

Session ID:	S142
Financing adaptation and building resilience: Lessons from innovative finding research in Africa and Asia	
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Presentation number	1
Presenter (name and affiliation)	<i>Aileen V. Lapitan / University of the Philippines Los Banos</i>
Abstract title (max 20 words)	<b>Rice Farmers' Knowledge, Attitudes, and Willingness to Pay for Weather Index Based Crop Insurance in Quezon Province, Philippines</b>
<b>Abstract text - (no figures, images or references)</b>	
Introduction (max 100 words)	In recent years, Filipino farmers have had to deal with increasing frequency and severity of droughts and typhoons. Between extreme events, shifts in rainfall patterns have led to sub-optimal yields. Rural households' food security, livelihoods and over-all welfare will continue to be adversely affected by climate change unless farmers' adaptation practices are stepped up. Weather index based insurance (WIBI), an instrument that places a guarantee on weather risks by pegging payouts to local weather data thresholds. Experiences across the global South however point to low and unsustainable demand.
Objectives (max 100 words)	This study investigates farmers' knowledge and attitudes in relation to their willingness to avail of the conventional and weather index-based insurance products. Specifically, it : a) looks into farmers' knowledge and attitudes about climate change, conventional crop insurance and WIBI; b) assesses the current adaptation practices of farmers as means of self-insurance against climate-related risks, and; c) examines the influence of farmers' knowledge and attitudes on farmers' willingness to pay for WIBI.
Method (max 100 words)	A total of 400 rice farmers were interviewed in Quezon Province. The survey comprised of questions pertaining to farmers' profiles along with those of their adaptation practices, knowledge and perceptions about climate change. Farmers were also asked about their willingness to pay for

	conventional crop insurance and WIBI The contingent valuation method (CVM) and Heckman's two-step model were employed to test the hypothesis.
Findings (max 100 words)	Farmers were found to generally have diversified household income sources, which supplement capital needs after an extreme weather event. Income alternatives include coconut and high value crop farming, remittances, trading and other forms of non-farm employment. Despite continued losses in farming due to droughts and floods, farmers expressed desire to continue farming rice as they prefer to produce it even if only for home consumption. Results show that three-fourths of the farmers are willing to avail of conventional crop insurance while about 68 percent are willing to purchase WIBI coverage, though at very low premiums.
Significance of the work for policy and practice (max 100 words)	For developing countries like the Philippines, climate change adaptation is seen as a more urgent concern than mitigation. Impacts of global human activities are immediately felt by the most vulnerable majority in the countryside. Within the adaptation finance architecture, finance flows from insurance and risk pooling mechanisms have been increasing. Given such development, results of this study can guide decision making on how insurance could best be delivered publicly and privately. The findings can also complement results of the preceding pilots in informing national policy for improving the engagement of local communities for expansion of farmers' adaptation options through insurance.
<b>Presentation number</b>	<b>2</b>
<b>Presenter (name and affiliation)</b>	<b><i>Mr. DV Prahana Prasada (University of Peradeniya, Sri Lanka)</i></b>
Abstract title (max 20 words)	<b>Willingness for Climate-indexed insurance contracts as a climate change adaptation strategy for Sri Lankan smallholder agricultural producer.</b>
<b>Abstract text - (no figures, images or references)</b>	
Introduction (max 100 words)	Sri Lankan agricultural sector, especially

	<p>smallholder sector, experienced nearly 25% reduction in harvest and nearly 30% reduction in area-cultivated during 2016-2017 drought. Drought affected both annual and perennial crops resulting in imports of staple commodities that the island was formerly self-sufficient in. Smallholders (nearly 30% of labour force) suffered income losses. As a result, farmer income smoothing and risk reduction strategies came to policy attention. However, only 4% of the current farmer community are presently covered under any form of agricultural insurance. With this backdrop, this study plans to assess the willingness to pay for a climate-indexed agricultural insurance package.</p>
<p>Objectives (max 100 words)</p>	<p>The objective of the study was to identify the factors affecting the demand for climate-indexed insurance, especially among smallholders. The 'marginal willingness-to-pay for potential attributes of weather-indexed insurance can be measured corresponding to above factors via a 'discrete choice experiment'. In the experiment design, the willingness to pay for four attributes of a proposed climate-indexed insurance is treated at three levels for each attribute.</p>
<p>Method (max 100 words)</p>	<p>We use 'stated preference approach' to evaluate farmer preferences by offering farmers different binary choice scenarios constructed as fractional factorial assignment of different levels of each attribute. The four attributes tested are namely, the reference coverage area for weather index calculation, authority managing the insurance, the method of calculation of compensation and the premium per one term. A total of 2583 choice scenarios evaluated among 287 individuals were analysed using the conditional logistic model and marginal willingness to pay distributions were estimated for each attribute.</p>
<p>Findings (max 100 words)</p>	<p>Smaller administrative division (vs larger administrative boundaries) is preferred by respondents as reference area for weather-index calculation. Government (vis-à-vis bank and agribusiness company) is</p>

	<p>preferred as the management authority. The revenue-based compensation approach (vis-à-vis cost-based approach and fixed compensation) is the preferred method. The average marginal willingness-to-pay (MWTP) for medium and larger reference are -678 and -1,889 LKR (1USD=150LKR) respectively. The MWTP for insurance administered by a private company is -1050 LKR, 326 LKR for a revenue-based approach and -420 LKR for the currently-practiced fixed compensation schemes. Current premium is 475 LKR per acre per season and the average paddy production cost per acre is 18,000 LKR .</p>
Significance of the work for policy and practice (max 100 words)	<p>Given the limitations on liquidity of farmer finances in the event of climate-based disasters, the introduction of appropriate insurance tools would help mitigate short-term liquidity issues. The credibility of indemnity-based insurance, which is the conventional type of insurance, has long suffered due to lapses in damage assessment, timeliness of compensation payment and high administrative cost. The weather-indexed insurance provides a viable alternative if targeted using above willingness to pay estimates.</p>
<b>Abstract text - (no figures, images or references)</b>	
Presentation number	3
Presenter (name and affiliation)	<i>Mr. Issah Justice Surugu Musah (University of Ghana, Ghana)</i>
Abstract title (max 20 words)	<b>Optimising Private Funds for Adaptation to Climate Change: A Focus on Remittances</b>
Introduction (max 100 words)	<p>The 21<sup>st</sup> century has seen remittances represent one of the key issues in economic development; reduced the level, depth and severity of poverty in most developing countries and smoothed household consumption. Mounting scholarly evidence concludes that remittances are valuable resources for poor of the poorest. Emerging discourses on climate change adaptation finance contends remittances could compliment other sources of financing adaptation given it propensity to reach the</p>

	<p>most vulnerable compared to public expenditure. However, less empirical studies have been done to support this claim, particularly smallholders in an area which has experienced higher temperature and prolong drought like Ghana.</p>
<p>Objectives (max 100 words)</p>	<p>This study therefore attempted to: 1) examine the flow pattern of remittances to smallholder farmers; 2) identify the practices of smallholder farmers' use of remittances that can potentially become adaptation strategies; 3) and suggest the policy changes that can encourage the use of remittances as a funding source for adaptation finance.</p>
<p>Method (max 100 words)</p>	<p>The mixed method research approach was employed in data procurement and analysis. A convenience sampling technique was used to select 400 farmers from 10 communities in the region, thus, 40 respondents from each community. The communities were selected due to their perceived climate change vulnerability and effects. Ten (20) Focus Group Discussions (FGDs) were conducted, thus, one in each community. These included ten (10) male groups and ten (10) female groups and the average number of participants in a group was 9. In-depth interviews were also conducted with the District assemblies and MoFA representative.</p>
<p>Findings (max 100 words)</p>	<p>The farmers rated backyard gardening, cultivation of drought tolerant crops, mixed cropping, off-farm jobs and residue management as the most important adaptation strategies. Farmers use remittance to buy chemicals/fertilizer, extra food, drought tolerant maize seeds and invest in children education. An Order Rank Logit (ORL) analysis shows that remittance positively influenced off-farm jobs, irrigation farming, cultivation of improved crop varieties, use of compost/animal manure and crop rotation, but negatively affected Indexed-based Insurance (IBI). A logit model</p>

	also showed that farmers with increased remittance are highly likely to invest significant share of income on adaptation. Yet transferring remittance is costly.
Significance of the work for policy and practice (max 100 words)	Remittances are vital in financing climate change adaptation and if appropriately yoked into climate intervention policies, can strengthened and help farmers fashion out adaptation strategies that present high dividends. Therefore the government should take further steps towards making rural people bankable by facilitating remittance transfer and access to credit. The mobile network system should also be expanded and strengthened for more smooth transactions. The international community should reflect on the potential impact of remittances and other forms of foreign direct investment and calls on national governments to ensure that barriers to these sources of funds are productively managed.
<b>Presentation number</b>	<b>4</b>
<b>Presenter (name and affiliation)</b>	<b><i>Mr. Muhammad Nawaz (University of Sargodha, Pakistan)</i></b>
<b>Abstract title (max 20 words)</b>	<b>EQUITY AND EFFICIENCY IN FINANCING FARMERS CLIMATE ADAPTATION: EVIDENCE FROM AGRO-ECOLOGICAL ZONES OF PAKISTAN</b>
<b>Abstract text - (no figures, images or references)</b>	
Introduction (max 100 words)	Financing the adaptation has emerged as central issue wherein the strategies related to input changes have earned serious consideration. This includes <i>purchase of input material, crop variety as well as technological and irrigation related adaptations</i> . These adaptations are heavily dependent on availability of credit financing from Formal (Banks, MFIs) and Informal lenders. Casual observation suggests that poor farmers do not have access to the required credit for adaptation because of the inefficient credit market. Further this inefficiency is induced by the variation

	among farmers about socio-economic status and unavailability of collateral as security for loan.
Objectives (max 100 words)	<p>This study analyses the existence of imperfect capital market (inequity and inefficiency) in credit financing to Pakistan's farmers and evaluates the choice of adaptation strategy in the presence of asymmetric financial options (for loan provision). Additionally, it also aims to identify the socio-economic determinants of clustering of availability of and access to credit opportunities.</p> <p>Against this back drop, specific objectives of the study are as follow:</p> <ul style="list-style-type: none"> <li>i) To assess the existence of Imperfect Capital Market in credit financing to farmers</li> <li>ii) To analyse the factors that affect farmers' decision to invest in adaptation investment or adaptation strategies</li> </ul>
Method (max 100 words)	<p>This study uses the similar cropping pattern across various districts to identify the issues in adaptation investment. 400 credit obtaining farmers at four districts as well as four Agro-ecological zones of Pakistan are selected which present variety of climatic conditions as well as vulnerability. FGD's and KII's are also carried out. In order to evaluate the existence of imperfect capital market for credit financing to farmers, Exploratory Data Analysis (EDA) is performed. To further strengthen the findings of inequity and inefficiency in credit market, <i>Heckman Treatment Effect model</i> is employed for access to credit and adaptation investment.</p>
Findings (max 100 words)	<p>Using different methods to evaluate the evidence about the existence of imperfect capital market in financing the farmer's climate adaptations, the study finds that only 36% and 37% farmers have access to loan from Formal (Banks) and Semi-formal lenders (MFIs), respectively; while 95% farmers have access to credit from Informal lenders which induce the inequity as well as inefficiency issues in credit market. On the</p>

	supply side, formal lenders claim that strict rules and regulations as well as tough screening process also reduce farmer's potential to get loan which strengthen the inefficiency in credit market.
Significance of the work for policy and practice (max 100 words)	Based on the findings of the study, policy options to enhance equitable and efficient adaptation finance are suggested. Awareness about MFIs among backward farmers is still scarce and there is immense need for dissemination about the existence of MFIs for loan provision at scattered and far-off rural areas. In order to promote the welfare and adaptation finance for small land holding farmers and tenants, Banks need to redesign small scale loan structure without collateral requirements. In addition, market imperfection should be minimized through the direct provision of agriculture inputs at local market without the role of informal lenders.
<b>Presentation number</b>	
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<b>Presenter (name and affiliation)</b>	
	<i>Mr.Kamlesh Pilali, University of KwaZulu-Natal, South Africa</i>
<b>Abstract title (max 20 words)</b>	
	<b>Risk-pooling among municipalities in South Africa</b>
<b>Abstract text - (no figures, images or references)</b>	
Introduction (max 100 words)	Despite the ability of micro-insurance to close the protection gap by offering affordable insurance products to low-income groups, the uptake of these products faces severe challenges, particularly in developing countries. The misunderstanding of how insurance products work and the conditions under which pay outs ensue result in low penetration rates. Agriculture insurance premiums are still highly subsidized by governments with vulnerable stakeholders still opting to wait for relief and donor aid in response to climate risks. To enhance the functioning of index-based micro-insurance, this study looked at how other risk transfer tools may be complementary to the instrument thereby strengthening its objectives and effectiveness.
Objectives (max 100 words)	The purpose of this research was to understand how different risk transfer instruments (in the context of the agriculture



	sector) can be complementary to each other thereby promoting comprehensive climate risk management. The research aimed to outline structural considerations that could be integrated into the design phase of insurance products to ensure coverage of a discrete portion of the protection gap.
Method (max 100 words)	A mixed method approach was used within this research. Surveys and structured interview were undertaken with key stakeholders from various spheres including the insurance industry, community leaders, government officials and disaster risk management authorities. A comprehensive review of the sovereign risk pools that possess complementary micro-insurance products were assessed to understand the elements that were considered within the design phase of the product.
Findings (max 100 words)	The major findings of the study included a greater understanding of how pay out use; pay out timelines, environmental triggers and loss models could be adapted to ensure that micro-insurance works in complementary manner to risk pools without duplicating the focus of each instrument. Within the case study of the Western Cape, the factors influencing the efficient design of a hypothetical risk pool and micro-insurance facility were evaluated.
Significance of the work for policy and practice (max 100 words)	Considering the coverage of the current sovereign risk pools (almost 60 countries globally for specific climate risks) the integration of additional risk transfer instruments into existing facilities can promote greater financial protection. This research has significant implications for the policies and operation risk pool facilities and financial institutions offering index-based micro-insurance products as it demonstrates how changes can be made to ensure that these instruments become more financially inclusive while being commercially attractive.