risk Facility (CRF).

1.2 Structure

4. This report considers the opportunities and options for developing a CRF to provide regional risk transfer for CAREC member countries. It includes a review of best practices and lessons from other regional facilities; points for consideration in the CRF's creation and operations stages; and recommendations on the potential roles of various stakeholders, including the ADB.
5. The structure is as follows:
 - i. Section 2 identifies lessons learned from the existing regional risk facilities,
 - ii. Section 3 discusses options for a CRF, including its potential functions and other matters for consideration when planning for its creation and operations; and,
 - iii. Section 4 concludes with a proposed roadmap toward establishing the facility.

¹ <https://www.adb.org/projects/53198-001/main>

² CAREC member countries are Afghanistan, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, People's Republic of China (Inner Mongolia Autonomous Region and Xinjiang Uygur Autonomous Region), Tajikistan, Turkmenistan, and Uzbekistan. ADB placed on hold its assistance in Afghanistan effective 15 August 2021.

Section 2. Lessons for CAREC from Regional Risk Facilities

6. The existing regional risk facilities in Africa, the Caribbean and Central America, the Pacific islands, and Southeast Asia provide direct lessons for developing a CRF for the member countries of CAREC. In this report, key takeaways have been identified, explored further, and grouped into two main categories, both of which refer to factors contributing to the successes of the existing regional facilities.

7. The categories are:

- (1) lessons in ensuring product affordability and the facility's overall sustainability and
- (2) lessons in promoting country stakeholders' ownership over the regional initiative.

These lessons informed our recommended options or considerations for developing a CRF, as discussed in Section 3.2.

Takeaway #1: Aim to balance product affordability with the facility's longer-term financial sustainability

8. Due to the typical start-up costs associated with setting up an insurance company and, in particular, a regional risk facility serving multiple countries, all existing facilities have depended on donor funding as start-up capitalization, whether directly as seed money or indirectly as premium subsidies. This donor support has made participation in these regional initiatives more affordable for their participating countries.

9. However, there is no assurance of the perpetuity of donor funding. All existing facilities are run to operate as sustainable, actuarially sound insurance companies, without the need of regular additional capital injections to subsidize inadequate original premiums, high expenses and/or costly reinsurance. Some facilities did benefit from some grant-funded expense subsidization in early years, and all may need additional capitalization if they grow significantly and/or expand their product range.

10. Most facilities reinsure themselves to a higher level of modelled safety than a similar private insurer, but they are vulnerable to repeated retention losses and to reinsurance price shock. In such circumstances, if additional capital options are not available and/or reinsurance is too expensive, then participating countries will bear the costs as manifested in higher premiums, membership fees and potentially levies. Higher prices disincentivize countries from continuing participation in a risk facility, potentially compounding the issue

11. Therefore, existing facilities have explored alternative options to donor financing. These alternatives are described in further detail in Section 3.2 and presented as considerations when deciding on matters relating to the creation and operations of a CRF. The options show that, in general, financial sustainability—and a gradual shift from donor financing to “country ownership”—could be achieved by:

12. **Creating modelling platforms and further developing probabilistic climate and disaster risk modelling capacities to enable member countries to optimize DRR and DRF strategies.** Models have been built under the existing TA for flood, earthquake and infectious disease. The models created are stochastic, that is they consider not only a few set scenarios and what happens on average, but rather attempt to model the full range of potential outcomes and so allow more robust cost benefit analyses to be formed. The model developed for this TA

used the best available stochastic hazard data, combined with robust assumptions of exposure and vulnerability. For flood, models conditioned for likely future climate have been produced. A Disaster Risk Management Interface (DRMI) has been developed to enable countries to review the model results directly, check sensitivity to climate and exposure growth and demonstrate the cost and impact of different DRF options both on average and in response to extreme events. Modelling of disaster risk reduction measures has also been performed showing the cost benefit of each, also visible to member countries numerically and graphically through the DRMI. The models underpinning the DRMI can, subject to further funding, be taken in house by member countries, enhanced by more detailed, granular data and so form the basis of a national catastrophe model.

13. The models currently developed, and any future enhancements, provide a greater understanding of the hazards faced, who and/or what is exposed and their vulnerability to hazard events of different intensities. The assumptions within the models are transparent, and with future investment will allow models to evolve as new evidence emerges, society and infrastructure evolves and the climate changes. Such models also allow the structuring of financial products and, importantly, the objective evaluation of such products.

14. **Creating and implementing well-designed capitalization plans ensuring the appropriate level of risk retention and risk transfer policies.** Transferring the excess risks to the reinsurance market at a reasonable price is one common way the existing risk facilities have sought access to additional capital. The Caribbean facility has demonstrated that it could also transfer risks to investors in the capital markets by issuing insurance-linked securities, such as (initially) swaps and later a catastrophe bond; this shows that the facility is not dependent upon the reinsurance market, enabling it to explore capital markets should reinsurance prices increase. Other funding sources to build necessary capital for the facility to operate and retain a certain proportion of the risk leading to more effective risk transfer solutions include participation fees payable on joining, and investment income generated from the facility's asset base.

15. These funding strategies can be designed and implemented effectively with the contribution of technical advisors, which include reinsurance brokers and other experts in fields such as catastrophe modelling, pricing, underwriting, catastrophe risk, and dynamic financial analysis.

16. **Increasing member countries' perceived value or desirability of the facility.** Country governments should be able to report to relevant stakeholders that they receive sufficient benefits and services from the facility, monetary or otherwise, compared to the cost of participation. Doing so encourages governments to continue with or initiate their membership (and thus, their annual premium payments and participation fees, if applicable), which is necessary for any facility to continue providing DRFI benefits to the country and its communities. Generally, improving desirability and value can be achieved in three ways.

17. **The first is by lowering disaster risk transfer costs, thus making products and services more affordable.** Lessons from other regions have shown that reducing operational and (re)insurance costs is achievable when a sufficient number of countries participate. Operating costs can be minimized by outsourcing most day-to-day activities to third-party service providers. For example, CCRIF SPC (formerly the Caribbean Catastrophe Risk Insurance Facility) outsources most operational services including insurance company operational management, disaster modelling, financial modelling, legal and accounting services, and public relations. A core team of four staff handle country engagement and oversee policy and strategy development and

implementation. More favorable (re)insurance costs can be negotiated with sound technical pricing of the (re)insurance portfolio, a diversified regional, hazard and product risk portfolio, and the expertise of an experienced reinsurance broker. Whenever sensible, it is preferred for the realized price savings to be passed on to the participating countries,³ most commonly in the form of discounted premiums, or to increase the resilience of the company to mutual benefit by increasing retained capital.

18. **The second is by being responsive and innovative, developing new insurance products to respond to member countries' practical and political needs.** CCRIF SPC, in particular, has a track record of developing products outside its core tropical cyclone and earthquake products, adding new hazards and product lines, including excess rainfall, livelihood protection and infrastructure protection, and even policies designed to encourage sustainable fisheries. It has also refined its core offering, for example, by introducing an Aggregate Deductible Cover (ADC)⁴, which allows for a partial return of the risk transfer premium if an event falls just below the intensity required to trigger the protection and/or if a state of emergency is declared. The ADC mitigates basis risk concerns, allowing countries to receive a recovery for most damaging events.

19. **Third, the perceived value could be raised by introducing value-added knowledge transfer services and products, thus constantly improving the facility's current offerings.** Providing countries with ancillary services and products, such as a strategic capability-building program and tools and technology for data and information sharing and disaster risk management decision-making, is common among the existing regional facilities. Consistently giving governments and other facility stakeholders a positive client service experience through convenient and efficient customer-facing processes can likewise improve desirability. An example could be undertaking an Economics of Climate Adaptation (ECA)⁵ study, analyzing and proposing a variety of specific adaptation measures in a systematic way. Well targeted, early risk reduction investments to improve climate resilience cost less and are generally more effective than complex post-disaster relief efforts. Such studies form the basis to prioritize cost-effective risk preparedness and response measures.

Takeaway #2: Promote local/regional stakeholders' ownership over the facility

20. Establishing and building country and regional stakeholders' legal and political ownership of the facility is necessary for its success. A strong sense of ownership prompts country and regional representatives to govern the facility effectively, make prudent decisions relating to its day-to-day operations and long-term sustainability, and strive to maintain the CRF's relevance. These representatives must feel that their country governments can identify themselves as equally valuable co-partners of donors and advisors in the development of the initiative.

21. Empowering countries and their representatives and garnering their support for the regional facility can be achieved by:

22. **Engaging local or regional stakeholders in the facility's decision-making processes in the creation and operations stages.** Relevant government officials, such as those from the Ministries of Finance or the Disaster Risk Management Agencies, must be actively involved in the

³ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries: Where Do We Go From Here?* Available at <https://www.wri.org/research/future-disaster-risk-pooling-developing-countries-where-do-we-go-here> .

⁴ Bottom of page: https://www.ccrif.org/aboutus/ccrif-spc-payouts?language_content_entity=en

⁵ <https://eca-network.org/>

decision-making regarding the CRF's creation and operations. This is commonly achieved by formalizing member countries' participation in the facility's decision-making bodies, such as the Steering Committee and the Board of Directors. This can be supported by promoting a highly consultative relationship between the facility's advisors and the country representatives and actively engaging the region's supra-national body (in this case, the ADB and the hosted CAREC Program, in full co-operation with other development actors including the World Bank, the United Nations Development Program and the United Nations Office for Disaster Risk Reduction).

23. Whenever possible and beneficial for the facility, non-government regional and local stakeholders (e.g., supra-national bodies, academia, local data providers, communications consultants) should likewise be engaged in a CRF's creation and operations. These organizations or individuals may be considered partners to reflect public-private cooperation but need not necessarily be granted governance or decision-making capacities. Instead, they may hold other responsibilities crucial in creating and operating the facility, such as performing secretarial duties, providing local data necessary for product design, and crafting and implementing localized communications and marketing plans.

24. **Providing capacity-building support for the facility's champions within country governments.** Government representatives with decision-making positions or other similar active roles within the CRF may have the added responsibility of "championing" the regional initiative, which entails sharing relevant knowledge about the facility with their constituents and other government officials. This responsibility is essential as joining such an initiative may require sovereigns to incur substantial financial and even political costs⁶; these costs, together with the value of participating in a CRF, should be balanced and considered by governments before committing to participate. Hence, government champions should have a clear and sound understanding of the costs, benefits, limitations, and opportunities of joining a CRF, ideally via a tool which clearly demonstrates the cost and benefit of different insurance options. Armed with this information, they can help manage stakeholders' expectations about what the facility can and cannot offer.

25. Country champions must be given sufficient knowledge about the objectives of a CRF (e.g., the provision of immediate liquidity instead of funding for longer-term infrastructure reconstruction arising from some types of disaster events) and its role in a broader national strategy in DRFI, it is not the panacea for all challenges related to disaster risk financing. They should know how the facility's product (e.g., parametric insurance that issues payouts when a trigger is met) and ancillary services (e.g., capacity-building programs, decision-making support tools, etc.) bring added benefits to participating countries. More importantly, country stakeholders should understand the limitations of potential CRF products and services, for instance basis risk⁷ issues that may not be wholly eliminated from parametric insurance. To illustrate the importance of this lesson, some countries that have joined the pool facilities have periodically failed to renew participation due to unmet expectations about payouts and concerns about basis risk.⁸ In at least one example, the decision to cancel insurance (made on political grounds after an election due to perceived lack of value) preceded a very large, powerful hurricane hitting the country, causing

⁶ World Bank, 2017. *Sovereign climate and disaster risk pooling: World Bank technical contribution to the G20*. Available at: <https://openknowledge.worldbank.org/handle/10986/28311>.

⁷ Basis risk is the divergence between the real-world experience of the insured and the performance and calculation of an index.

⁸ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries*.

much damage and, if the country had remained a member, would have generated a substantial claim pay-out; the country rejoined the following year.

Section 3. Options for CAREC's Regional Risk Facility

26. Establishing a CRF begins with the CAREC countries, implementing advisors, and donor partners agreeing on the regional initiative's objectives. Upon determining the CRF's short- and long-term goals, the parties would then decide on the scope of its functions and programs (presented in Section 3.1) and work toward establishing its legal entity and operations (described in Section 3.2). There are several points to consider when deciding on matters relating to the facility's creation and operations (presented in Section 3.3 and Section 3.4). After these matters are agreed on, the decision-makers can progress toward crafting plans to implement the CRF.

3.1 Functions of the CRF

27. The CAREC facility can serve one or several of the following functions. Determining its function and form would be informed by factors including countries' needs in DRFI, international cooperation and public and foreign relations policy goals of the countries and funding partners, and countries' levels of commitment to participate in the CRF.

28. **Underwriter of risks.** The CRF could be created to serve the same purpose as the existing regional facilities—to offer countries insurance coverage and pool their disaster risks. Pooling these risks achieves the benefits of economies of scale and diversification that countries cannot acquire through standalone insurance policies purchased bilaterally through international markets. The facility would typically be a licensed and regulated insurance company in an established insurance domicile (reflecting its legal status and purpose as a development insurance facility serving public purposes), to which countries would transfer a portion of their risks in exchange for premiums. Like any other insurer, the company would provide members with ancillary services and transfer some of its risks to the reinsurance markets and, possibly, capital markets through insurance-linked securities (ILS).

29. **Risk clearing house.** The CRF could be a risk clearing house, which does not necessarily underwrite or retain any disaster risk. The facility would then act as a fronting agent facilitating insurance and capital markets placements for the participating countries. This intermediary would streamline the process of placing disaster risk, reducing costs and the settlement and operational risk from handling several transactions among multiple parties. With this arrangement, the facility can achieve economies of scale, which puts it in a better position to negotiate lower (re)insurance costs.

30. **Issuer of Insurance Linked Securities (ILS), e.g., Disaster Relief Bonds (DRB).** ILS are financial instruments whose values are determined by a defined insured loss event, and which enable risk transfer via risk securitization. A well-established form of ILS, traditional catastrophe bonds, are designed to transfer insurance risk from a client to the capital markets in a form familiar to investors. Normally a transformer company, a special purpose vehicle (SPV) is created to facilitate that process. The sponsor pays premiums to the SPV in return for insurance coverage (transacted as either insurance or in derivative form as a swap). The SPV capitalizes and protects itself via a cat bond or bonds issued to investors. The investors' capital is at risk, the pay-out terms of the cat bond mirror the insurance terms that the SPV offers the sponsor. The SPV invests bond proceeds in risk-free investments held in a collateral account, Cat bond investors receive the sum of the premium received by the SPV and the risk-free investment returns earned by the

SPV, leaving the SPV in a net neutral position. Over 90% of catastrophe bonds pay coupon payments per quarter, the remainder monthly or half-yearly⁹. Upon the occurrence of a pre-defined event, some or all of the principal is released to the sponsor and future coupon payments cease or are proportionally reduced. If no pre-defined event occurs, the collateral is liquidated at the end of the catastrophe bond term and returned to investors.¹⁰

31. A DRB is an evolution of a catastrophe bond, where if a severe event occurs, the use of the money released is explicitly targeted at disaster relief and early recovery. A DRB would typically form a part of a package of measures, which could potentially include Policy Based Loans (PBL), Contingent Disaster Financing (CDF) and disaster insurance aimed at increasing resilience and improving the speed and effectiveness of disaster response.

32. The ADB could provide a platform that allows the issuance of catastrophe and disaster relief bonds without the necessity of creating an SPV. For example, the ADB could provide insurance to CAREC members or CRF via a swap arrangement, but then itself issue a cat bond to hedge the swap, using its own capital rather than that of an SVP.

33. This approach reduces many of the frictional costs of catastrophe bonds, thus improving affordability. In the absence of a CRF entity and/or an associated SPV established at CAREC member countries' request, the ADB may be able to facilitate one or more bonds branded for the benefit of CAREC countries using the applicable platform, either individually or collectively.

34. **Provider of other related value-adding services.** The CRF can provide additional benefits to support CAREC member countries in developing DRM and DRFI strategies supporting CRF programs. These services would complement the DRFI coverage offered by the facility.

35. A service common among all existing regional facilities is capacity-building activities that facilitate peer learning among member countries, best practices sharing, and knowledge transfer from technical experts to country and regional stakeholders. With a carefully crafted and well-implemented capacity-building program, in-country expertise in DRM, DRFI, and, more broadly, risk management, public financial management, contingency planning, and urban planning/management can be built over time.

36. The CRF can provide members with other forms of support for their decision-making processes on DRM, DRR and adaptation measures, and DRFI. It can assess the current levels and ranges of countries' capabilities in DRM, evaluate the robustness of their DRFI strategies, and thereby implement additional customized components of a capacity-building program tailored to the stakeholders' current capabilities and needs. Additionally, a CRF could enable the development of standardized decision-making tools, such as a national or regional catastrophe risk model, whose utility could go beyond insurance purchase. For instance, the Africa facility developed a software platform that serves as a risk quantification and early warning tool¹¹, while in the Pacific, a geospatial database was compiled for its member countries' hazard and exposure data.

37. Given that the CRF will be a region-wide initiative, it would likewise serve as an additional avenue to promote effective collaboration and dialogue on DRM, risk reduction and adaptation, and DRFI within the region and individual countries and with the advisors. This critical platform

⁹ <https://www.air-worldwide.com/publications/air-currents/2020/modeling-fundamentals-so-you-want-to-issue-a-cat-bond/>

¹⁰ WTW, 2022. *Disaster relief bonds interim report: Working paper for CAREC.*

¹¹ <https://www.arc.int/africa-riskview>

for dialogue helps countries better understand their disaster risks and vulnerability, the potential strategies for managing them, and the available tools and capabilities to aid in implementing these strategies effectively.

3.2 Main Stages of Facility Development: Creation and Operations

38. After the CRF's function has been determined, aspects relating to how a facility can be established and run must be agreed upon. These aspects, listed in this section, are categorized into decision points that fall under either of two main stages of development, namely Facility Creation and Facility Operations.

Stage 1: Facility Creation

39. This stage comprises decision points necessary to create the facility's legal entity, which facilitates country membership; operates on Environment, Social, and Governance (ESG) principles¹²; and is independent of political processes. These overarching DRFI development objectives are the first decisions to be agreed upon since a legal entity that can operate and fulfill the facility's function must first be created. The decision points necessary for the creation of this entity are:

- a. Its country of domicile or recognition;
- b. Its operational entity or legal nature, including its ownership structure;
- c. Sources of its initial capitalization;
- d. Its corporate governance structure;
- e. Its key advisors; and,
- f. Its initial product offering as informed by DRFI modeling exercises.

Stage 2: Facility Operations

40. This stage comprises decision points necessary for the established legal entity to operate and fulfill the facility's functions in a viable, efficient, effective, and financially sustainable manner. This stage is equally important as the first since, without an operational structure, the created entity will not provide the relevant services for the CAREC member countries. The decision points necessary for the establishment of the CRF's operations are:

- a. The facility's operational structure;
- b. Alternative sources of capital required for longer-term financial sustainability;
- c. The evolution of its products; and,
- d. Its country engagement program, which includes providing capacity-building for country stakeholders to build support from countries.

41. For each of the points mentioned earlier, we share information that CAREC member countries and other decision-makers must consider in order to arrive at well-informed decisions. These points for consideration include regional sovereign risk facilities' best practices and lessons

¹² ESG is a framework with a set of criteria evaluating a company's performance in the areas of environmental (how the company performs as a steward of natural resources), social (how a company treats its various stakeholders) and governance (how a company manages business ethics, leadership, and internal controls). It is increasingly used by stakeholders to evaluate whether a business is operating responsibly and sustainably.

learned; the challenges and opportunities CAREC member countries may face; and valuable insights gleaned from expertise in developing and operating risk-pooling facilities.

3.3 Considerations for the Facility Creation Stage

42. This sub-section lists and describes in more detail the decision points under this stage and presents relevant commentary, such as potential legal and regulatory challenges and best practices from other facilities.

3.3.1 Country of domicile

43. The jurisdiction hosting the CRF's legal entity may be the first decision to be made by the CAREC member countries, especially if participating states have a strong preference for it. Innovative legal structures and regulatory relationships that support DRF objectives have been put in place for the operation of existing sovereign risk pools such as PCRIC, CCRIF, ARC and SEADRIF. This is because sovereign risk pools generally operate as non-profit entities, to serve a mission or purpose for the benefit of member countries and not as commercial insurance companies. However, to ensure that such entities are not operated on political principles, they operate in "partnership" with insurance regulators to apply best practices to their operations and to ensure international standards of financial rigor and reporting transparency.

44. Agreeing on the jurisdiction is critical due to its potential political, public, and foreign relations implications and the country's laws and regulations. Regulations affect how the CRF's legal entity could be set up and recognized as a unique "supra-national" entity in that location, in contrast to a typical commercial, for-profit insurance company. In addition, Sustainable Development Goal 17 (Partnerships for the Goals)¹³ calls for new ways of partnering between countries and private sector actors and markets. This can be facilitated by forms of public-private partnerships that are fit for purpose and, in this case, an entity that permits access to global insurance and risk finance markets. Thus, the regulatory environment in the place where the CRF is established should be conducive to meeting the needs and interests of CAREC member countries while incentivizing cooperation and allowing a form of legal entity that could accommodate public and private participants.

45. **Criteria for selection of the country of domicile.** Member countries should first decide on the criteria for evaluating the suitability of the host country, which may include the following:

- a. The legal system's requirements and flexibility of setting up a CRF entity in that jurisdiction;
- b. The existence of country regulations and flexibility based on international best practices for promoting the CRF's development functions and objectives. Examples of countries that may have favorable and flexible regulations are listed in Box 1.
- c. The existing and forthcoming regulatory global standards that can affect the entity's creation and operations in the host country. These include rules and standards on taxation, foreign ownership or the "supra-national" nature of an entity, and other requirements relating to economic substance as may be imposed on "no or only nominal tax jurisdictions" or low-tax jurisdictions by the Organisation for Economic Co-operation and Development (OECD);

¹³ <https://sdgs.un.org/goals>

- d. The ability to conduct specific business processes or activities in the host country as a “mutualized” facility operating on a non-profit basis for the public purpose benefits of CAREC member countries. To lower the start-up costs of the CRF, some of its business operations (e.g., insurance company operations, hazard modelling, financial modelling, accounting, legal, public relations, etc.) could be outsourced to third-party local service providers instead of delegated to full-time salaried staff. It is recommended that the host country have ample resources, such as office space, technology, and staffing, to conduct these business activities ably. If the host country is categorized as a low-tax jurisdiction, conducting “substantial” business activities in that country—and thus, having the necessary resources for these activities—may be required under current regulations aligned with the OECD’s global standards on “substantial [economic] activities”¹⁴;
- e. The jurisdiction’s existing regulation regarding segregated cell or portfolio companies. A jurisdiction allowing segregated cell companies may be preferred if the facility expects or aims to expand its product offerings and membership base. Segregated cell regulation enables an insurance company to maintain legally separated underwriting accounts or “cells” for each line of business or, potentially, each subset of the member countries (e.g., the Caribbean facility’s insurance company restructured into a segregated portfolio company upon its expansion into Central America). This arrangement ensures the separation of each account’s capital base and liabilities from that of others (i.e., the capital of one account cannot be used to pay off claims of another);
- f. The jurisdiction as a CAREC member country or as a territory of a CAREC member country. This criterion could be critical, even a deciding factor, given its potential political implications, impact on the image of the facility, and effect on participating countries’ sense of ownership over the regional initiative;
- g. Amount of funding in the facility contributed by the participating countries. A country that contributes a significant amount of funding may push to host the facility or host in another jurisdiction of their choice;
- h. The political will of the host country to house the legal entity and recognize its unique legal status as a development insurance program, in contrast to a commercial, for-profit company;
- i. The speed and ease by which the new legal entity can be created and its unique status recognized in the country;
- j. The cost of setting up and running a new business in the country; and
- k. The favorable reputation of the country as a place with financial services sector capacity and expertise to conduct business activities.

¹⁴ In a document entitled “Resumption of Application of Substantial Activities Factor to No or only Nominal Tax Jurisdictions – BEPS Action 5” published in 2018 by the OECD, the organization sets a global standard for low-tax jurisdictions in order for their preferential tax regimes to not be considered harmful. The standards mean that income from other geographically mobile activities “cannot be parked in a zero tax jurisdiction without the core business functions having been undertaken by the same business entity, or in the same location.” Hence, a “substantial” level of “core income generating activities” must be performed in the low-tax jurisdiction.

Box 1: Countries with regulations potentially favorable for a CRF

1. Hong Kong: This jurisdiction is ideal for entities in the business of financial services (e.g., issuing ILS) and is aiming to create catastrophe bond incentive programs. Two Chinese autonomous provinces are members of CAREC, hosting a CRF for CAREC appears consistent with China's appetite for regional leadership, especially in light of the Belt and Road Initiative, China's massive infrastructure support project across Asia and Europe. At this point, however, it needs to be confirmed if an entity that would be "supra-national", not a typical commercial insurance company or captive insurer, could be established in Hong Kong.
2. Kazakhstan: In July 2018, the government of Kazakhstan officially opened the Astana International Financial Center (AIFC), an ambitious project modeled on the Dubai International Financial Center, which aims to offer foreign investors an alternative jurisdiction for operations. The AIFC would provide tax holidays, flexible labor rules, a Common Law-based legal system with a separate court and arbitration center, and flexibility to carry out transactions in any currency. In April 2019, the government announced its intention to use the AIFC as a regional investment hub to attract foreign investment to Kazakhstan. The government recommended foreign investors use the law of the AIFC as applicable law for contracts.
3. Singapore and the Malaysian territory Labuan: These are "neutral" jurisdictions of domicile which may be considered to have favorable regulatory environments for the set-up of captive insurance companies, which are suitable for a CRF. Singapore, in particular, could recognize the CRF as a supra-national program that is not regulated as a typical insurance company if aligned with Singapore's foreign affairs and international relations objectives in the CAREC region.

46. **Conducting necessary due diligence exercises.** After CAREC member countries finalize the criteria, further due diligence must be performed before an assessment can be done and a decision reached. The work would entail creating an initial shortlist of candidate jurisdictions, collecting information about the jurisdictions, and evaluating the data against the selected criteria. The facility's lead technical advisor and other consultants (roles that will be discussed in succeeding sub-sections) will lead these due diligence activities.

47. This process of conducting due diligence applies to all the succeeding Facility Creation and Facility Operations decision points discussed in this section, even when it is not expressly mentioned. The specific steps in the exercise may vary per decision point; however, the general principle behind performing due diligence—gathering and confirming facts before making a decision—applies to all.

48. Legal attributes (e.g., privileges and/or permissions to achieve the facility's development objectives, tax exemptions, segregated cell regulation, etc.) can be incorporated in the founding documents of the facility. The ramp-up time to build such an institution may be 1-36 months, and the preparation of the formation documents will require convening power and political will. This process must be conducted in close collaboration and consultation with member countries. The facility's lead technical advisor will need to work closely with participating countries throughout this process. In the case of CAREC, the tenure of the proposed disaster relief bond (further detailed in the ADB Disaster Relief Bonds Working Paper) could be used to conduct the required due diligence for the creation of the facility and develop the founding documents.

3.3.2 Operational entity or legal nature, including its ownership structure

49. The legal nature of the facility would be determined mainly by its function as agreed by the countries. This decision point is critical since, ideally, the entity should be one in which the CAREC member countries can engage and legally participate under their current laws and international relations frameworks.

50. A country-by-country analysis of commercial insurance and regulatory constraints that apply to parametric or bond transactions within CRF member countries is beyond the scope of this paper. In any case, a survey of insurance laws/regulations that apply to commercial transactions between public authorities and commercial insurance companies is not necessary as the CRF would function as a supra-national DRF cooperation mechanism, and not a commercial insurance company.

51. All of the sovereign states participating in CAREC have the legal authority to enter into financing transactions with development finance institutions (as is standard with the ADB, World Bank and others) under international law and therefore not subject to national laws that apply to commercial companies and transactions with capital markets. Participation in CRF programs, should therefore not be constrained by commercial laws/regulations. If CRF transactional instruments are not familiar in some CAREC countries (e.g. parametric contract forms) legal workshops to socialize the DRF instruments can be offered to consult with countries about the features of such transaction instruments.

52. If there is a strong preference for the facility's desired function, the CRF's presence (e.g., through branch offices), as opposed to the legal entity's country of domicile, is likely to be the first decision point agreed. Alternatively, if countries wish to first select a jurisdiction for the legal entity, a parallel consultation process could identify whether one or more branch offices may be recognized and established in CAREC member countries, to ensure a strong CRF regional presence.

53. **An entity with which countries can engage.** An essential criterion in identifying the CRF entity is that it should be one with which each country is politically, practically, and legally able to engage as a matter of international law and comity at the foreign affairs level and transact under each country's own existing rules and regulations. Ideally, all CAREC countries should be able to transact with the CRF entity to encourage future membership of currently non-participating countries. Otherwise, country governments may need to formalize new policies, grant regulatory exemptions, or pass new legislation to join the facility. Not only are these potentially lengthy processes but roadblocks that may hinder the CRF's broader acceptance among the CAREC member countries.

54. In the case of PCRIC, a bespoke regulatory code was adopted by the regulator in the Cook Islands based on international best practices to meet the interests of member countries, donors, and private stakeholders (Box 2). The alternative would have been to implement broad legislative and regulatory changes which could have been less practical and inadequate as sovereign risk pools are not commercial enterprises, but any broad change could have an impact on commercial insurers. PCRIC was created by a special act of the Cook Island's Parliament, given that it is functionally a multi-country cooperation program established by a request and declaration of the Pacific finance ministers at the Forum Economic Minister Meeting in 2015. This was necessary since this form of development cooperation institution did not exist as a standard form of entity in Cook Island's law. With the reformation of PCRIF/PCRIC in 2021 to create a

segregated cell entity form (to facilitate various insurance programs with different capital and risk profiles), the Financial Supervisory Commission requested a bespoke regulatory code fit for the development cooperation objectives of PCRIC.

Member states of PCRIF, participating in PCRIC insurance programs, periodically raise questions about the application of national laws to PCRIC's programs. For example, the question of premium withholding tax was raised by KPMG in the context of a recent annual financial audit. Under the national tax laws of some countries, payment of premium to insurers outside the country requires that the country taxing authority withholds a percentage as tax. After consultation with relevant tax authorities, and the reminder that PCRIC is an international development institution, each country confirmed that its commercial tax laws do not apply to PCRIC's insurance activities. This is an example of the special regulatory treatment accorded PCRIC.

Box 2: Example regulatory regime (PCRIC)

Principles for Proposed Regulations

Regulatory Code will address the following:

- Capital and Solvency requirements
- Governance and risk management
- Reinsurance
- Conduct of Business
- Prudential Guidelines as agreed with the regulator
- Establishment of segregated portfolios

Capital and Solvency.

Guidelines imposed on the facility will need to cover a number of separate areas, including:

- Capital requirement: The capital requirement is the amount of capital that the facility must hold to ensure, with a high degree of probability, that it is able to pay policyholders' claims when they fall due for payment
- Capital resources: The capital requirement must be met by capital resources that are available to an insurer and of sufficient quality.
- Liquidity: The Company must hold sufficient liquid assets such that claims can be paid as they fall due
- Valuation of assets and liabilities: In order to calculate its capital resources and its capital requirements, the Company must value its assets and liabilities appropriately
- Investments: Prudential Guidelines must also cover the investment of assets.

Governance and Risk Management

Governance requirements for the facility may be drafted to cover a number of areas, including:

- The Governance framework
- The Directors
- Senior management
- Risk management, including the establishment of control functions

Governance at a Segregated Portfolio Level

The Board will be responsible for transactions within the core and within each of the segregated portfolios and for ensuring that the governance framework and the strategy, policies, procedures and controls adequately protect the interests of the policyholders of the individual segregated portfolios.

Reinsurance

If the facility has several products and related business models, the regulator will require that the facility has, and implements, an effective reinsurance strategy and appropriate reinsurance procedures.

Conduct of Business

Conduct of business requirements help minimise risks arising in connection with conducting its operations their business in a way that requires the fair treatment of customers and must be agreed with the regulators for application to the sovereign risk pool.

Prudential Guidelines agreed with the applicable regulator to ensure fair treatment of member states including their information needs to make appropriate DRF decisions, serve to identify and manage conflicts of interest; provide for transparent claim pay-out servicing; and a complaints/dispute resolution process.

Approval of New Segregated Portfolios

The regulator and sovereign risk pool should agree on the application and approval process for each segregated portfolio, including documentation relating to insurance products, actuarial analysis and supporting business plan, and any special governance arrangements are required.

55. **The nature or form of the entity.** If the facility's goal is to issue an ILS, normally a Special Purpose Vehicle (SPV) would be established. An SPV is a legal entity established for a specific and well-defined purpose, such as issuing a catastrophe bond. However, an SPV may not be required if the ADB's issuance facility is utilized to issue a Disaster Relief Bond (DRB). The structure of the ADB's issuance facility, the Global Medium-Term Notes (GMTN) program, is presented in Figure 3-1 and further detailed in the ADB Disaster Relief Bonds Working Paper. The GMTN is likely the most appropriate structure for the CAREC member countries in the absence of a CRF legal entity and/or associated SPV established at CAREC member countries' request.

Figure 3-1 Disaster Relief Bond issuance via the GMTN



56. If the CRF facility's goal is to underwrite the countries' disaster risks, the existing sovereign risk facilities can be used as a model. Each of these sovereign facilities has been established as a licensed insurance entity with a collaborative relationship with the national regulators that treat the entity as a development insurance entity in contrast to a for-profit insurer. Fundamentally, the regulator must be willing to engage with a CRF that operates on a non-profit basis. Regional facilities have struggled to find the optimum supra-national level vehicle through which to provide insurance for the public benefit of countries without being constrained by each country's national regulatory insurance systems. For this reason, the regional facilities have considered domiciling their insurance companies in jurisdictions with favorable regulations to ensure "non-profit" treatment. In practice, this "non-profit" status means that any insurance underwriting surplus is recycled for the benefit of the member countries and expanding insurance offerings. This status is in contrast to for-profit insurers whose purpose is to distribute profits or dividends to shareholders. However, as mentioned in Section 3.3.1, some of these business-friendly jurisdictions happen to be low-tax jurisdictions often subject to strict global scrutiny (e.g., OECD's "substantial activities" requirements), thus presenting challenges such as added costs. CAREC

member countries must consider these factors and other pros and cons when determining how and where to form the facility's insurance company.

57. **Ownership structure of the entity.** Identifying the ownership structure is crucial as it informs how the CRF will be governed. Since all existing regional risk facilities aim to underwrite their member countries' disaster risks, a common and central factor among them is a licensed mutual or other insurance company. There are differences, however, in their ownership or governance structures, as described in Box 3. In CAREC's case, a mutual association structure could be formed with the association acting as a non-profit organization developing an insurance solution for the benefit of the general public and with a separate legal entity serving as a mutual captive insurer underwriting CAREC country disaster risks. A due diligence exercise is necessary to ensure that the entity's proposed ownership structure is legally allowed and, ideally, easy to execute and establish.

Box 3: Ownership or governance structures of existing regional risk facilities

1. CCRIF SPC (formerly the Caribbean Catastrophe Risk Insurance Facility) was formed as a captive insurance company with its purposes defined in a Trust Deed owned for the benefit of the participating countries.¹⁵ As the facility expanded its product offerings and widened its reach to more geographies, it was restructured as a Segregated Portfolio Company (SPC) to allow for differentiated capital for its various products and geographies, it was then renamed CCRIF SPC.¹⁶
2. The African Risk Capacity (ARC) Group comprises two entities: a treaty-based international organization, the ARC Agency, which is a Specialized Agency of the African Union, and ARC Insurance Company Limited (ARC Ltd.), a hybrid mutual captive insurer.¹⁷
3. The Pacific Catastrophe Risk Insurance Facility is composed of two entities: a foundation, the Pacific Catastrophe Risk Insurance Foundation (PCRIF), formed by legal statute, and a captive insurer, PCRIC (Pacific Catastrophe Risk Insurance Company), which is wholly owned by the Foundation and governed by its Board of Directors.¹⁸
4. The Southeast Asia Disaster Risk Insurance Facility (SEADRIF) comprises four elements: 1) the SEADRIF Trust, the legal agreement for SEADRIF that provides overall strategic direction for the organization; 2) the SEADRIF Sub-Trusts, an arrangement for subsets of the member countries to co-develop specific initiatives with development partners; 3) the SEADRIF Trustee who holds the legal title to the assets of SEADRIF Trust and is the sole shareholder of the SEADRIF Insurance Company; 4) the SEADRIF Insurance Company: a general insurance company (with some regulatory exemptions granted by the Singapore financial regulator) formed under a SEADRIF Sub-Trust.

¹⁵ Young, Simon, and Pearson, Milo, 2009. *Natural Catastrophe Risk Insurance Mechanisms for Asia and the Pacific: The CCRIF as a Technical Model*.

¹⁶ https://www.ccrif.org/about-us?language_content_entity=en

¹⁷ <https://www.arc.int/about>

¹⁸ <https://pcric.org/about-pcric/>

3.3.3 Sources of initial capitalization

58. An initial investment into the CRF is necessary to finance its design, development, creation, and, eventually, operations, including operational expenses and premium subsidies. In the case of an entity that underwrites risk, the investment reduces its reliance on external reinsurance, thus building up its insurance premium reserves and establishing its credibility in the international (re)-insurance market. In all existing sovereign risk facilities, there had been reliance on funding from donors to build up their initial capital and, in some cases, provide premium support subsidies. There should be an indication of the expected amount and timeframe of donors' short- and medium-term investments in the CRF, as this informs how the facility's capitalization plan should be formulated and implemented.

59. **Potential size and source of initial capitalization.** The amount of capital that the facility will need will be determined by the number, size and diversity of contracts that they write. The higher the initial capitalization, the lower the facility will be dependent upon reinsurance (whether purchased as traditional reinsurance and/or insurance-linked securities) to ensure that obligations can be met. CCRIF, launched with circa 25 policies written covering two hazards and around 15 countries, had initial donor capitalization around \$60m with a maximum sum insured per policy of \$50m. In addition, CCRIF charged each new member a participation fee equal to the first year's premium (on average around \$2 million), paid by the countries themselves (except for Haiti). ARC, launching with 6 countries and a single peril but ambitions to scale to 20 or 30 countries/policies, had initial capital of \$100m provided as interest free development loans from the UK and German governments. As a result, the ARC member states were not required to pay an initial participation fee to access the insurance programs. Unlike CCRIF, which suffers high reinsurance costs due to its proximity to the US and correlation with US hurricane risk, CAREC is not correlated with an area where insurers have a high concentration of risk, and its large geographical coverage provides wide diversification within itself too. Theoretically it should therefore be able to secure ample reinsurance for comparatively low cost, reducing its capital need. If the focus is on providing funding for emergency response rather than full indemnity of lost assets, then an initial capitalization of \$100m to \$250m should be adequate.

- a. Direct capital injections. These are expected to come from major international donor agencies, bilateral aid agencies, and other development aid funders in the form of grants or loans. A multilateral bank such as the ADB could provide grants through a Multi-donor Trust Fund or a grant window through the bank itself. Donors could offer concessional or interest-free loans to capitalize a CRF or support governments directly, perhaps contingent upon loss before draw-down. However, governments should be well aware of the conditions behind this form of financing, such as its payment terms, cost implications, and potentially negative impacts on countries' debt sustainability. In countries where debt sustainability can be at risk, it is not recommended to tap into country loans as funding sources.¹⁹ Official development assistance (ODA) concessional loans could be provided directly to the CRF.
- b. Participation fee. As demonstrated in the CCRIF experience, capitalization could come from a one-time participation fee paid by each country seeking to purchase an insurance policy from the facility. In CCRIF's case, the fee's amount was equivalent to the annual premium paid by a country's government. Should the country's premium increase due to a rise in the country's insurance coverage, a proportionate top-up of the participation fee

¹⁹ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries*.

premium is required.²⁰ In addition to providing an added capital source, this levy gives countries a greater sense of ownership of the facility. However, a fee can be unpopular to the extent that governments cannot afford it. If the payment is likely to discourage country membership in the initial stages of the facility, it may be introduced at a later time if required to support financial sustainability objectives.

- c. Indirect donor capital contributions. Aside from direct grants or loans to member countries, capital can be provided indirectly by donors through:
 - i. *Cost reimbursement.* In the case of CCRIF, donors reimbursed the facility's operating costs, including claims and reinsurance costs, for its first five years of business and the first four years of its expansion into Central America.
 - ii. *Short-term concessional premium financing to countries.* Donor agencies recognize that given the facility's high initial investment costs, which country governments partially bear in the form of premium loadings, premium payments might be too steep for member countries. To address this challenge, the experience of all operating risk facilities shows that donors have provided governments with premium financing, which has encouraged country membership.

60. **Premium financing's benefits—and limitations.** Concessional premium financing is a preferred source of initial capitalization as it could confer additional benefits to individual member countries. The benefits, described as follows, contribute to increased country engagement:

- a. *Countries' increased financial stake in the facility.* Partial premium subsidies require governments to shoulder a portion of the premium payments using funds from their coffers.²¹ This additional financial commitment, even minimal, from countries contributes to building their ownership over the facility and a stake in its sustainability.
- b. *Improved government engagement.* Using public funds to pay a percentage of premium payments for the CRF creates an avenue for Ministries of Finance and other government champions to regularly dialogue on DRFI with lawmakers who approve the government budgets. If countries participate in the facility over several years, the budgeting of premium payments and the associated dialogues with legislatures can become a regular process expected to feature in every budget cycle.²² This regular opportunity for discussion helps promote and embed decision-making on DRFI within other government leaders and offices, particularly those in the legislative branch.

61. Using premium subsidies in the longer term, not only in the CRF's initial stages, may be appropriate for countries with high vulnerability to disaster risk but with limited fiscal resources. Such is the case if donor funders can provide continued funding at terms favorable to the recipient country. An example of this case would be Haiti, whose fiscal position restricts it from paying premiums to CCRIF that would provide a meaningful amount of coverage. The country has been receiving premium subsidies since it first joined CCRIF.²³

²⁰ Young, Simon, and Pearson, Milo, 2009. *Natural Catastrophe Risk Insurance Mechanisms for Asia and the Pacific: The CCRIF as a Technical Model.*

²¹ According to the World Bank's Technical Contribution to the G20, in some national governments, budgeting premiums for disaster risk insurance may not yet be a part of the regular government budgetary process and, thus, as an extraordinary expense, may go through a special budget approval process. Before CAREC governments work towards a budget for insurance premium payments, they must ensure that appropriating public funds for such costs is aligned with current laws and regulations.

²² World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries.*

²³ World Bank, 2017. *Sovereign climate and disaster risk pooling: World Bank technical contribution to the G20.*

62. However, premium subsidies from donors are not guaranteed to be in perpetuity. While this support is common, even expected, in the early stages of the facility's inception, there should be well-defined plans for countries to lessen their dependency on subsidies gradually. CAREC member countries should seek sustainable, practical, and reasonable ways to fund their premiums on their own and in the longer term. Governments can incorporate premium payments in their budgeting processes or through feasible alternatives to financing. For instance, the Cook Islands government made a premium cost-sharing arrangement with its state-owned enterprises, which had difficulties acquiring insurance coverage for their infrastructure. The government and the enterprises agreed to share the costs of the PCRIC premium payments and to receive a share of any payout PCRIC may make to the Cook Islands.²⁴

3.3.4 Corporate governance structure

63. The CRF's legal entity should have CAREC in its highest governance organ, which could come in the form of a Steering Committee. It defines the vision for the facility, including setting the overall direction to attaining this vision, and makes decisions necessary to create and establish CRF operations. (More information on the Steering Committee is presented in Section 4.) The Committee could elect an independent non-political Board of Directors, whose fiduciary duty is to oversee the day-to-day execution of the CRF's business strategy and plans and ensure the CRF meets its financial sustainability objectives and the countries' DRFI needs.

64. **Individuals in a Board of Directors.** Following the experience of the existing regional facilities, the Board may be composed of the following members:

- a. *Representatives (nominees) of the CAREC member countries.* Their participation in the Board of Directors is essential as it builds country ownership over the facility, which is critical to the CRF's overall sustainability and success. Participation of nominees reflecting a balance of country perspectives in governance supports a regional view in the CRF's decision-making process. Having these nominees helps encourage Board discussions on how the facility can maximize its value to its members, the countries can uphold financial and operational prudence, and the governments can facilitate productive in-country discussions on DRFI and DRM strategies.²⁵ CAREC member countries should decide how their region's Board representatives will be chosen. They may elect only a certain number of individuals to represent all countries instead of having each country assign its representative, which can make the Board unwieldy. For example, in CCRIF's case, there are Board members from the Caribbean Community or CARICOM to represent the participating members. They may also decide to only give Board representation to those that have committed to participate in the facility.
- b. *The facility's donors.* Donor entities play a vital role in designing and implementing a facility due to the financial and technical support they provide and the additional external expertise they can attract and harness. Donor engagement is thus crucial and may be further promoted by having donor oversight in insurance facility representation on the Boards. In ARC and in PCRIC, donors have seats as members of the institution and have the power to appoint and remove directors. This helps to ensure that directors have skills that are fit for purpose, and are professional, independent Board members, but also are acceptable to the country members and evaluated periodically for performance.

²⁴ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries*.

²⁵ World Bank, 2017. *Sovereign Climate and Disaster Risk Pooling: World Bank Technical Contribution to the G20*.

- c. *At least one independent director with expertise in (re)insurance or other financial services.* An independent Board member does not have a financial relationship with the facility or hold a management position in its legal entity. Thus, their participation in the Board helps ensure that the body conducts business at arm's length. This member would ideally have vast experience in (re)insurance, banking, or other fields in finance to bring in additional skill sets and qualifications that allow the Board to perform its duties more effectively.
- d. *The Chairperson.* The Chairperson heads the Board of Directors and holds convening authority, which should be documented in the facility's by-laws or a similar document. Whilst it appears that current facility chairpersons are fixed appointments, it may be deemed good practice to rotate the chair amongst representatives of different interested parties and/or specialties.

65. **Balance in Board composition.** The Steering Committee appoints the members of the Board such that it has the proper skillset, expertise, qualifications, and equitable stakeholder representation (most notably, representation of the CAREC member countries) necessary to oversee the facility's operations successfully. Additionally, the number of Board members must be kept to an appropriate, reasonable, and manageable size that will strike a balance between dynamic discourse and effective and timely decision-making.

Box 4: Composition of the board of existing regional risk facilities²⁶

Organisation	Position	Name	Background
CCRIF SPC	Chairman and CARICOM-Nominated Board Member, Representing Member Countries	Tim Antoine	Central Banking
	Vice Chairperson and Caribbean Development Bank-Nominated Board	Desiree Cherebin	Central Banking
	Caribbean Development Bank-Nominated Board Member, Representing Donors	Faye Hardy	Central Banking
	CCRIF SPC Board-Nominated Member	Sandra Bailey	Insurance
	CARICOM-Nominated Board Member	Michael Gayle	Insurance
Pacific Catastrophe Risk Insurance Company	Chair	Sarah-Jane Wild	Insurance
	Director	Barry Whiteside	Central Banking
	Director	Daryl Willaimson	Insurance
	Director	Siosua Utoikamanu	Financial Management
	Resident Director	Tine Ponia	Legal
African Risk Capacity Insurance Company Limited	Chair	Abdoulie Janneh	UN (Development)
	Non-Executive Director	Delphine Traoré Maïdou	Insurance
	Non-Executive Director	Jennifer Blanke	Economic Development
	Non-Executive Director	Ladé Araba	Development Finance
	Non-Executive Director	Sarata Koné-Thiam	Banking
	Non-Executive Director	Jürgen Meisch	Asset Management/Insurance
	Non-Executive Director	Phillip Pettersen	Reinsurance
	Special Advisor	Michel Jarraud	Climate Science
South East Asia Disaster Risk Insurance Facility	Non-Executive Director and Chair of the Board	Yoshihiro Kawai	Insurance, Regulation
	Non-Executive Director and Board Member	Hauw Soo Hoon	Insurance, Regulation
	Executive Director, Board Member, and Chief Executive	Lawrence Bird	Insurance

²⁶ As per each organisations' website on 24th May 2023

66. **Corporate governance guidelines.** Policies, systems, processes, and procedures relating to corporate governance must likewise be agreed on and established to help promote the practice of governing and running a CRF built on transparency, accountability, and trust. Guidelines may be finalized using a phased approach, prioritizing those that CAREC countries deem essential. The following are systems and policies recommended to be decided on at the early stages of the facility's creation:

- a. *Voting rules and rights.* These refer to rules such as the number of votes held by each Board member, including the powers of the Chairperson, and what would constitute a winning vote (e.g., a simple majority). These policies are crucial as they will determine how decisions will be voted on and agreed upon in light of the general principle of consensus voting in intergovernmental organization legal frameworks.
- b. *Risk management policies.* These safeguard the proper checks and balances when it comes to decision-making. For instance, there may be a need for a Conflict-of-Interest policy to guarantee that the Board of Directors and appointed senior management members are not serving multiple interests, financial or otherwise, which may compromise their judgment or decision-making.
- c. *Appointment of senior management members.* Appointing senior company officers to handle and manage day-to-day activities is necessary to begin facility operations. The Board of Directors must first decide on the management roles needed to be filled and their corresponding expertise, qualifications, and remuneration. Ultimately, the Board will formally appoint the officers taking on these roles.
- d. *Oversight of financial and corporate reporting and auditing.* The Board of Directors is responsible for upholding financial prudence when running the facility's operations. Evidence of the Board's good governance can be demonstrated by the quality of the facility's financial and operational performance reporting and the results of regular audits. The Board should then ensure that corporate governance policies, processes, and systems are in place to promote and provide quality, effective, transparent, and timely financial reporting and auditing.

67. Other corporate governance guidelines that are not crucial at the early stages of the development of a facility may be agreed upon by the Board at a later time. These guidelines may include policies on the directors' self-evaluation of performance, Board diversity and inclusion, and lengths of the terms of the directors.

3.3.5 Key advisors

68. Given the highly technical nature of implementing a disaster risk pooling initiative for multiple countries, all existing regional risk facilities have relied on technical assistance from experts to aid in their creation and the establishment of their operations. Expertise in insurance underwriting, product design, pricing, catastrophe risk modeling, and other related fields has been imparted by consultants from multilateral development banks, reinsurance brokers, (re)insurers, and DRFI advisory organizations. Entities with vast experience in multi-country coordination, project management of complex multi-stakeholder initiatives, and specialized skills necessary to set up a business have likewise significantly contributed to implementing these regional initiatives.

69. Below are advisors and coordinators who must be engaged in the early stages of the CRF's creation process:

- a. *Facility implementation advisor.* A qualified organization, such as the ADB supported by consultants, would orchestrate the creation of the CRF and ensure it has the functional capacity to start and sustain its operations. The advisor engages, coordinates, and communicates with other relevant actors, such as member countries, technical experts, donors, and the supra-national body. It also directs and oversees the fulfillment of the actors' responsibilities. Ideally, an implementation advisor should have and leverage existing relationships or connections with the key players and have the resources and experience necessary to project manage a multi-stakeholder regional initiative.
- b. *Lead technical advisor.* The implementation advisor would work closely with the lead technical advisor, who would lead the functional design work needed for the CRF. This organization will work with other technical specialists in fulfilling specific responsibilities, which may include:
 - i. Delivering all activities involved in the design of the facility's initial product offering. This task includes developing exposure datasets, collecting hazard data, developing a probabilistic catastrophe model, conducting a probabilistic risk modeling analysis, designing the trigger of the parametric insurance product, calculating corresponding premiums, and designing the post-event process;
 - ii. Conducting capacity-building training sessions or other learning opportunities for member countries;
 - iii. Assessing possible legal forms or structures the facility may be taking on;
 - iv. Conducting dynamic financial analysis to estimate capital requirements, reinsurance options, and strategic option implications; and,
 - v. Identifying possible product offering options, including their potential coverages.
- c. *Other technical advisors.* Since establishing a CRF entails national and international legal coordination to provide services to member countries within a development insurance framework, it is necessary to bring in at least one more consultant with skills in business operations management. At the onset of the Facility Creation stage, advisors with expertise in insurance operations, accounting, and business and international law should be engaged.
- d. *Supra-national body.* A supra-national "body" with existing connections within the region likewise plays the critical role of primary coordinator in the facility's development. The body will focus on leveraging existing relationships and using its locally based resources to provide added logistical assistance to the lead implementation advisor throughout the facility development process. For the CRF, the CAREC Program is the most obvious choice for this regional entity. However, it is worth noting that, in contrast to the existing risk facilities, the CAREC Program is a donor-supported initiative and not a legal entity per se. A legal entity (e.g., the equivalent of the ARC Agency in the Africa facility or the PCRIF in the Pacific) would provide a necessary platform for establishing the CRF's operations. Under the CAREC Program, the CAREC Institute²⁷ is an inter-governmental organization with legal status. Although its objectives and functions are in the area of capacity building and knowledge generation, the possibility that it could be leveraged to be that entity should be explored.

²⁷ <http://www.carecinstitute.org/wp-content/uploads/2018/04/2018-CAREC-Institute-IGA.pdf>

3.3.6 Initial product offering, informed by risk modeling and dynamic financial analysis

70. For a regional facility to be broadly backed by its member countries, its product offerings must be relevant, reasonably priced, and meet the countries' growing needs. Additionally, its solutions must be designed such that its financial health and sustainability are not compromised. Conducting a risk modeling exercise and dynamic financial analysis (DFA) is essential in facility creation as they inform the terms and design of a product offering that is both relevant to the countries and financially sustainable over the longer term. These exercises would be spearheaded by the lead technical advisor but would require close coordination with other consultants and the CAREC member countries.

71. **Risk modeling.** This is a detailed appraisal of disaster risk faced by each member country which is essential to inform the design of the CRF's principal product offering. The high-level disaster risk profiles created for the CAREC countries under the ADB's TA project could serve as this preliminary appraisal. The risk profiles include the results from modeling earthquake, flood, and infectious disease risks, and information on hazard, exposure, and vulnerability for each member country. To complete the modeling exercise, the work done in creating the profiles must be augmented and improved, with the scope of such improvement contingent on the facility's expected initial product options. It is essential that CAREC countries have access to tools which enable them to make informed decisions on Disaster Risk Finance and Disaster Risk Reduction. A Disaster Risk Management Interface (DRMI), based upon current risk profiling, a customizable parametric insurance product and example disaster risk reduction measures, has been developed under this TA.

72. The selected initial product options would depend on the member countries' funding priorities at the onset of a disaster event. All existing regional risk facilities have offered their members parametric insurance since these pay out quickly, helping fund governments' disaster response and recovery efforts and resumption or continuation of critical social services to promote resilience in vulnerable communities. Another option is indemnity insurance which finances longer-term reconstruction and rehabilitation for specified perils. A hybrid option, or a combination of indemnity and parametric, can be considered and modeled. The indicative coverage of the insurance product informs the data and methodology of the risk modeling exercise. With parametric products, as their payouts are not computed based on actual damages incurred, it must be decided if payouts are made on a general macroeconomic basis or linked to a quantum of public property damage. The indemnity insurance can cover public assets or possibly even privately-owned ones and be split between infrastructure reconstruction costs and emergency repair costs.

73. DRF products may be designed explicitly to support vulnerable groups including women. Modelling can be enhanced to explicitly identify such groups and the different degree of loss they suffer for a given disaster event compared to the general population. Future products could be developed to provide livelihood protection, post-disaster income support, for vulnerable populations and/or to build back their housing to a higher standard of resilience.

74. The risk modeling results are of interest to CAREC countries since they inform country governments' decisions on the final product offering of the facility. For the outputs to be most beneficial to government decision-makers, they should illustrate various pricing levels of the insurance solution and the amount of insurance coverage to which each price level corresponds.

Decision-makers should be adequately informed of the limitations of the insurance solutions, such as the basis risk inherent to parametric products and the higher premiums associated with indemnity products (due to higher modeling and loss adjustment costs).

75. Given the CAREC countries' varying gross domestic product (GDP) levels, a relatively sizeable country joining the facility could create a risk-weighting imbalance in the facility's risk portfolio. Some measures can be implemented to maintain the portfolio's overall balance and the regional initiative's relevance to all participating members. These measures, described as follows, would require further assessment through the risk modeling and DFA and, if deemed feasible and beneficial to the CRF, would be imposed on the larger countries only:

- a. Setting maximum cession amounts, particularly in the early stages of the facility when capital levels may be insufficient to provide more significant coverages for larger countries;
- b. Insuring only critical infrastructure, such as roads;
- c. Using the facility to provide reinsurance capacity for countries' existing national disaster risk insurance programs; and,
- d. Using the facility as a risk clearing house.

76. **Dynamic financial analysis (DFA).** This analysis presents the impacts of various possible future scenarios on the CRF's operations and financial health. The output of the exercise may come in the form of expected balance sheet metrics and profit and loss statements for a timeframe into the future. The range of scenarios and financial health indicators can be narrowed down to fewer, more feasible outcomes as more information about the facility is known and input variables in the DFA model are refined and more accurately modeled. In CCRIF's case, a tailor-fit DFA model was developed by technical advisors based on a publicly available DFA framework. CCRIF's model allows its users to enter a range of input variables, such as the size of the portfolio, the reinsurance pricing, and the initial capitalization. The future uncertainty in these variables is also incorporated into the model.²⁸

77. The DFA is of interest to parties with a stake in the facility's success, such as donors and member countries. The results help these stakeholders assess the facility's financial sustainability, given various factors, such as the number of participating members and their current levels of insurance coverage. The analysis is also of interest to the Steering Committee, the Board of Directors, and senior management as initial indications of financial health will inform how the CRF, especially in its early stages, can be operated to achieve cost efficiency.

3.4 Considerations for the Facility Operations Stage

78. This sub-section lists and describes in detail the decision points under this stage and presents relevant commentary on potential legal and regulatory challenges and best practices from the existing regional facilities.

3.4.1 Operational structure

79. Designing the CRF's operational structure, such as its staffing arrangement and critical business processes, is a task that the Board of Directors must oversee. For a facility to, at the minimum, be viable and begin fulfilling its function, its operational structure will be defined by

²⁸ Young, Simon, and Pearson, Milo, 2009. *Natural Catastrophe Risk Insurance Mechanisms for Asia and the Pacific: The CCRIF as a Technical Model*.

factors such as its initial product offering, country membership composition, available funding, and the preliminary indications of the DFA. However, if country participation in the CRF is to be further encouraged, the facility's customer-facing processes, such as procedures for premium payments and claims payouts, should be designed to meet the needs of the countries and complement their operational capabilities.

80. **Management roles.** Senior management executives oversee the facility's day-to-day activities and ensure operations run smoothly and in accordance with the overall strategy and objectives. The Board decides which management roles will be filled by salaried staff, external service providers, or consultants. The key roles below are the ones present in the CCRIF model, and generally would apply to any regional facility:

- a. *CEO.* This individual is the company's highest-ranking executive. He/she is the figurehead and one of the "faces" of the facility when it interacts with various constituents, such as government officials and the general public;
- b. *Facility supervisor.* This individual manages all customer-facing operations, which include modeling, risk transfer, pricing, DFA, claims, marketing, communications, and capability building. As these are tasks that entail interactions with CAREC member countries, it is recommended for the facility supervisor to engage professionals or service providers who speak the countries' local languages and specialize in customizing communications to meet countries' unique contexts;
- c. *Captive manager.* This individual manages back-office operations, which include the functions of the corporate secretary, accounting, audit management, risk management, and compliance;
- d. *Reinsurance broker.* In coordination with the facility supervisor, they develop a risk transfer strategy and implement it; and,
- e. *Investment manager.* They manage the investment portfolio of the facility, following the investment guidelines or strategy set by the Board. Engaging an experienced investment manager is recommended as a steady stream of investment income can contribute significantly to profitability and sustainability.²⁹

81. **Staffing and outsourcing.** One of the decisions to be agreed on by the Board of Directors is identifying the facility's initial staffing and office set-up. There are a few options to this, namely:

- a. *Setting up a physical office with full-time employees dedicated to the facility's operations.* However, this may be too expensive and inflexible, especially for a business that has just begun operating.
- b. *Riding on the facilities and staffing of an existing institution.* For this set-up to be viable, finding an institution with relevant synergies with the CRF and the flexibility and capacity to share resources with it is necessary.
- c. *Having a "virtual" entity with few full-time employees.* This option would entail contracting more outsourced service providers tasked to handle day-to-day operations. CCRIF follows this model and augments its lean structure with additional staff from donor and technical advisor organizations.³⁰

²⁹ Young, Simon, and Pearson, Milo, 2009. *Natural Catastrophe Risk Insurance Mechanisms for Asia and the Pacific: The CCRIF as a Technical Model.*

³⁰ Young, Simon, and Pearson, Milo.

82. The CRF's staffing and office set-up could change over time. The Board may choose to revisit conversations on this matter when the current structure of the facility no longer corresponds to or is appropriate for its size, the needs of its member countries, and its product offerings. For instance, the Board may decide to strengthen in-house capabilities and roles by employing more people to take on tasks previously outsourced to service providers, such as communication, marketing, and catastrophe modeling responsibilities. Having more salaried staff has benefits, including minimizing or eliminating conflict of interest and the lack of political will to work towards the facility's success. However, it comes with the disadvantages of higher costs and lower flexibility. Proper due diligence, such as a cost-benefit analysis, should be conducted before staffing decisions are finalized.

83. **Design of operational processes.** The key management executives, salaried staff, and outsourced providers are in charge of designing and implementing procedures related to the CRF's back-office (e.g., accounting, compliance) and the customer-facing processes (e.g., premium collections and claims payouts). All systems should be pursuant to existing internal governance and operational policies set by the Board.

84. In addition, it is ideal for country-facing procedures to be designed with the flexibility to cater to the growing needs of the facility's client countries. It is recommended to have various options for the customer-facing processes that are flexible to each member's unique needs, capabilities, and limitations. Ideally, at the minimum, these processes should not conflict with countries' existing government rules and regulations (e.g., Audit Ministries' rules on the use of parametric payouts); at best, the facility processes should complement those of their existing DRFI solutions. Regardless of the level of this complementarity, all mechanisms should adhere to a particular set of rules and standards to ensure that they require countries to maintain and uphold financial and operational discipline.

85. **Flexibility of operational structure.** It is ideal for the initial functional design of the facility to be flexible enough to allow the widening of its range of product offerings and the expansion of its membership base, possibly to nearby geographies. The senior management executives should consider this factor when designing the facility's front- and back-end operational processes and appointing its salaried staff and external providers.

3.4.2 Alternative sources of capital

86. For the facility to run sustainably, it has to hold a consistently adequate amount of risk capital to pay claims and fund its operational costs. As mentioned in Section 2, initial capital injections from donors can generally be relied on to finance the facility's initial capitalization but are not guaranteed to be provided in perpetuity. Hence, the longer-term plan for capitalization involves accessing international reinsurance or capital markets, charging countries insurance premiums corresponding to their levels of disaster risk, and seeking alternative sources of capital.

87. **Reinsurance.** Transferring excess risks to the reinsurance market at a cost is one of the most common ways to seek capital—and this process of acquiring reinsurance is best performed by an experienced broker. Given the relatively small size of regional risk facilities, reinsurance for a CRF may be costly, especially in a hardening reinsurance market when rates are increasing.³¹ However, the facility can still be in a position to negotiate the best reinsurance rates if it can attract

³¹ Cebotari, Aliona, and Yousseff, Karim, 2020. *Natural Disaster Insurance for Sovereigns: Issues, Challenges and Optimality*. IMF Working Paper. Available at <https://ssrn.com/abstract=3545292>.

donor agencies to fund its base capital and advisors to conduct sound risk analyses and technical pricing. This creates the security, stability, credibility, and viability sought by reinsurers and investors, allowing room for brokers to negotiate more favorable prices.³²

88. Alternative risk transfer mechanisms. Specialist ILS funds and ILS-orientated private and sovereign pension funds are some groups that could provide funding for the CRF. The facility can explore alternative risk transfer mechanisms, such as those listed below, as added sources of funding in times of rising reinsurance rates:

- a. *Disaster Relief Bond.* The CRF's implementation advisor could consider issuing a Disaster Relief Bond (DRB) on behalf of the CAREC member countries. A DRB is a form of catastrophe bond where pay-outs are explicitly ear-marketed for disaster relief and may be linked to a broader disaster risk management and disaster risk management programme. The bond would provide added annual protection for the region against select perils, thus reducing the need for reinsurance. In the Caribbean facility, CCRIF replaced a portion of its reinsurance via a catastrophe bond issued by the World Bank during the hardening reinsurance market. The catastrophe bond was not renewed as reinsurance rates softened, significantly reducing the marginal utility of issuing a catastrophe bond.³³
- b. *Swaps with other regional risk facilities.* The CRF may choose to swap its risks with another facility (i.e., take a portion of the risk of the other and vice versa) via financial instruments. This arrangement would bring additional diversification benefits to the regions involved by making their respective risk portfolios more attractive to investors, thus lowering their borrowing costs. These swaps, however, require mature and stable portfolios and advisors with advanced and specialized expertise in underwriting and pricing. If risk swapping were to be considered for the CRF, political buy-in and backing from the member countries are necessary, as this transaction would entail that the CRF's capital could be used to pay claims of another region.³⁴ The required due diligence should be conducted before entering into such an arrangement. One facility has previously made informal enquires about the appetite toward other facilities for such an arrangement via their common reinsurance broker, although it was not pursued due to the lack of interest of the other party.

89. Pricing. The pricing of insurance premiums charged to each facility's participating member must be done on a technical basis (i.e., to be determined by transparent and consistent modeling) to help ensure that the level of payouts expected to be issued by the facility will not deplete its capital reserves. Technical pricing also helps promote fairness, which means countries pay premiums commensurate only with their risks and do not subsidize other countries' payments.³⁵ This is preferred as it may be difficult for the CRF's government representatives to justify to legislators the allocation of more funds for partial co-financing of other countries' premiums. To promote technical pricing, CAREC member countries must aim to provide the facility's advisors with robust exposure data and information necessary to properly assess disaster risk.

³² Nixon, Michael, 2009. *The Cayman Islands Experience with the Caribbean Catastrophe Risk Insurance Facility*. Available at https://www.ccrif.org/en/publications/booklet/collection-technical-papers-articles-november-2009?language_content_entity=en

³³ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries: Where Do We Go From Here?*

³⁴ World Bank, 2017. *Sovereign Climate and Disaster Risk Pooling: World Bank Technical Contribution to the G20*.

³⁵ World Bank, 2017.

90. As demonstrated in CCRIF, it would also be possible to vary insurance premium loadings added to each member's premium payments depending on its contribution towards reinsurance costs. This option will tend to lower premiums for smaller, diversifying countries, thus promoting fairness.

91. **Upfront membership fee.** As mentioned in Section 2, members may be required to pay a one-time membership fee upon their first purchase of an insurance policy with the facility. However, this fee can be a source of continuing, not just start-up, capital. Following the CCRIF example, the CAREC facility may choose to require countries to top up or add to their initial one-time fees in cases wherein their annual premiums rise due to an increase in their insurance coverages.

3.4.3 Product evolution

92. The experience of the existing regional risk facilities demonstrates that flexibility and responsiveness to the countries' needs, such as by developing and introducing new relevant insurance products, are essential to retain or increase country participation. In ARC's case, the slow rollout of new products, such as coverage for additional perils, has not helped encourage membership and even led to some members discontinuing their participation. The same can be seen in the facility for the Pacific islands.³⁶

93. **Developing new products.** Developing and offering new insurance solutions, such as coverage against new perils and/or products explicitly aimed at increasing the resilience of vulnerable groups, is perhaps the most obvious way to demonstrate flexibility and responsiveness to meeting member countries' DRFI needs. However, this may require additional investments in product design if the existing datasets or technology needed to model these new disaster risks are unavailable. Investments will likely be made in collecting new data, boosting risk modeling capabilities, refining existing catastrophe models,³⁷ or even building new ones.

94. When it comes to improving risk modeling capabilities, CAREC may choose between the following two options, each with its costs and benefits that member countries should carefully assess:

- a. The first option is to develop catastrophe models in-house. While this would mean developing a model which the CAREC could "own" and easily tailor-fit to its countries' unique contexts, it requires a significant investment to create a modeling function within the CRF's insurance entity and update and maintain the model. The high costs may be better managed by amortizing them through licensing fees to outsourced modeling companies.
- b. The second approach would be to outsource the model and related capabilities to any of the many modeling companies in the market. This approach would not give CAREC the added flexibility gained from developing the model in-house. However, outsourced models can permit the licensee to allocate some legal and financial responsibility for model performance to the service provider; this is not feasible if a model is developed in-house.

³⁶ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries: Where Do We Go From Here?*

³⁷ Catastrophe models are computer applications and risk management tools that (re)insurers use to quantify the financial impact of potential future disasters on their portfolios. The outputs of analyses of catastrophe models are used to develop technically sound insurance products.

95. **Introducing attractive product features.** A facility can demonstrate flexibility and responsiveness to its member countries' needs by incorporating attractive features into existing products. The following are some features that should be adequately assessed before integrating them into the CAREC facility's products:

- a. Lowering the minimum attachment point for existing products to allow the facility to pay more frequently for smaller and less severe events. For instance, CCRIF lowered the attachment points of its tropical cyclone product from a 1-in-20-year return period to a 1-in-15-year return period and, finally, a 1-in-10 upon the request of its member countries.³⁸
- b. Incorporating secondary parametric triggers to reduce basis risk. For example, the prime trigger may use satellite derived data to ensure a broad coverage over the country, but a secondary trigger could be measured rainfall at the few (sometimes sole) reliable ground station, to avoid the "political basis risk" of a policy not triggering when the weather station near the capital city records heavy rain.
- c. Supplementing a parametric policy with an indemnity-type reimbursement. The indemnity-type feature would make payouts not based on actual losses incurred but possibly against benchmarks that are close estimates of actual losses and easy to compute. A possible benchmark is the industry loss, which is the sum of losses reported by insurers following an event.³⁹
- d. Allowing countries to tailor the parameters of their insurance coverage to fit unique circumstances. For instance, CCRIF allowed the Bahamas to divide the geographical areas of its excess rainfall and cyclone coverage into three zones, each ceding a different percentage of its risk to the facility.⁴⁰
- e. Discounting insurance premiums. To encourage countries' participation and increases in their coverages, CCRIF has offered up to 25 percent discount on members' premiums in years following no-claim years and a 35 percent discount on additional coverage purchased for the 2016-2017 period.⁴¹ The CRF may also offer discounts if there is sufficient capital, savings on operating costs, sustained stable premium revenue, and a soft reinsurance market.
- f. As an alternative to the previous option, premiums could be fixed, giving budget certainty to governments. When no claim is made, a proportion of the premium could be "returned" to the country, held in a country-specific fund which the country could draw down in the event of a disaster event in future years.
- g. Introducing an Aggregate Deductible Cover (ADC), a special feature of CCRIF integrated into existing products to further manage the negative impacts of basis risk. As discussed in Section 2, the ADC pays a certain amount to the country if the modeled losses of an event are either (1) between 50% and 99% of the attachment point or (2) between 10% and 49% and the ReliefWeb website issues a Disaster Alert for that event for the country.

³⁸ World Resources Institute, 2019.

³⁹ Cebotari, Aliona, and Yousseff, Karim, 2020. *Natural Disaster Insurance for Sovereigns: Issues, Challenges and Optimality*. IMF Working Paper.

⁴⁰ World Resources Institute, 2019.

⁴¹ World Resources Institute.

The maximum amount the country can receive from this feature is a proportion of its net premium for the policy.⁴²

- h. Introducing a Reinstatement of Sum Insured Cover (RSIC), another feature of CCRIF's tropical cyclone and earthquake policies. If a single large event, or a sequence of smaller events, erodes the sum insured of a country's insurance cover, the RSIC allows the sum insured to be reinstated for the remainder of the year. CCRIF offers one free reinstatement, meaning that if a country buys a policy with a sum insured of fifty million dollars, up to that amount is payable for any single event, but up to one hundred million dollars of cover is available to pay for two or more events during the policy year.⁴³

3.4.4 Country engagement

96. As discussed in section 2 on lessons learned, promoting local stakeholders' sense of ownership of the facility is necessary for its success—and developing and implementing a country engagement program steers the CRF towards this desired end goal. An essential component of this program is creating capacity-building opportunities for member countries to enhance technical knowledge about DRM, DRFI, risk pooling, catastrophe risk modeling, and related topics. This form of engagement empowers local experts to take on more of the technical responsibilities needed to run the facility, thus lessening their long-term dependence on assistance from external specialists and promoting country ownership. However, country engagement should entail not only capacity building but also building the political support of local stakeholders, which is necessary to create and operate the facility successfully.

97. It is recommended to enlist the assistance of outsourced local service providers when implementing and developing a country engagement program. These providers have added skills that bring value to the engagement process. These skills may include speaking the countries' local languages, specializing in tailor-fitting communications to meet countries' unique contexts, and offering additional platforms for learning and communications.

3.4.4.1 Capacity building for country stakeholders

98. The depth and breadth of a CRF's capacity-building program could vary from a comprehensive technical assistance program to a simpler one composed of primarily ad-hoc or standalone training sessions. Factors that determine the scope or form of a capacity-building program may include the number of countries participating in the facility, the availability of resources (e.g., instructors, learning platforms, funding) to implement the program, and the current levels of DRFI and DRM knowledge within the country.

99. Following a due diligence exercise, the facility decision-makers should decide on the initial components of the capacity-building program. The program could take on the following features and could be expanded or downsized in the future, depending on factors such as the country's learning priorities and the availability of resources:

- a. Region-wide strategic knowledge building. This would involve creating well-crafted, tailor-fit learning sessions which cover a broad range of topics for both high-ranking government decision-makers and their junior, more technical colleagues;

⁴² https://www.ccrif.org/aboutus/ccrif-spc-payouts?language_content_entity=en

⁴³ World Resources Institute.

- b. A more comprehensive professional development program which may even include university engagement (e.g., supported by internship and scholarship components) to educate future leaders in the region;
- c. Ad-hoc capacity-building sessions (e.g., workshops, meetings, training) organized as needed or as requested by the countries;
- d. Various forms of support for countries' DRM initiatives or DRFI strategy planning processes.

100. Regardless of the scope or form of the capacity-building program, it is recommended to convey particular key messages to the country stakeholders. These messages contain essential information that will help government champions articulate the value that CRF participation may provide stakeholders in their respective countries:

- a. The specific objectives of the facility (e.g., a source of immediate but limited funding after a disaster);
- b. The features of the insurance product offered and its limitations (e.g., basis risk in the case of parametric insurance);
- c. The value-added co-benefits aside from the insurance protection provided (e.g., decision-making support tools, capability building program);
- d. The expected insurance coverage a country can purchase given a level of premium payment;
- e. A Client Engagement Tool, which can be further developed to allow governments to see corresponding estimated premium prices of the facility's insurance product given different attachment probabilities, exhaustion probabilities, minimum payments, and maximum payments;
- f. The proper usage of the facility's tools (e.g., catastrophe models, risk profiles), the correct interpretation of their results, and the applicability of these results in decision-making processes related to broader disaster risk and public financial management.

3.4.4.2 Support required from country stakeholders

101. Since the CAREC facility would receive substantial funding and technical expertise from donors, its member countries are also expected to conduct additional activities to support achieving its objectives. These expectations should be agreed upon, established, and included in the country engagement program for proper monitoring. These activities include:

102. **Compliance with donor agencies' preconditions.** Donors may require countries to produce and submit documentation (e.g., government policies, plans, or guidelines) related to their use of insurance payouts from the facility, for example prioritizing insurance pay-outs to support vulnerable groups (e.g., women, people with disabilities, etc.). Donors may establish preconditions to guide them in evaluating if their objectives have been reached, for example funding for sustainable development, implementation of disaster risk reduction and adaptation measures, or providing disaster resilience solutions to sovereigns. Additionally, the documentation from countries may help donors evaluate if they can continue to provide funding for the facility's operations and premium subsidies.

103. While countries may initially view donor agencies' documentation requirements as an additional administrative and compliance burden, they bring value-added benefits for countries, providing a catalyst to consideration of efficient disaster response and claim money deployment. Governments are then encouraged to properly conduct these documentation exercises since those that put in the most effort will reap the maximum benefits.

104. For instance, for a country to purchase insurance from ARC, its government must develop an Operations Plan informing how it can use its insurance payouts and report on the use of payouts contingent on Operations Plans. The plan follows specific standards and guidelines and is reviewed regularly by technical experts and the country's peers.⁴⁴ Donors initially put this prerequisite in place to ensure that the facility's parametric payouts are used to benefit the most vulnerable communities (Box 5). However, this contingency planning practice has since brought added benefits to the ARC member countries in the form of peer learning (through peer review) and improved collaboration among DRM actors in the contingency planning process.⁴⁵

Box 5: ARC's Contingency Planning Requirements⁴⁶

Operations Planning: Linking Early Warning to Early Response

Linking early warning to early response requires the quick mobilization of funds to implement pre-planned response activities. The pre-planning process, or contingency/operations planning, ensures that potential ARC Ltd payouts are optimized and used effectively, and that ARC funds reach the most vulnerable populations in an efficient and timely manner. This planning also allows participating governments to make evidence-based decisions, with a clear understanding of the financial resources available to them in the event of a disaster, and the types of activities required to save lives as well as livelihoods.

Ensuring that early response activities reach those most impacted by extreme weather events in Africa is one of the ARC's primary objectives. Operations planning saves governments both time and money, as proven in the ARC Cost Benefit Analysis (CBA) which concluded that substantial speed, cost and targeting gains can be achieved through improved contingency planning.

The planning process requires countries to identify the optimal use of funds from an ARC Ltd, payout given the existing national risk management structure and the needs of potential beneficiaries. Operations plans should be government-driven and based on in-country priorities for risk management in the context of food security. In fact, the CBA shows that the magnitude of contingency planning benefits is much greater when the plans involve scaling-up existing programmes –such as social protection programmes– on account of both improved targeting and gains in speed. Conversely, a payout plan that has no contingency planning, and therefore no speed advantages, offers no economic gains over traditional response mechanisms and therefore no benefits that would outweigh the cost of running a facility like ARC.

Within ARC, contingency planning refers to both the operations plan and a Final Implementation Plan (FIP) that has to be submitted by the government when a payout is imminent. This details information on how the ARC payout will be deployed based on the specific circumstances. These plans are developed collaboratively between national governments, in-country partners, and where needed, the ARC Secretariat. The development of these plans is guided by ARC'S Contingency Planning Standards and Guidelines, developed based on a comprehensive Cost Benefit Analysis of early response to help countries link early warning to livelihood saving early response activities.

Principles guiding the ARC contingency planning process

Time sensitive and/or catalytic: Payouts must be used for time-sensitive activities which can be enhanced by the timely and reliable funds that ARC provides. Implementation and first contact with beneficiaries through activity is feasible

⁴⁴ UNESCAP, 2018. *Disaster Risk Financing: Opportunities for Regional Cooperation in Asia and the Pacific*. Available at <https://www.unescap.org/sites/default/d8files/knowledge-products/Disaster%20Risk%20Financing%20Opportunities%20for%20Regional%20Cooperation%20in%20Asia%20and%20the%20Pacific.pdf>.

⁴⁵ World Bank, 2017. *Sovereign Climate and Disaster Risk Pooling: World Bank Technical Contribution to the G20*.

⁴⁶ <https://www.arc.int/contingency-planning/>

within 120 days of an ARC payout, and supporting activities to ensure faster and more effective action for the overall response.

Critical impact: Payouts should not be used for general investment activities but instead, should demonstrate their critical impact for vulnerable beneficiaries who require urgent assistance after a disaster.

Duration: Each activity that is funded by an ARC payout should be completed within six months to ensure that financial resources are utilized in a timely and efficient manner. This will ensure that countries capitalize on the “first available” funds principle of ARC.

105. As in the case of the Caribbean and the Pacific islands facilities, donor agencies may decide to give participating countries flexibility in using the insurance payouts instead of requiring commitments or plans on how these payouts will be utilized. However, donor’s interest in reporting payout usage increases when premiums are subsidized. While PCRIC does not require governments to create these plans, its client countries have nevertheless seen the value of contingency planning and, with guidance from the facility’s advisors, have formulated their respective Operations Plans or similar documents.⁴⁷

106. **Providing local expertise and data and involving in-country civil society organizations.** CAREC member countries can provide additional support in the facility's product design phase by connecting technical advisors with local subject matter experts who can contribute to the risk modeling exercise in the Facility Creation stage. These local experts may be able to provide information or locally collected data necessary for the modeling exercise and not readily available to the facility's advisors.

107. Additionally, governments of member countries could engage locally-based civil society organizations (CSOs) to establish additional mechanisms for insurance payouts necessary to deliver the insurance benefits to the target groups effectively. The ARC Replica model of the Africa facility demonstrates a way to proceed with this approach. ARC Replica was initially designed such that CSOs purchase ARC policies that replicate the insurance policy of the participating country in which the CSO operates. If the government receives a payout from the facility, the organization will receive the same payout, and their response implantation plans are coordinated, providing additional transparency.⁴⁸

3.4.4.3 Key government stakeholders to engage

108. The country engagement efforts, as described earlier, need to target specific individuals in government who can champion the CRF to other public sector officials and encourage the country's participation in the regional initiative. Key individuals in government who need to be engaged include:

- a. **Decision-makers.** These are often high-ranking officials of the Ministry of Finance or other ministries spearheading the government's DRFI efforts. These officials either make the final decision on the country's participation in the facility or are the decision-maker's official representatives. This ministry gives the final recommendation on the insurance coverage to be purchased from the facility, which would depend on factors such as the country's perceived level of disaster risk, fiscal health, and current political or policy landscape.

⁴⁷ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries: Where Do We Go From Here?*

⁴⁸ World Resources Institute, 2019. *The Future of Disaster Risk Pooling for Developing Countries: Where Do We Go From Here?*

These ministry leaders may also have to justify to other government officials, particularly those involved in the budget approval process, the costs to be incurred when participating in the regional initiative and the added value of CRF engagement in foreign affairs and cooperation contexts. Additionally, these leaders are very likely to be the "face" or spokesperson of the facility to their various constituents, such as the general public. They will be responsible for sufficiently answering people's questions about the initiative, even the most sensitive ones about cases of basis risk and potential non-issuance of payouts.

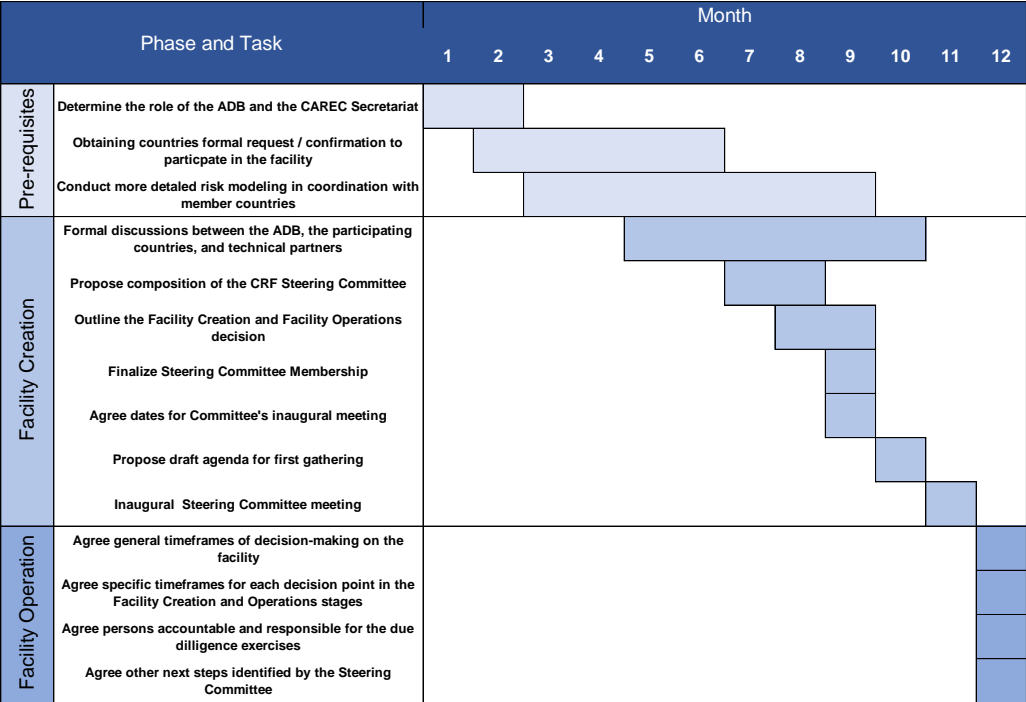
- b. Technical specialists. These are the subject matter experts of the Ministry of Finance or other ministries or agencies spearheading or heavily involved in the government's DRFI or DRM efforts. These specialists work with the government decision-makers to conduct a cost-benefit analysis of their country's participation in the facility and justify participation to other government officials, such as legislators. These public servants may also be the "face" or spokesperson of the regional initiative to various constituents or provide technical support to the decision-makers assigned to take on this spokesperson role. It is ideal to engage experts who are permanent employees instead of political appointees who may be replaced during government administration changes.

Section 4. CRF Roadmap

109. With the decision points for the Facility Creation and Facility Operations stages outlined, the next step will be for ADB to coordinate and work towards convening a regular gathering of relevant decision-makers, composed of at least the CAREC member countries, a facility's lead implementation advisor, and interested donor funders, with specific time-bound objectives through a Risk Facility Implementation Roadmap. This work plan will facilitate discussions among the facility's key actors, allowing countries to finalize decisions on important matters and eventually craft plans for execution.

110. Prerequisite discussions and actions must be undertaken before this decision-making body can be created and their formal avenues for discussions established. These actions altogether make up the roadmap for the CRF, which is described as follows:

Figure 4-1: CAREC Risk Facility Roadmap



111. **Determining the role of the ADB and, specifically, the CAREC Secretariat.** Early on, the ADB must confirm its role in the project, which is highly likely to be the lead implementation advisor in close cooperation and coordination with other development partners. It is crucial to identify lead implementor at this stage as this entity will orchestrate the immediate next steps necessary to move forward with decision-making on the facility's creation and operations. The next steps include securing funding to conduct the prerequisite tasks in this roadmap and engaging technical experts who can perform initial risk modeling and necessary due diligence exercises, building on the risk modelling and analyses conducted under the existing TA. For ADB to fulfill this lead implementer role, the support from (at least three) CAREC countries must be

obtained. In the succeeding commentary, it is assumed that the ADB has requested by the CAREC countries to be the CRF's lead implementer, based on the feedback received during the various engagement meeting under this TA project. An official proposal and request for confirmation will be presented during the **CAREC Ministerial Conference in November 2023**.

112. The ADB currently serves as the Secretariat of the CAREC Program and has staff deployed specifically for this role. The role of this team in the facility's creation and operations processes must be confirmed, with ADB and the Secretariat agreeing to commit additional resources, in the form of workforce and person-hours, for this endeavor. The team would play a key role in coordination, leveraging its existing relationships with the region's countries to encourage their participation in the nascent stages of facility development.

113. **Conducting more detailed risk modeling in coordination with member countries.** Under the existing TA project⁴⁹, ADB has conducted one-on-one consultations with CAREC member countries, and gathered initial information on member countries' individual protection gap and DRFI needs, particularly regarding the perils to which they are most exposed and the kind of insurance coverage available. Additionally, through these consultations, the ADB has been able to gauge countries' indicative interest in participating in the CRF.

114. Given this feedback gathered in the initial consultation stages, the ADB and the advisors should conduct a more detailed assessment of possible options for the facility's initial product offering, pricing indications, and capital and reinsurance requirements. The technical advisors could use the existing data and information gathered from the previous activities conducted under this TA project. Outputs of these more detailed risk modeling exercises may include briefing notes and presentations, as well as complementing the Disaster Risk Modeling Interface, primarily for the consumption of the decision-makers within CAREC countries, with supportive technical notes for technical experts in the countries and the region.

115. The ADB and the technical advisors should conduct one-on-one workshops with each CAREC member country that has expressed initial interest in participating in the facility. The workshops aim to present to government decision-makers and technical experts the findings from the additional risk modeling exercises, thus giving the government representatives a more concrete indication of how the facility is likely to operate and benefit their country.

116. **Obtaining countries' formal request / confirmation to participate in the facility.** Conducting the workshops described in the previous step would give the ADB a firmer indication of countries interested and active engagement in participating in the facility. After the workshops have been conducted, the ADB must require country governments to formally confirm their participation and commitment in the prerequisite decision-making processes in writing. It is recommended for this document to come in the form of a joint resolution or decision from the participating countries to manifest consensus.

117. **Initiating formal discussions between the ADB, the participating countries, and technical partners.** After the facility's participating countries have formally expressed their confirmation of commitment, a kick-off meeting between the ADB, the member countries, and the technical advisors should be organized. For convenience, this first meeting may be held at the sideline of a regular CAREC meeting of member countries (e.g., a regular CAREC Secretariat-organized or another region-wide meeting or conference). However, should the parties agree to expedite this multi-stakeholder discussion, follow-up meetings could be scheduled at any time

⁴⁹ TA-9878 on [Developing a Disaster Risk Transfer Facility in the CAREC Region](#).

and need not conform to an existing regularly scheduled meeting or conference of parties to be organized.

118. The agenda of the kick-off meeting should include at least the following items:

- a. *The proposed composition of the CRF Steering Committee* which, moving forward, is the CRF's highest governance body. It oversees progress in the decision-making towards the facility creation and establishment of its operations and documents decisions and plans in a roadmap. The ADB, the participating countries, the technical partners and, if applicable, the funders should identify which parties should be represented in the Steering Committee. These parties should then assign individuals (ideally one Focal Point as Primary Member and one as Alternate) who officially represent their organization in all Steering Committee meetings and all decision-making processes, such as discussion and voting. These representatives need not be identified during this kick-off meeting, but facility actors should be aware that these individuals will have to be officially appointed before any further steps can be taken.
- b. *The outline of the Facility Creation and Facility Operations decision points* which will need to be discussed and agreed upon by the Steering Committee over the Committee's subsequent meetings. This outline indicates a list of decisions that the Committee must collectively arrive at (a proposed outline with key decision points regarding Facility Creation and Operations is included in Section 3 of this report).
- c. *The timeframe of immediate next steps.* During this kick-off meeting, the participants should agree on the next steps, including finalizing the Steering Committee membership, agreeing on the indicative schedule of the Committee's inaugural meeting as well as the subsequent periodical meetings, and proposing a draft agenda for this first gathering. This forthcoming event kickstarts the series of discussions that the Steering Committee must have to finalize the Facility Creation and Facility Operations decision points.

119. **Holding the first CRF Steering Committee meeting.** The ADB and the CAREC Secretariat will organize this first Committee meeting and all subsequent meetings. At this gathering, the Committee must agree on at least the following:

- a. *The general timeframes of decision-making on the facility.* The timeframes may be determined by peril season or, in the absence of perils driving timelines, by budget cycles of countries and donor partners. Creating timelines defined by the latter is suitable if donors have funding windows or countries are required to pay membership fees or premium payments upfront, thus requiring these payments to be included in proposed budgets for the next budget approval phase. The timeframes may also be determined by electoral cycles. If decision-making on the CRF is expected to coincide with the election season of a country, the Committee may choose to defer decision-making until after elections are held and newly elected officials are appointed. (This is recommended since changes in spending priorities and national policies may occur with the appointment of new government leadership.)
- b. *The specific timeframes for each decision point in the Facility Creation and Operations stages.* The timeframes should include the proposed schedules of regular meetings of the Steering Committee, which allow monitoring of progress in the decision-making process for the Facility creation. The timeframes should consider the period necessary for the advisors to conduct due diligence exercises and for the CAREC countries' governments

to report and make informed decisions. If detailed timelines cannot be developed, it is recommended to at least agree on the key milestones and their indicative target dates.

- c. *The persons accountable and responsible for the due diligence exercises and other next steps identified by the Steering Committee.* A Responsibility Assignment matrix may be developed to document which Committee members are responsible, accountable, consulted, or informed for specific tasks.

120. Moving forward, progress towards the development of the facility should be monitored and spearheaded by the ADB with assistance in coordination, logistics, and documentation from the CAREC Secretariat. The Steering Committee will continue to be the decision-making body until the Board of Directors, which will share the legal oversight of the facility's operations, has been formed. After the Steering Committee has made the necessary decisions relating to the facility's creation and operations, it should focus on crafting and implementing plans and working towards establishing and operating the CRF legal entity.

121. The ADB provides convening power for CAREC member countries and can provide the necessary platform for advancing the process through a coordinated and consultative approach, necessary for establishing a CRF program. The ADB can schedule CRF conferences in the margins of existing regional cooperation meetings for CAREC countries, across a 1-to-2-year time horizon, to give sufficient time and momentum for drafting establishment, governance and operational documents on which a CRF can be created.

122. The resources required for establishing a CRF can be allocated and managed, consistent with existing CAREC regional cooperation programs. If CAREC countries declare a collective interest in establishing a CRF, a detailed staffing and budget could be formulated. Staff requirements would include representatives of CAREC agencies and legal and financing advisors, dedicated to working with consultant experts across a 1-2 year work program. Additional budget requirements can be projected to ensure necessary insurance regulatory and risk management experts are included to support the work and the convening of conferences to develop consensus for the CRF as a cooperation mechanism for regional disaster risk finance. The ADB's processes for guiding CRF establishment workplan activities may be informed by historic processes for establishing other ADB regional programs.

123. Based on a joint declaration from CAREC countries requesting assistance from the ADB and partners to establish a CRF (e.g., at the November 2023 CAREC Ministerial Conference), the ADB could establish a budget and detailed workplan to enable the creation of a CRF, as a supranational cooperation program, hosted in a country chosen by CAREC countries, with an enabling environment to provide the legal entity the necessary capacities to serve CAREC countries' disaster risk management objectives and to interface with international capital and risk transfer markets.

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