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Submission by the World Food Programme
to the Executive Committee of the Warsaw International Mechanism for Loss and Damage on best practices, challenges and lessons learned from existing financial instruments at all levels that address the risk of loss and damage associated with the adverse effects of climate change.

*The World Food Programme is pleased to share inputs on **forecast-based risk transfer financial mechanisms and micro-insurance initiatives** in response to the call for submission from the Executive Committee of the Warsaw International Mechanism for Loss and Standing on best practices, challenges and lessons learned from existing financial instruments.*

These financial instruments address the following characteristics highlighted in the Executive Committee's call for submission: comprehensive risk management capacity; risk pooling and transfer; contingency finance; and financing approaches to making development climate resilient and at different scales. The financial instruments presented here also are applied in the context of social protection, risk reduction, preparedness, response and recovery, and building resilience against loss and damage associated with extreme and slow onset events. The examples demonstrate how these instruments are implemented to benefit vulnerable food insecure population in developing countries, how these instruments can address different types of loss and damage, and what good practices and lessons have been learned on the application of these instruments.

1. Introduction

The World Food Programme (WFP) welcomes the Paris Agreement and its recognition of the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage. The positive outcomes from COP21 represent a major step forward in the global effort to tackle climate change and end hunger. Inputs to the Executive Committee of the Warsaw International Mechanism for Loss and Damage on best practices, challenges and lessons learned from existing financial instruments are an important contribution to this objective.

WFP's work is focused on supporting the most vulnerable and food insecure around the world. Climate change has a disproportionately negative impact on food-insecure people, 80 percent of whom live in countries that are prone to natural disasters and face high levels of environmental degradation, amplifying the impact of floods and droughts. Climate-related disasters will cause unavoidable losses and damages, both from increasingly frequent and severe extreme events and from slow onset changes. As the biggest humanitarian agency fighting hunger around the world, WFP recognises the increasing impacts of climate disasters on the most vulnerable and food insecure. Currently, approximately 40 percent of WFP's operations include activities to reduce disaster risk and build resilience. In the last decade, 47 percent of WFP's interventions included responding to climate disasters to a total budget of 23 billion USD. WFP is acutely aware that these efforts need to be reinforced as losses and damage from climate extremes are projected to rise significantly due to climate change.

Despite increasing climate risks, progress in systematically linking early warning systems, climate forecasts and response actions that anticipate climate disaster has been limited. To date, responses to climate shocks have focused largely on post-disaster response rather anticipating these events and ensuring predicable mechanisms to absorb climatic risks via insurance products and post-disaster resilience-building[1] activities. Mechanisms such as the Africa Risk Capacity, a sovereign-level risk financing instrument, have been established to address climatic risks through macro-insurance products. However, large scale climate risk insurance coverage and rapid payment to beneficiaries after a climate disaster has been a challenge.

Forecast-based risk transfer mechanisms can play an important role in supporting anticipatory responses to climate disasters, including sudden and slow-onset shocks such as floods and droughts. Governments, communities and humanitarian organisations can proactively support those exposed to climate risks before they occur, protecting vulnerable households from adopting negative coping strategies such as selling productive assets that impact incomes, nutrition, food security and health outcomes. Integration of these mechanisms into social protection and safety net programmes allows for a more sustainable approach at scale. In the advent of a climate disaster occurring, they also support rapid response, along with being able to support communities in adaptation activities against future losses and damages.

Tackling these challenges at the scale needed to address losses and damages from extreme climate disasters requires **a strategic approach that integrates tested instruments in innovative ways**. Working with governments, international partners and local communities, WFP has developed climate resilient innovations, coupled with financial instruments, that help protect the most vulnerable and food insecure households from climate-related risks to their livelihoods and environments. These innovations entail linking WFP's traditional safety net activities with a more comprehensive set of tools including disaster risk management, risk transfer, and financial inclusion:

- **Safety nets and social protection programmes** have shown to be effective vehicles not only in reducing poverty and generating social inclusion, but also to deliver tools and services related to climate and disaster risk management as well as achieving resilience, food security, and nutrition outcomes at scale. Safety nets can serve as platforms for disbursement of resources in a timely manner when a climate related disaster hits, helping disaster risk mechanisms (such as weather-index insurance or bonds, contingency grants or loans) to deliver a more effective and efficient response to climate risks.
- **Disaster risk management** can include a number of different activities, including early warning systems and emergency preparedness, but also working with communities to create assets that improves the natural resource base of households and which decrease the impact of climate shocks and increase people's production, income and livelihoods.
- **Transferring risks** through tools like weather-index insurance, as well as government-managed contingency finance instruments, reduces uncertainty. It allows the poorest and most vulnerable farmers to make investments that increase their productivity. With the protection of insurance, when an adverse event such as a drought or flood hits, farmers receive automatic insurance pay-outs so that they do not have to take desperate measures such as selling off livestock, tools or other productive assets to survive, or taking their children out of school.
- **Improving access to financial services**, including both microcredit and savings, enables households to build a stronger financial base to invest in productive assets, as well as in seeds, fertilizers and new technologies to increase their agricultural productivity and livelihoods, ultimately making them more food secure and resilient.

[1] For the purpose of this document, resilience is understood to mean the capacity that ensures adverse stressors and shocks do not have long-lasting adverse development consequences (Food Security Information Network)

WFP's experience in responding to climate disasters provides a lens into how financial instruments can help contribute to tackling losses and damages from climate change. FoodSECuRE is a direct response to calls from countries to develop new institutional mechanisms to address loss and damage, linking directly to improved response, anticipation, and post-disaster resilience building. Innovations such as the R4 Rural Resilience Initiative may also be considered as a practical example of how climate risk management to address loss and damage can be integrated into safety nets to protect the most vulnerable. Information is presented below of these two climate resilience approaches and the financial instruments they use to address food insecurity and the impacts of climate disasters.

2. Example of a forecast-based risk transfer mechanism: FoodSECuRE

In recent years, improvements in forecast-based decision tools have made it increasingly possible to be integrated into anticipatory responses to climate disasters. Forecast information is now more dependable, with technology more readily able to support advances in early warning systems, disaster risk reduction, social protection, adaptation and financial mechanisms. This makes it more feasible for the institutionalisation of climate forecasts within emergency response funding mechanisms to support community-level action that builds people's resilience to climate risks.

WFP has developed the **Food Security Climate Resilience Facility (FoodSECuRE),** launched at COP21 as an innovative institutional climate finance tool to trigger action at the community level before, during and after a climate disaster occurs, and which aims to address the challenges of increasing losses and damages by building the resilience of those most food insecure. The mechanism contains three financing windows, by:

i) Before the climate shock: triggering anticipatory action based on climate forecasts, to reinforce community resilience before shocks occur. (Financial tool used: **contingency funding**).
ii) During a large-scale climate-disaster: supporting early action by complementing existing, government-led emergency response mechanisms through replica policies of the African Risk Capacity. (Financial tools used: **risk pooling and risk transfer**).
iii) After a climate disaster: providing predictable multi-year financing to deliver high-quality community resilience-building and institutional capacity building as part of post-disaster recovery operations.

FoodSECuRE aims also to significantly reduce humanitarian response costs for governments and donors. Growing evidence shows that investment in early response and resilience is more cost effective. A 2015 Cost Benefit Analysis (ex-ante) FoodSECuRE in Sudan and Niger suggests that early action using a climate triggered forecast mechanism would reduce the cost of emergency response by approximately 50 percent. Further, the economic argument for investment in multi-year resilience programming is unequivocal. The net cost of late response is five to seven times higher than multi-year resilience building. FoodSECuRE will enable WFP to systematically realize this kind of cost savings and leveraging innovative financing tools such as contingent finance and other market-based instruments, while achieving significant decreases in losses of life, assets, and livelihoods in food insecure communities related to climate change.

Addressing loss and damage

FoodSECuRE brings cutting-edge tools from climate science and finance together, supporting action by WFP, governments and communities to reduce the impacts of losses and disasters from climate disasters at the necessary scale. This is done through systematically linking financing mechanisms, national safety net programs and traditional food assistance tools, including preparedness, early warning and community-based disaster risk reduction and resilience-building activities. FoodSECuRE

has been designed to operate in the most food insecure areas and target the most vulnerable people, leading to their improved food security and resilience against the increasing climate shocks due to climate change.

FoodSECuRE also encompasses a **risk pooling and risk transfer** element by contributing to accelerate the coverage of climate risk insurance to more people during large scale shocks through matching policies of Africa Risk Capacity (ARC). In this arrangement, ARC member countries already participating in the risk pool and who are insured by ARC would be able to access additional protection taken out by the World Food Programme under FoodSECuRE. When ARC matching policies are triggered, funds will be released to WFP to implement complementary response measures integrated into the national "ARC contingency plan", thereby bolstering national response capacities in case of a large-scale losses and damages from climate that stretch normal national capacities.

El Nino response

The 2015/2016 El Nino weather event provides a window into what our future climate could look like with larger-scale climate disasters and the losses and damages that result. To test the capacity of FoodSECuRE to anticipate and respond to this significant set of climate events, the Facility is using seasonal climate forecasts to trigger **contingency funding** for community-level resilience activities before the anticipated shock (drought) occurs and help preserve food security in its aftermath. Two pilots are currently underway.

In Zimbabwe, WFP with the Food and Agriculture Organisation (FAO) and the Ministry of Agriculture's extension service (Agritex) is field-testing the FoodSECuRE Window I Early Action modality in five wards of Mwenezi district to bolster the resilience capacity of affected small holder farmer households through promoting the cultivation of drought tolerant small grains.

In Guatemala, WFP in coordination with Ministry of Agriculture is field-testing the FoodSECuRE Window I Early Action and Window II Early Response modalities to reinforce the resilience capacity of drought-affected smallholder farmers households in the Sinaneca community of San Jorge municipality, through implementation of soil and water conservation structures, building small rain water harvesting structures for irrigation purposes, provision of drought resistant seeds, training of leading farmers on soil water and agroforestry activities, and agriculture and water management activities.

Lessons learned and challenges:

FoodSECuRE aims to significantly reduce humanitarian response costs for governments and donors. Growing evidence shows that investment in early response and resilience is more cost effective. A 2015 Cost Benefit Analysis (ex-ante) FoodSECuRE in Sudan and Niger suggests that early action using a climate triggered forecast mechanism would reduce the cost of emergency response by approximately 50 percent. Further, the economic argument for investment in multi-year resilience programming is unequivocal. The net cost of late response is five to seven times higher than multi-year resilience building. FoodSECuRE will enable WFP to systematically realize this kind of cost saving while achieving significant decreases in losses of life, assets, and livelihoods in food insecure communities. Although the benefits from anticipatory early action, as well as from long-term resilience building, are economically proven, a challenge still remains in attaining funding for disasters which did not yet occur for people not yet victims of a climate induced disaster. This is why WFP is developing a robust but flexible financial framework for **contingent financing**. There is an immediate start-up funding requirement to develop and test the mechanism, pursue a cost benefit analysis, and develop a monitoring framework that allows to measure impact in the longer run.

Some other challenges derived from the pilot phase are related to the development of forecast models with specific triggers and thresholds and a level of confidence that helps to make decisions on anticipatory actions and trigger funds before climate disasters occur. To address these challenges, WFP is partnering with the International Research Institute for Climate and Society (IRI) at Columbia University to set-up a dependable and well-calibrated seasonal climate forecasting system to trigger community level action. This is being developed closely with relevant national institutions. Consultations are planned with climate experts – including the World Meteorological Organization (WMO), the United Kingdom Met Office Hadley Centre, the IFRC Climate Centre, and the Famine Early Warning Systems Network (FEWS NET) – to define the types of shocks and the triggers for both the forecast and recovery components of FoodSECuRE.

More information about FoodSECuRE can be found here:
http://www.wfp.org/climate-change/initiatives/foodsecure

3. Example of an integrated micro-insurance programme: the R4 Rural Resilience initiative

WFP and Oxafam America launched the R4 Rural Resilience Initiative (R4) in 2011 to enable vulnerable rural households to increase their food and income security in the face of increasing climate risks. R4 builds on the initial success of the Horn of Africa Risk Transfer for Adaptation (HARITA) initiative, pioneered in Ethiopia by Oxfam America, the Relief Society of Tigray (REST) and Swiss Re. R4 operates in Ethiopia, Senegal, Malawi and Zambia currently reaching over 32,000 vulnerable farmers and their families with four integrated risk management tools: **improved resource management** through asset creation (risk reduction), **insurance** (risk transfer), **livelihoods diversification and microcredit** (prudent risk taking) and **savings** (risk reserves).

In 2015, R4 reached 32,288 farmers in Ethiopia, Senegal, Malawi and Zambia. The total sum insured amounts to over $2.2 million while the value of premiums is almost $360,000. In Ethiopia, where R4 reaches 27,668 participants, the initiative builds on the Ethiopian Government Productive Safety Net (PSNP). In Senegal, R4 insured 3,621 farmers out of the 12,000 participants who accessed the asset building and/or savings components. In Malawi and Zambia, where 2015 was the first year of operations, R4 reached 999 farmers: this involved building on WFP's asset building activities in Malawi, and FAO's CASU project in Zambia. Triggered by the adverse conditions brought by El Niño, a total payout of $445,063 has been distributed this year in Ethiopia and Senegal. The season in Malawi and Zambia will end in April, therefore potential payouts will be distributed between May and June 2016.

Addressing loss and damage

R4 offers a comprehensive risk management approach, breaking new ground in the field of rural risk management by enabling the poorest farmers to pay for crop insurance with their own labour, while also integrating this with disaster risk reduction interventions and access to financial services. The comprehensive nature of the initiative helps communities become stronger and more resilient in the face of climate disasters. They are able to invest in new seeds and fertilizer to guarantee food is on the table all year long. Protected by insurance, families facing a drought or other shock, no longer find themselves forced into desperate measures, such as selling their farm animals or taking their children out of school. Features of how it works include:

- Farmers access weather index insurance by paying with their labour through **Insurance-for-Assets (IFA) schemes**. When a drought hits, compensation for weather-related losses prevents farmers from selling productive assets and stimulates faster recovery.

- IFA schemes are built into either existing social safety nets, disaster risk reduction schemes, or WFP's Food Assistance for Assets (FFA)[2] programme. **Assets built through risk reduction activities, such as water and soil conservation, promote resilience** by steadily decreasing vulnerability to disaster risks over time.
- By protecting farmers' investments in case of a bad season, R4 enables households to invest in remunerative enterprises, as well as in seeds, fertilizers and new technologies to increase their agricultural productivity.
- **The initiative also enables participants to establish small-scale savings,** which are used to build 'risk reserves'. In Senegal the initiative leverages on Oxfam America's Savings for Change (SfC) programme. Savings help build a stronger financial base for investing – but also act as a buffer against short-term needs and idiosyncratic shocks, such as illness and death.
- To ensure **long-term sustainability,** R4 contributes to the creation of rural financial markets, by building the capacity of farmers, local insurance companies, and micro-finance institutions and gradually transitioning farmers to pay for insurance in cash.

The initiative helps communities become stronger and more resilient in the face of climate disasters. They learn new practices to decrease their vulnerability and expand livelihood options, and they invest in new seeds and fertilizer to boost production. Protected by insurance, families facing a drought or other shock no longer find themselves forced into desperate measures, such as selling their farm animals or taking their children out of school and they will have food is on the table all year long.

Impact to date:

The first major impact evaluation of R4/HARITA in Ethiopia[3] shows that insured farmers save more than twice than those without any insurance, and they invest more in seeds, fertilizer and productive assets, such as plough oxen. Farmers in one cluster of villages tripled their grain reserves compared with uninsured farmers. Women, who often head the poorest households, achieved the largest gains in productivity, through investing in labour and improved tools for planting.

In Senegal, despite two consecutive bad harvests, R4 farmers were able to maintain their food security level compared to farmers living in the same area and exposed to the same shocks. They also increased their rice production ten times more than non-participants. Women claimed that they felt empowered - in addition to having increased access to land, seeds and water for irrigation and drinking, they benefit from training in numeracy, literacy and business. Having more food and water available also means that they no longer have to travel far from home to fetch water, with consequent gains in terms of time to dedicate to their children or small business.

Lessons learned and challenges:

Addressing basis risk is fundamental. Weather index insurance products should be continuously improved and combined with and setting up mechanisms such as farmer saving programs and a basis risk fund to protect farmers during basis risk events. Scientifically-based design and optimization procedures have been implemented since the beginning of the project for index design, validation and improvement. The index has been found to perform favourably based on industry

[2] WFP, 2016, *Food Assistance for Assets*. URL: http://www.wfp.org/food-assets
[3] Oxfam America, 2014, *Oxfam Evaluation Summary: Impact evaluation of the Harita Project in Ethiopia (2009-2012).* URL: https://www.wfp.org/content/harita-r4-impact-evaluation

standards, aligning payouts to drought seasons and farmer-reported bad years. However, the diagnosis and technical assessments of the 2013 and the 2015 seasons highlighted the importance of making further technical improvements to the index. For example, a 'dry-run' was conducted in Ethiopia in 2015 to test the performance and reliability of the MODIS (Moderate Resolution Imaging Spectroradiometer) Enhanced Vegetation Index (EVI) in addressing basis risk challenges. The analysis showed that by adding MODIS EVI to the current ARC2 (Africa Rainfall Climatology version 2) satellite rainfall estimate, the index would be able to trigger payouts for most of the loss years, including 2013 and 2015. The hybrid MODIS EVI/ARC2 index will likely be the standard R4 index for Tigray starting with the 2016 contracts. Alternate satellite rainfall data sources is also being considered to compare the performance of the ARC2 data source with other options (such as CHIRPS).

The risk reserves and prudent risk taking component are fundamental elements of a successful risk management package. In Senegal, over 90 percent of savings accumulated through Savings for Change groups was lent out to members, which shows that there is a strong demand for credit not currently satisfied by formal financial institutions. Another key component of a successful savings and credit intervention is training. Farmers understand the added value of SfC methodology on oral accounting, loans and interest schemes, and often decide to switch from traditional tontines system to R4's SfC method. Farmers understand and value the savings built through R4, using them to purchase agricultural equipment (especially men's savings groups) or as the initial investment for petty trade (particularly women), but also to purchase seeds and fertilizers. Starting in 2015, farmers were be able to purchase quality seeds on a layaway savings system, thanks to a partnership with MyAgro, a seeds and inputs provider. Farmers were able to save up to the end of March 2015 through savings groups, and purchase seeds to be delivered in June.

More information on R4, including Quarterly and Annual Reports, Case studies and Factsheets can be found here: http://www.wfp.org/climate-change/initiatives/r4-rural-resilience-initiative.