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Innovative humanitarian financing: A risk insurance mechanism to scale-up UN-CERF

The Innovative Finance Foundation (IFF) is a non-profit organization dedicated to creating powerful collaborations for funding sustainable development and ending extreme poverty.

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Foreword

Every year, millions of regular citizens find themselves in life-threatening situations caused by armed conflict and natural disasters. Frequently, the United Nations is called upon to provide impartial humanitarian assistance in such crisis situations.

Last year, UN member states contributed a record US\$10.7 billion to UN humanitarian appeals but this was only half of what was needed. The World Humanitarian Summit in May 2016 and the UN Secretary-General's *s Agenda for Humanity* highlighted the considerable challenges facing humanity, from civil wars to the refugee crisis, from upholding international law and human rights to investments in prevention, preparedness and resilience.

Within the UN system, the Central Emergency Response Fund (CERF) has been very effective in providing funding for food, shelter, safe drinking water, medical supplies and basic services at a time of crisis. Given that the demand for humanitarian assistance has increased six fold since the CERF was established 10 years ago, the Secretary-General has called for a scale-up of the CERF from US\$450 million to US\$1 billion a year. But where will the urgently needed resources come from? I believe that innovative financing can help.

In this report, the Innovative Finance Foundation (IFF) makes a case for innovative humanitarian financing that would contribute to scaling-up the CERF. A key proposal is a natural catastrophe insurance that would pay up to US\$150 million for damages caused by earthquakes and cyclones. It would make additional funding available when needed and reduce the financial risk from natural disasters to the CERF. The report also discusses innovative ways to fund the insurance without diverting existing humanitarian funding.

I would like to thank the IFF for the thought leadership contained in this report, a vital source of information and reflection upon which the United Nations and CERF supporters can build a concrete, innovative initiative for humanitarian financing.

Philippe Douste-Blazy

United Nations Under Secretary-General &
Special Advisor on Innovative Financing for Development

Executive Summary

Since its creation 10 years ago, the United Nations Central Emergency Response Fund (CERF) has spent an average of US\$ 402 million per year for humanitarian emergency assistance, of which about a third was natural disasters related.

The observed increase in the frequency of severe weather events compounds the fragile situations in many low- and middle-income countries. Estimates for economic losses due to natural disasters range between US\$182 billion to US\$314 billion a year.

Given that the demands for UN humanitarian financing have increased six fold over the last 10 years, the UN Secretary-General has called for a scale-up of the UN-CERF from the current US\$450 million a year to US\$1 billion a year.

In this report, we outline one concrete innovative financing initiative that would contribute towards the CERF scale-up by:

- transferring financial risks associated with natural disasters to risk insurance at the cost of an annual premium;
- covering the annual premium from innovative sources of financing with no adverse budgetary implications for the CERF;
- creating value added benefits for the CERF's business model such as additional funding at time of need, decreased financial volatility of the fund and catastrophe preparedness.

The envisioned insurance policy would pay out up to US\$150 million a year for damages caused by natural catastrophes such as earthquakes and cyclones, depending on their severity. The payout function would be designed for single weather events or multiple weather events.

In a single event policy, the payout would be a stepped out function linked to pre-defined and agreed parameters such as intensity and people affected (parametric insurance). In a multiple events policy, the payout would be linked to number of events and amounts disbursed by the CERF. In either case the insurance could cover all high-risk countries. Details would need to be developed and negotiated between the CERF and interested insurance companies.

The cost of the insurance depends on the final design. Generally, the premium amount is calculated by applying “multiples” on the “expected loss” (EL) of an insurance contract, whereby the EL equals to the payout. For example, if a contract pays out US\$10 million for an event modeled to occur every 10 years then EL would be US\$1 million a year:

$$EL = \$10m * 1/10 = \$1m$$

The premium is then determined by adding so-called “multiples” between 1.5 and 2.5 on top of the EL, depending on the nature of the underlying risk, volatility, contract duration and other costs incurred by the insurer.

The premium cost can be met by long-term, earmarked donor contributions to the CERF or via innovative financing mechanisms.

Considering that current humanitarian funding already falls short of demand, we propose an innovative approach in form of an endowment fund with a target size of US\$120 million that would be managed by a top-tier asset manager and donate capital returns to cover the premium. This “CERF Premium Fund” could be raised from donor champions and the private sector. The Premium Fund would also be eligible for funding from the Green Climate Fund (GCF).

In addition to capital return, innovative finance could also be generated from a limited number of CERF debt conversions. Under a tried and tested model, creditors would forgo a part of their bilateral debt on the condition that the beneficiary country invests an agreed amount (counterpart funds) in the CERF, either as a direct contribution or capitalization of the Premium Fund. This mechanism would enable a number of lower- and middle-income countries to become donors to the CERF.

Taking into account the CERF's mandate, governance structure and business model, we believe that an insurance-based mechanism funded by innovative financing offers one concrete and feasible opportunity to scale-up the CERF.

The approach is technically sound and the private sector partners have been identified and stand ready to work out the details in collaboration with the CERF. The CERF in turn will need to consider how to develop the proposed initiative from the concept presented here to launch and implementation.

1. Meeting the challenge of humanitarian emergencies

While large parts of the world enjoy peace, stability and prosperity, hundreds of millions of people around the world live in conflict and war zones.

In his report *One Humanity: Shared Responsibility*¹ to the first ever World Humanitarian Summit (WHS) in April 2016, the UN Secretary-General laid out in some detail the numerous challenges facing humanity: Nearly 1.4 billion people live in fragile situations and the number is expected to rise to 1.9 billion by 2030. At the end of 2014, almost 60 million people were forcibly displaced, either domestically or across borders. The current refugee crisis in Europe and other parts of the world is a stark reminder that major civil wars have increased from 4 in 2007 to 11 in 2011. The urban population in lower-income countries and fragile states has increased by 326 per cent over the last 40 years and fighting in urban centers has led to more civilians being killed and vital infrastructure being destroyed. Decades of progress and respect for the law of war is unraveling with indiscriminate killings of civilians, deliberate attacks on hospitals and schools, the use of cluster munitions which 50 per cent of the time end up injuring or killing children. Finally, the economic and financial cost of conflict and violence has been estimated to be US\$14.3 trillion, or 13.4 per cent of the global economy in the year 2014.

While the international community is struggling to find lasting political solutions to conflicts, the commitment to peacekeeping and humanitarian assistance remains: The number of peacekeeping missions is rising, particularly non-UN missions by as much as 60 per cent between 2012-2014. Funding requirements for UN humanitarian appeals have increased six-fold, from US\$3.4 billion in 2004 to US\$19.7 billion in 2015. Last year, Member States have contributed the record sum of US\$10.7 billion to UN humanitarian appeals but that was only half of what was needed.²

Towards Prevention and Preparedness

Against this backdrop, the UN Secretary-General admits that peacekeeping and humanitarian assistance will never be enough. He calls for a shift from perpetual international crisis management towards prevention, preparedness, early action and vulnerability reduction.³

¹ UN/A/70/709 (2 February 2016)

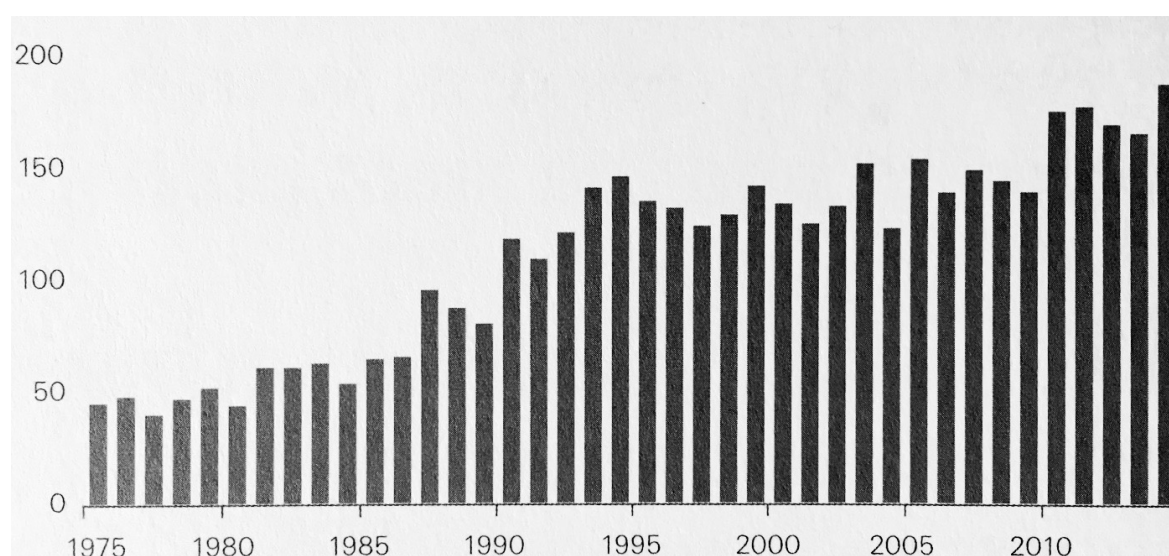
² UN/A/70/709 (2 February 2016)

³ UN/A/70/709 (2 February 2016)

Natural disaster management is the low-hanging fruit of humanitarian emergency assistance and has perhaps the best chance to demonstrate a viable shift of resources towards better preparedness investing in data analysis, modeling, planning and risk financing like some Asian countries have done following the devastating tsunami of 2004.

The Sendai Framework for Disaster Risk Reduction is an expression of this step change but the current aid architecture has not yet caught up with the Sendai vision as yet: estimates for 2014 indicate that only 0.4 per cent official development assistance (ODA) was spent on disaster prevention and preparedness.⁴ This despite overwhelming evidence that natural disasters compound already fragile situations in many low- and middle-income countries, in part because of increasing frequency due to climate change and environmental degradation and in part because of increasing number of victims due to rapid, unplanned urbanization.

Figure 1. Number of natural catastrophes 1975-2014



Source: SwissRe Economic Research & Consulting and Cat Perils

The number of people displaced by natural disasters has increased by 60 per cent from 1970 to 2014, with an average of more than 26 million people newly displaced in each of the last seven years.⁵

The impact of natural hazards on economic development is also staggering: Future annual losses due to natural disasters are estimated to be US\$314

⁴ OECD. Stat datatabase and UN/A/70/709 (2 February 2016)

⁵ Yonetani, Michelle. Global Estimates 2015: people displayed by disasters (Geneva 2015)

billion a year.⁶ The damage to small-island developing states is particularly severe because a single event can devastate economic activity for a whole country. Therefore, it is no surprise that the UN Secretary-General has called on countries to double ODA for risk reduction and preparedness to at least 1 per cent by 2020.⁷

Meeting the challenges of humanitarian emergency assistance at time of crisis stemming from natural disasters is going to become more important in the future as we face climate change, sea level rise, El Nino, La Nina and other disruptive weather events.

United Nations Central Emergency Response Fund (UN-CERF)

The CERF was established by the General Assembly and launched in March 2006 with an annual funding of US\$450 million from voluntary donor contributions. The CERF has two funding windows through which UN agencies can request funding for humanitarian assistance: the rapid response window and the underfunded emergencies window. The CERF allocates funding on a needs basis to agencies on the ground, ensuring fiduciary standards and accountability. The top five UN partners for CERF are the WFP, UNICEF, UNHCR, WHO and FAO.

Good performance

The CERF is neutral, transparent and responds rapidly to a wide range of emergencies on a global scale. It is one of the most effective and efficient humanitarian aid structures of the United Nations. When a devastating earthquake struck Haiti in 2010, CERF approved funding in just 10 hours and when a massive earthquake struck Nepal in 2015, CERF funding reached the ground within 48 hours.⁸

Over the last 10 years, the CERF has provided more than US\$4.1 billion in emergency assistance to people in 94 countries and territories, funding food, shelter, safe drinking water, medical supplies and basic services during a crisis.⁹

The CERF has been disbursing on average US\$402 million a year. One third of CERF's expenditures are natural disaster related, an annual average of US\$29

⁶ UN/A/70/709 (2 February 2016)

⁷ UN/A/70/709 (2 February 2016)

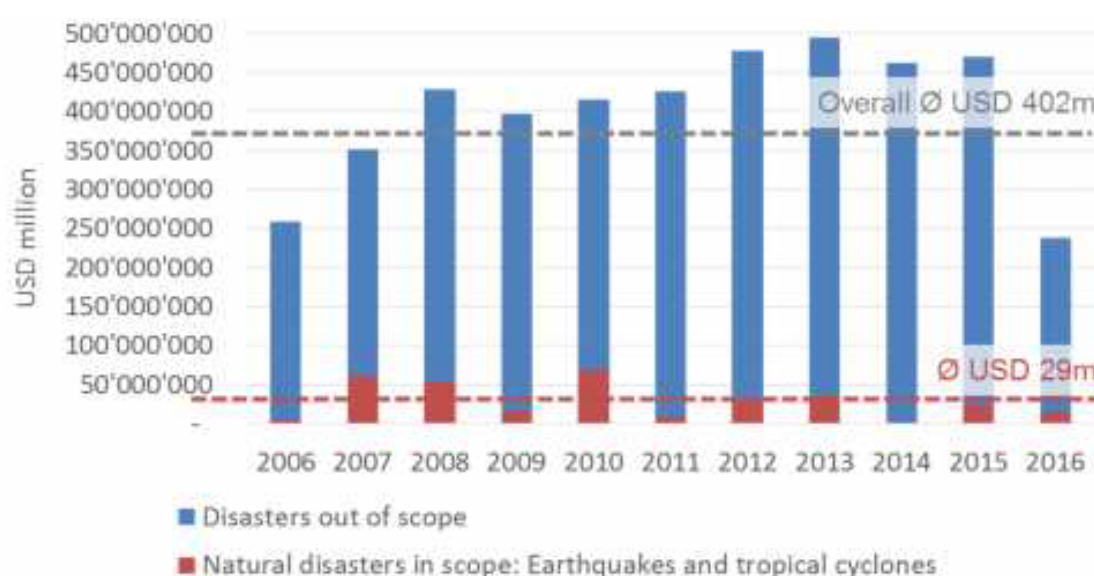
⁸ United Nations CERF. The World Helping the World (December 2015.)

⁹ United Nations CERF. The World Helping the World (December 2015.)

million for earthquakes and cyclones (see *Figure 2*). Interestingly, in 2015, the CERF provided US\$80 million in assistance to countries affected by the *El Nino* effect, a climatic event that occurs every two to seven years and changes weather patterns that result in drought, flood and landslides.¹⁰

Every year, the CERF funding enables humanitarian partners to provide critical health services to over 20 million people, food to 10 million people and water and sanitation to 8 million people, livelihood support for 5 million people, protection to 4 million people and shelter to 1 million people.¹¹

Figure 2: Disbursements by the CERF 2006-2016



Source: SwissRe. Proposal for Innovative Parametric Insurance, 25 August 2016

Evolving needs

Since 2006, the time when the CERF was established, the demand for UN assistance has increased nearly six fold and at the World Humanitarian Summit in May 2016, the UN Secretary-General called for a scale-up of the CERF from the current level of US\$450 million to US\$1 billion a year.¹²

We share the widely held view that the CERF is well positioned to expand and boost its response capacity. We have shown that the humanitarian landscape is changing with demands for emergency assistance due to natural catastrophes and severe weather on the rise. Humanitarian assistance from

¹⁰ UNCTAD. The World Helping the World (New York 2015)

¹¹ UNCTAD. The World Helping the World (New York 2015)

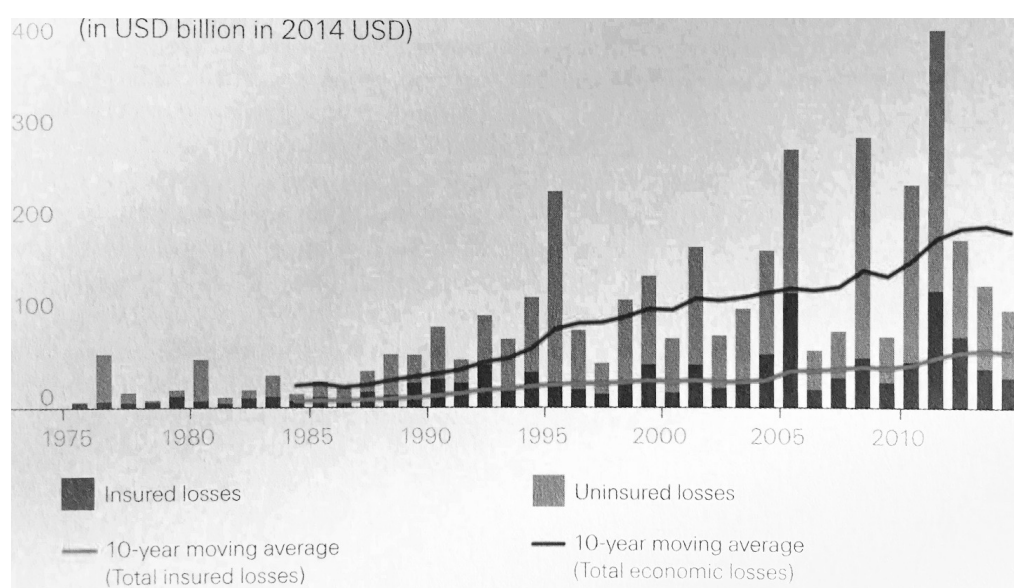
¹² UN/A/70/709

weather-related emergencies and diseases is taking up 36 per cent of CERF's funding and could increase in the future.

It is against the backdrop of that we propose and develop an innovative insurance initiative that would transfer some of the financial risks stemming from natural disasters to an insurance policy.

A risk transfer would decrease the financial volatility of CERF resources, align funding to modeled risks and raise additional funds at a time when needed.

Figure 3. Insured vs. uninsured losses from natural catastrophes 1975-2014



Source: SwissRe Disaster risk financing: smart solutions for the public sector (Zurich 2015)

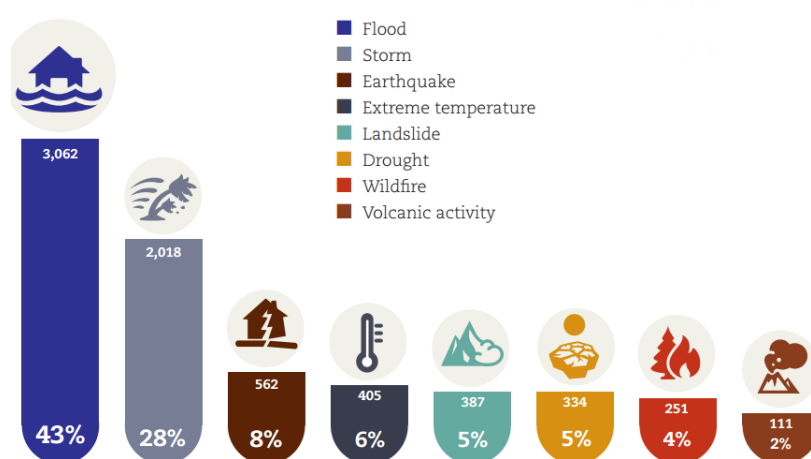
2. Risk insurance for UN-CERF

Insurance is a risk transfer mechanism that disburses a pre-defined amount of funds if a pre-defined event occurs. There are a number of design elements that affect the functionality and costs of an insurance policy. Generally, these elements are subject to negotiation with an insurance provider. They are discussed here to indicate some of the cornerstones of a potential insurance policy but further details need to be developed and negotiated with interested insurance providers. Illustrative term sheets developed by SwissRe and MunichRe for this report are exhibited in *Annex 1 and 2*.

Perils coverage

In principle, a CERF insurance policy can cover any perils for which the CERF disburses humanitarian assistance funding. However, in order to avoid potential disputes that can adversely impact the reputation of the insurance initiative, it is advisable to begin with perils whose physical characteristics can be easily measured such as cyclones and earthquakes. Importantly, these perils already make up a significant share of natural disasters that have occurred over the last twenty years (see *Figure 4*) so their inclusion would address a significant share of all occurring natural disasters.

Figure 4: Natural disasters by category 1995-2015



Source: World Economic Forum and United Nations (2015)

Geographic coverage

The CERF insurance policy should be applicable to all countries at risk that can receive support from the CERF. Each country will still need to be listed individually and explicitly in the insurance policy.

Payment triggers

Payment triggers are pre-defined and agreed physical parameters of the weather event such as earthquake magnitude, precipitation or wind speed. Hazard intensities are generally acquired from acknowledged and publically available data providers, such as the United States Geological Survey (USGS), the National Hurricane Center (NHC) or the Joint Typhoon Warning Center (JTWC).

In addition to intensity criteria, there may be additional criteria included as payment triggers, for example the percentage of people affected. A hazard with the same intensity striking in a densely populated area is most likely require a more costly response than a hazard striking sparsely populated areas.

In insurance policies that are designed based on the occurrence of multiple weather events in a given time period and a certain amount disbursed by the CERF, the payment triggers are not co-related to the intensity of the hazard.

Payout functions

The payout of the insurance policy can be based on stepped function of the hazard intensity and any other included physical parameters. Such parametric insurance generally pays out more rapidly than traditional indemnity insurance because it requires no assessment of the actual damage on the ground.

The pre-requisite for any payment is that the CERF makes an emergency relief payment to the affected country due to an eligible weather event. The reason for this stipulation is that insurance regulation in most jurisdictions requires a "proof of loss" in order for the proposed cover to qualify for an insurance contract. The exact amount of the payment by the CERF does not have to equal the payout amount and the CERF can use any residue balance for its humanitarian mission.

If the insurance is based on single events, the payout is triggered if the physical parameters have been met. If the payout function is designed based on multiple events of eligible perils and disbursement levels by the CERF, the payout would be function of the number of events and the amounts disbursed. A multi-event policy would most likely lead to less frequent payouts given that multiple weather events are less likely to occur in a given time period.

Detailed modeling and further discussion with the insurance providers will be necessary to determine which is the best solution for the CERF taking into account coverage, likely frequency of payout and cost. The CERF will need to consider how to best balance cost with the payout functionality.

Premium Cost

Generally, the premium amount is calculated by applying “multiples” on the “expected loss” (EL) of an insurance contract, whereby the EL equals to the payout amount. For example, if a contract pays out US\$10 million for an event modeled to occur every 10 years then EL would be US\$1 million a year:

$$EL = \$10m * 1/10 = \$1m$$

The multiples applied on top of the EL may vary between 1.5 and 2.5 depending on the nature of the underlying risk, volatility, contract duration and the administration costs.

The final cost of a potential insurance policy will be determined once the design process is complete. General premium estimates range between US\$3m-US\$17m annually.

3. Premium payment

Considering that existing humanitarian funding falls short of existing demand, the premium costs should be additional to existing humanitarian funding. There are options to mobilize the required funding ranging from traditional approaches such as earmarked donor contributions to more innovative instruments such as capital return structures and debt swaps.

Earmarked long-term donor pledges

The most direct way to finance the premium payment is through additional, long-term pledges by champion donors, earmarked for the purpose of insurance. The key obligation on donors would be assurance of additional, sustainable and predictable contributions because defaulting on premium payments would have negative financial and reputational consequences for the CERF.

Experience from other public sector insurance policies suggest that it would not be advisable to enter into an insurance contract without secure funding for the duration on the contract. If the contract ran for 5 years, donors would need to pledge funding for that duration. Shorter policy terms might be more “donor friendly” but a short-term policy would undermine confidence in the insurance initiative if there were to be no payout during that first year.

“Germany commits to work closely with partners, including the Innovative Finance Foundation, on innovative financing solutions for the CERF.”

*Frank-Walter Steinmeier
Minister of Foreign Affairs*

Innovative financing with Premium Fund

The last fifteen years have witnessed considerable growth in public-private partnerships frequently financed by innovative, blended financial instruments that use the power of capital markets to generate additional, predictable and sustainable funding. The paradigmatic vehicles in this space include the International Finance Facility for Immunization (IFFIm), which raised more than US\$5 billion through bond issues for funding vaccines.

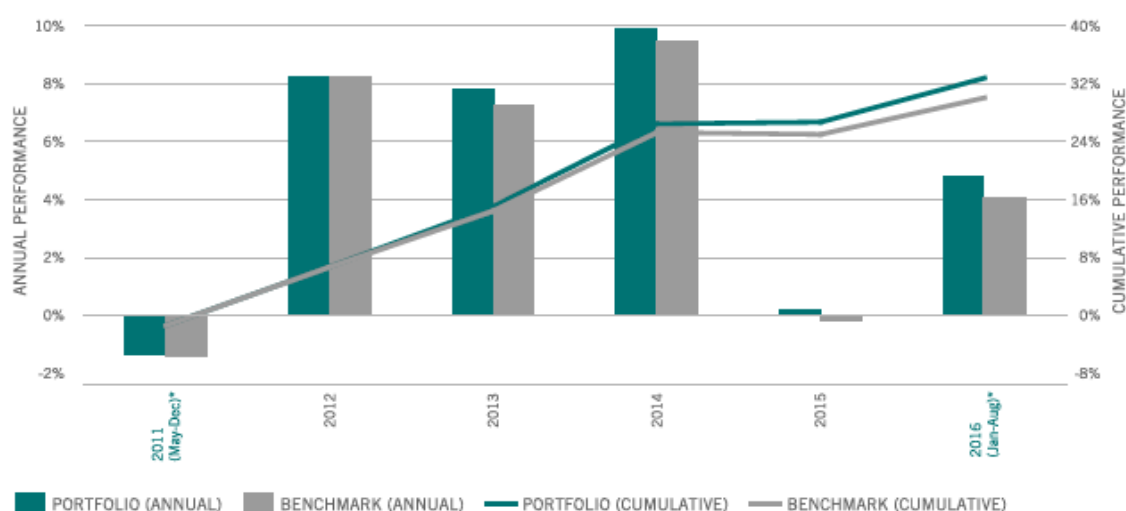
We propose the formation of a special purpose vehicle (SPV) fund with a target size of US\$120 million that would donate capital returns for the purpose of premium payment.

This Premium Fund would be capitalized by grants, loans and investments from donor champions, possibly with involvement of the G-7 InsuResilience Initiative, and private supporters of the CERF's vital humanitarian mission. A one-time investment in the Premium Fund could provide an “ever-green” source of funds to cover premium payments and scale-up the response capacity of the CERF at a time of crisis. Given the link between climate change and natural disasters, the Premium Fund can also receive funding from the Green Climate Fund (GCF).

The day to day management of the Premium Fund, its administration and periodic reporting would be performed by selected asset manager, thus not require the CERF to deploy additional resources. The fund would provide regular reporting to investors and could be timed to convene alongside the CERF Advisory Board.

Despite fluctuations in the performance of financial markets, we believe it is possible to design the Premium Fund to offer low-to-moderate risk and achieve the objective to generate over the long-term sufficient returns to cover the premium payment. Asset managers stand ready to construct a tailor-made portfolio for the fund, largely based on a balanced, multi-asset portfolio (see *Figure 5*). An illustrative term sheet is set out in *Annex 3*.

Figure 5: Performance of a SRI Balanced Mandate



Source: Pictet Asset Management, 2016, performance in CHF, gross of fees.

In the event that the Premium Fund could not generate sufficient return in a given year to cover the full insurance premium, the fund could draw down on the principal, very similar to the operation of charitable endowment funds. Similarly in a “good year”, the fund should be able to donate excess return after paying the insurance premium to the CERF core budget.

Debt swaps

A select number of lower-and middle-income countries at risk from increasing weather events and natural catastrophes may hold residual bilateral Official Development Assistance (ODA) debt with CERF donor countries or commercial debt with export credit insurance agencies of CERF donor countries.

Existing debt conversion programs could potentially be used to swap bilateral debt against payments to capitalize the Premium Fund or as direct contributions to the UN-CERF. There is considerable experience with such approaches, for example the Global Fund to Fight AIDS, Tuberculosis and Malaria has negotiated US\$300 million in trilateral debt swaps under the innovative *Debt2Health* program and generated US\$170 million in additional funding for the fund.¹³

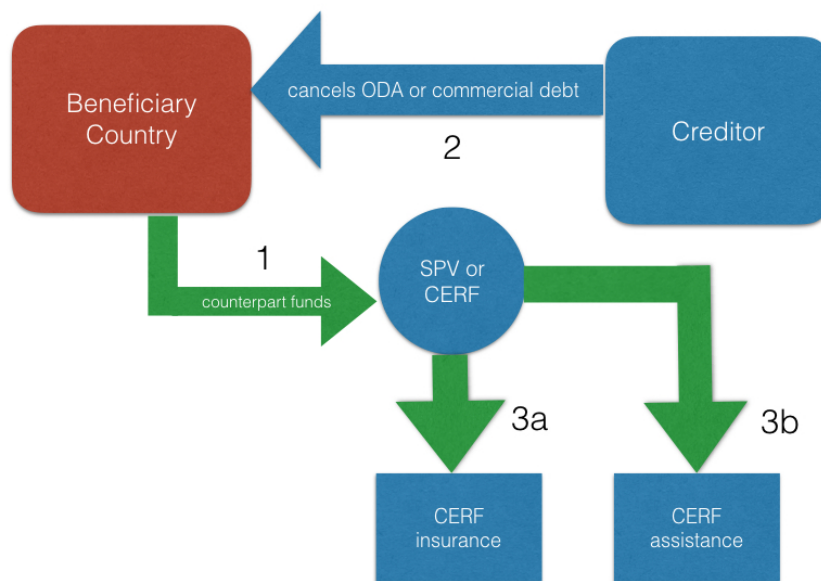
As Figure 6 illustrates, under a UN-CERF debt conversion program, the creditor cancels a portion of bilateral ODA or commercial debts on the condition that the debtor pays an agreed counterpart towards the insurance. The discount

¹³ Douste-Blazy, Ph. and R. Filipp. Innovative financing for development (Clermont-Ferrand 2015).

on debt swaps varies but most commonly a 50 percent discount rate is applied. For example, if a creditor agreed to cancel 30 million Euros of a beneficiary country's ODA or commercial debt, the beneficiary would pay the equivalent of 15 million to the SPV (Premium Fund) and would become a donor to the CERF for 15 million Euros.

The debtor or beneficiary country derives the following benefits from the debt conversion: cancelled debt, discount, innovative financing of insurance payment/ contribution to the CERF and donor status

Figure 6: UN-CERF debt conversion



Source: Innovative Finance Foundation

4. Risks for UN-CERF and stakeholders

The United Nations humanitarian system is largely geared towards appeals and donations that are disbursed for humanitarian purposes. Unlike multilateral developments banks, the UN has little experience with other financial models or financial innovation. This is in large part because the UN has little leeway to create financial instruments or use its balance sheet to structure sustainable financial partnerships.

Innovative financing has largely been developed and implemented outside the UN system but has often involved governments and usually benefits in some

way UN organizations and other multilateral actors. Examples are the air ticket levy for UNITAID, hosted by the World Health Organization (WHO) or the extractive industry micro-levy for UNITLIFE hosted by UNICEF.

Undertaking the proposed initiative requires the careful consideration of managerial, reputational and financial risks, including:

- potential bottlenecks in the management capacity of the CERF to implement a new initiative outside its core competency, especially assessing insurance design, negotiating debt swaps and working with businesses and the financial industry;
- potentially inadequate funding to develop the initiative from next steps to successful launch;
- potentially high expectations of payouts from an insurance policy compared to the annual costs;
- potential delays in capitalizing the Premium Fund, which would affect the ability to sign off on the insurance policy;
- potential diversion of donor funding towards contributions to the insurance premium or reduction of donor funding because of potential additional payouts for a substantial part of CREF's expenditures;
- once the policy is in place, potential disagreements and disputes related to the triggers and payouts;
- potential non-performance and other financial and reputational problems related to the asset manager and the Premium Fund, specifically a prolonged under-performance of the fund leading to a draw-down on the principal;
- in the case of debt swaps, costs of negotiations and potential delays in concluding debt swap agreements;
- potential delays in payment of debt swap counterpart funds by the beneficiary country.

We believe that the identified risks - although significant - can be mitigated with a carefully designed implementation strategy.

Figure 7. Some Risks and Mitigation Strategies

| Potential Risks | Possible Mitigation Strategies |
|---|---|
| Internal management capacity | Develop human resources capacity to manage risk financing |
| Inadequate funding for development | Solicit outside funding form a champion of the proposed initiative |
| Unrealistic expectation of insurance payouts vis-à-vis annual costs | Develop and assess different insurance options by modeling them using historical CERF data; workshops and training of focal point(s) in the CERF secretariat; good communication |
| Delays in capitalization of the Premium Fund | Clear process for signature of commitment letters and signature of the insurance once the fund is launched |
| Diversion of existing funding | Innovative financing mechanisms to generate additional, predictable and sustainable funding for annual premium; engage new private sector partners; monitor traditional contributions |
| Payout disputes | Start with parametric insurance for perils with “easy” physical characteristics; for multiple events approach use neutral triggers (e.g. number of disasters in a given year) |
| Under-performance of Premium Fund | Design fund as endowment to allow for draw-down of principal if and when needed |
| Cost and timeline of debt swap negotiations | Solicit outside funding for proposed approach; rely on experienced negotiators |
| Delays in counterpart payments | Debt cancellation only kicks in once counterpart funds have been paid |

5. Conclusion and Next Steps

This report has outlined a concrete initiative based on risk insurance for the UN-CERF funded by innovative financing. It described the basic elements of such an initiative and some of the benefits for the CERF such as reduction of financial risk to the CERF and the scale-up of resources at a time of crisis.

For the United Nations, implementing a risk transfer mechanism such as insurance to cover humanitarian assistance would be an innovation. While Governments and multilateral organizations are scaling-up the use of insurance (Pandemic Emergency Financing Facility and the Africa Risk Capacity are recent examples) currently there is limited experience with such instruments in the United Nations humanitarian system.

We believe that the CERF, when encouraged and supported by champion donors and stakeholders can innovate and deploy innovative strategies that help to expand its business model.

This report is just the beginning. Provided that the CERF, its donors and supporters decided to move ahead with this big idea, further investment in terms of time and resources would be required to develop the insurance policy with insurance providers and structure the Premium Fund with asset managers.

By implementing the UN-CERF insurance initiative, the United Nations would demonstrate that it is capable to take advantage of new and powerful opportunities that the twenty-first century offers and further strengthen the sound humanitarian investment that the UN-CERF represents to the world.

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Appendices

Annex 1: SWISSRE illustrative term sheet for a CERF insurance policy

| | | | | | | | | | | | | | | | |
|---|---|------------------------|--|---|------------------|------------------------|-------|------------|-----------|-------|--------------|-----------|--------|---------|-------|
| COVERED COUNTRIES | This global solution is applicable to all countries, or a subset according to hazard exposure (e.g. it may be decided to exclude highly developed countries). A list of named countries will be required. | | | | | | | | | | | | | | |
| COVERED PERILS | <ul style="list-style-type: none">• Earthquake• Tropical cyclone (wind) <p>As not all countries are equally exposed to all perils, we propose to start with a selection of the most exposed and least developed countries (LDC) per peril:</p> <ul style="list-style-type: none">• For example, significantly cyclone exposed LDCs are: Bangladesh, Haiti, Madagascar, Myanmar, Vanuatu, Solomon Islands among others (list to be extended in line with need)• Significantly earthquake exposed LDCs are: Afghanistan, Bhutan, East Timor, Haiti, Nepal, Solomon Islands, Vanuatu among others(list to be extended in line with need) | | | | | | | | | | | | | | |
| PREREQUISITE | Proof of loss via prove of payment to one or more countries due to emergency relief from the immediate effects of earthquakes or tropical cyclones | | | | | | | | | | | | | | |
| COVERED EXPOSURE | Population of the covered countries as proxy for value at risk [= population x exposure weighting] | | | | | | | | | | | | | | |
| EXPOSURE WEIGHTING | The CERF's desired rapid response contribution to be used as exposure weight per person. The weighting will be used to calculate the total payout [e.g. USD 10] | | | | | | | | | | | | | | |
| PARAMETRIC TRIGGERS | <ul style="list-style-type: none">• Earthquake: Number of affected people by strong shaking intensities [MMI VI] and above• Tropical Cyclone: Number of affected people by strong maximum sustained wind speeds [30 m/s] and above | | | | | | | | | | | | | | |
| VULNERABILITY ASSUMPTION / PAYOUT FUNCTION | <table><tr><td>Percentage of population per grid point which is classified 'affected' and counts toward the insurance payout</td><td>Earthquake [MMI]</td><td>Tropical Cyclone [m/s]</td></tr><tr><td>[10%]</td><td>[VI – VII]</td><td>[30 – 40]</td></tr><tr><td>[70%]</td><td>[VII – VIII]</td><td>[40 – 50]</td></tr><tr><td>[100%]</td><td>[VIII+]</td><td>[50+]</td></tr></table> | | | Percentage of population per grid point which is classified 'affected' and counts toward the insurance payout | Earthquake [MMI] | Tropical Cyclone [m/s] | [10%] | [VI – VII] | [30 – 40] | [70%] | [VII – VIII] | [40 – 50] | [100%] | [VIII+] | [50+] |
| Percentage of population per grid point which is classified 'affected' and counts toward the insurance payout | Earthquake [MMI] | Tropical Cyclone [m/s] | | | | | | | | | | | | | |
| [10%] | [VI – VII] | [30 – 40] | | | | | | | | | | | | | |
| [70%] | [VII – VIII] | [40 – 50] | | | | | | | | | | | | | |
| [100%] | [VIII+] | [50+] | | | | | | | | | | | | | |
| TRIGGER CONDITION | [e.g. 2% of the country's affected population or any absolute number, and/or absolute dollar amount] | | | | | | | | | | | | | | |
| MAXIMUM PAYOUT PER EVENT | [e.g. USD 30 million, depending on what CERF views as an absorbable amount per event] | | | | | | | | | | | | | | |
| COVERAGE LIMIT PER RISK PERIOD | [e.g. USD 150 million] | | | | | | | | | | | | | | |
| COVER NATURE | Per event aggregate of all affected people from strong hazard intensities | | | | | | | | | | | | | | |
| PAYOUT STRUCTURE | <p>Payout structure defined by (1) insurance trigger condition [e.g. 2% or any absolute number of people affected], (2) number of affected population times exposure weighting per person, up to a maximum of [e.g. USD 30 million]:</p> <p>(3) potential retention in USD amount</p> <p>Payout = max [(no. of affected people x weighting per person); 30 million]</p> | | | | | | | | | | | | | | |

| | |
|----------------------------|--|
| | |
| TENOR | Multi-year (3 or 5 years) |
| PRIMARY BENEFICIARY | OCHA / CERF (and then distributed to affected countries through UN agencies) |
| CALCULATION AGENCY | Possibly independent third party calculation agency |
| ESTIMATED PREMIUM PER YEAR | [Targeted are [USD 7-15m], subject to selected countries, perils, retention, payout functions and limits]. Innovative mechanisms to finance the premium could be explored, for example in connection with the G7 InsuResilience initiative or the Green Climate Fund. |

Annex 2: MUNICHRE illustrative term sheet for a CERF insurance policy

1. Transaction Terms

| | |
|-----------------------------|--|
| Effective Date | XX.XX.XXXX |
| Termination Date | YY.YY.YYYY |
| Notional Amount | USD X (The Notional Amount is the maximum payout under the Transaction by Party B) |
| Fixed Amount | USD Z (The Fixed Amount can be interpreted as the premium paid for the Transaction by Party A) |
| Floating Amount | Aggregate Payment Amount (The Floating Amount equals the Aggregate Payment Amount as defined below and is paid by Party B after the Termination Date) |
| Calculation Agent | TBD (The Calculation Agent is mandated to determine the Eligible Event Payment Amounts as defined below. The Calculation Agent is competent in the modelling of the Eligible Event Payment Amounts. As this Transaction covers multiple Eligible Events, several Calculation Agents could be appointed) |
| Subject | Eligible Event Payment Amounts (Disaster response costs incurred from Eligible Events as modeled by the Calculation Agent) |
| Territorial Scope | Country d, Country e, Country f, ... (The Territorial Scope can be flexibly determined according to the risk profiles) |
| Term | The period beginning at 12.00 p.m. CET on the Effective Date and ending at 12.00 p.m. CET on the Termination Date. (The Term could be one calendar year or multiple years) |
| Aggregate Deductible | USD D (The Aggregate Deductible of amount D will be deducted from the sum of all Eligible Event Payment Amounts. The Amount exceeding the Aggregate Deductible equals the Aggregate Payment Amount and will be recoverable under the Transaction however limited by the Notional Amount) |

2. Definitions

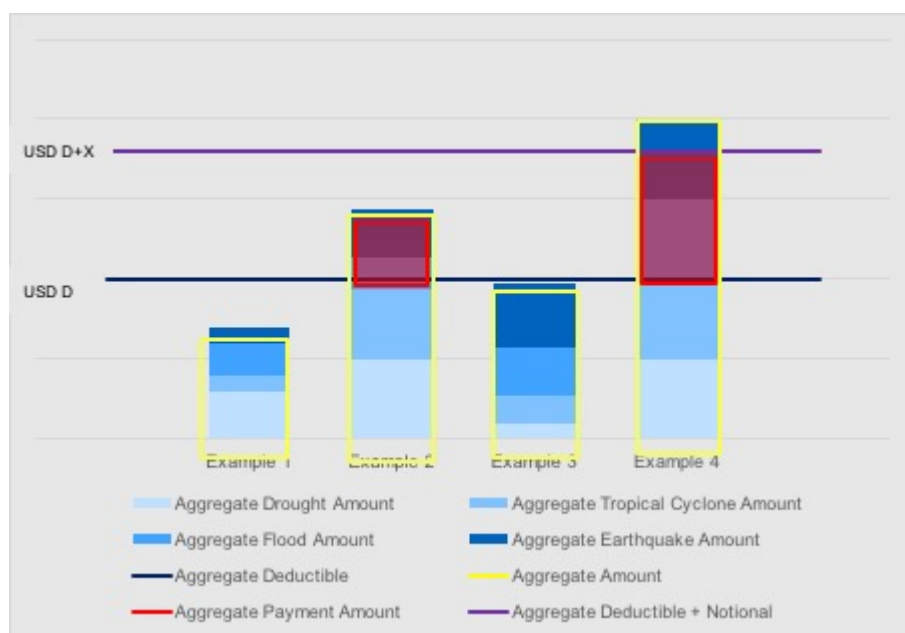
| | |
|--|--|
| Floating Amount | The Aggregate Payment Amount with respect to all Eligible Events occurring within the Term, provided that in no event will the Floating Amount exceed the Notional Amount. |
| Aggregate Payment Amount | The Aggregate Amount after deducting the Aggregate Deductible and subject to a maximum equal to the Notional Amount. |
| Aggregate Amount Eligible Events¹⁴ | The sum of all Eligible Event Payment Amounts Eligible Drought Events, Eligible Tropical Cyclone Events, Eligible Flood Events and Eligible Earthquake Events |
| Eligible Drought Event | An event defined as a drought event by the Calculation Agent occurring within the Territorial Scope and starting within the Term. |
| Eligible Tropical Cyclone Event | An event defined as a tropical cyclone event by the Calculation Agent occurring within the Territorial Scope and starting within the Term. |
| Eligible Flood Event | An event defined as a flood event by the Calculation Agent occurring within the Territorial Scope and starting within the Term. |
| Eligible Earthquake Event | An event defined as an earthquake event by the Calculation Agent occurring within the Territorial Scope and starting within the Term. |
| Eligible Event Payment Amounts | Drought, Tropical Cyclone, Flood and Earthquake Event Payment Amounts |

¹⁴ This sample termsheet is based on natural catastrophe exposure. The inclusion of infectious diseases can also be considered.

| | |
|--|--|
| Drought Event Payment Amount | The modelled disaster response cost from an Eligible Drought Event as calculated by the Calculation Agent |
| Tropical Cyclone Event Payment Amount | The modelled disaster response cost from an Eligible Tropical Cyclone Event as calculated by the Calculation Agent |
| Flood Event Payment Amount | The modelled disaster response cost from an Eligible Flood Event as calculated by the Calculation Agent |
| Earthquake Event Payment Amount | The modelled disaster response cost from an Eligible Earthquake Event as calculated by the Calculation Agent |
| Aggregate Drought Amount | The sum of all Drought Event Payment Amounts |
| Aggregate Tropical Cyclone Amount | The sum of all Tropical Cyclone Event Payment Amounts |
| Aggregate Flood Amount | The sum of all Flood Event Payment Amounts |
| Aggregate Earthquake Amount | The sum of all Earthquake Event Payment Amounts |

Visual Representations:

1. Transaction Structure:



Annex 2: PICTET illustrative Premium Fund investment details

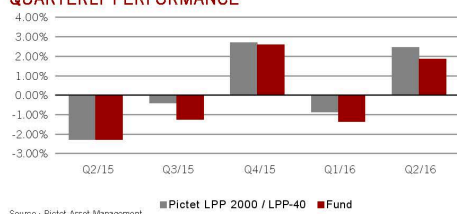
Pictet CH-LPP 40-Z dy CHF

Data as at 31.08.2016

VALUE OF 100 CHF INVESTED



QUARTERLY PERFORMANCE



ASSET ALLOCATION

| | |
|--------------------------|-------|
| Bonds CHF | 35.7% |
| Equities Foreign | 26.3% |
| Bonds Foreign Currencies | 18.2% |
| Equities Switzerland | 16.8% |
| Alternative Investments | 1.6% |
| Real Estate Foreign | 0.0% |
| Real Estate Switzerland | 0.0% |
| Cash | 1.5% |

CURRENCY BREAKDOWN

| | |
|--------|-------|
| CHF | 71.9% |
| USD | 13.7% |
| EUR | 4.6% |
| JPY | 2.6% |
| GBP | 1.6% |
| Others | 5.7% |

INVESTMENT OBJECTIVE

The objective of this fund is to participate in the development of global financial markets with an average 40% equity allocation. The allocation follows closely the index Pictet LPP 2000 - 40 in a tight risk controlled environment.

PERFORMANCE % IN CHF NET OF FEES vs. Pictet LPP 2000 / LPP-40

| | Fund | Index | Fund | Index |
|-----------------|------------|-------|------------|-------|
| | Cumulative | | Annualised | |
| YTD | 2.66% | 3.52% | - | - |
| 1 month | 0.68% | 0.72% | - | - |
| 3 months | 1.67% | 1.56% | - | - |
| 1 year | 4.05% | 5.31% | 4.05% | 5.31% |
| 3 years | 17.8% | 18.4% | 5.61% | 5.80% |
| 5 years | 40.4% | 43.2% | 7.03% | 7.45% |
| Since inception | 76.6% | 69.9% | 4.53% | 4.21% |

YEARLY PERFORMANCE % IN CHF NET OF FEES

| | Fund | Index |
|------|--------|--------|
| | Yearly | |
| 2015 | 0.82% | 0.31% |
| 2014 | 10.1% | 10.8% |
| 2013 | 8.39% | 7.76% |
| 2012 | 8.36% | 9.26% |
| 2011 | 0.64% | -0.14% |

Source : Pictet Asset Management

AT A GLANCE ¹

| | | | |
|--------------|--------------|-----------------------|----------|
| NAV | CHF 1'341.63 | Dividend (9 Dec 2015) | CHF 27.4 |
| Size in mio. | CHF 1'020 | Number of positions | 2900 |
| Max draw up | 17.6% | Max draw down | -7.76% |
| Volatility | 5.23% | Tracking error | 1.12% |

¹ Historical statistics are calculated over 3 years.

| | |
|----------------------------|---|
| Custodian bank | Banque Pictet & Cie SA |
| Legal status | Swiss contractual fund |
| Country of registration | CH, LI |
| Inception date | 6 November 2003 |
| Close of fiscal year | 30 September |
| Multiclass | Yes |
| NAV Valuation | Daily, *forward pricing* |
| Management fee | 0.00% p.a. |
| TER | 0.09% p.a. |
| Max. subscription fee | 5.00% To the benefit of the distributor |
| Risk Level | RR4 |
| Max. redemption fee | 1.00% To the benefit of the distributor |
| ISIN | CH0016431717 |
| Bloomberg | PLPP40Z SW |
| Calculation currency | CHF |
| Initial minimum investment | 500'000 |

For professional investors only - do not circulate to non professional investors

Past performance is not a reliable indicator of future results, prices of shares and the income from them may fall as well as rise and investors may not get back the amount originally invested. All fund performance data is calculated on a NAV to NAV basis, net income reinvested.

Source : Pictet Asset Management

Source : Pictet Asset Management