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Workshop Proceedings Report

Istanbul 4-5 October 2018

Disaster Risk Reduction Financing

Regional Workshop

ACKNOWLEDGEMENTS

The Regional Workshop on Disaster Risk Reduction Financing was held from 4-5 October 2018 in Istanbul, Turkey. The workshop was organized and hosted by the **Climate and Disaster Team** of **UNDP Istanbul Regional Hub** with support from **UNDP Global Climate and Disaster Team of the Bureau of Programme and Policy Support (CDT BPPS)**, for countries and territories in Europe, Southern Caucasus, Western Balkans and Central Asia (RBEC region: Europe and CIS countries).

The workshop organizers would like to acknowledge the support and thank to the facilitators, resource persons and keynote speakers representing international development banks and private sector companies and to senior UNDP advisors and managers, as well as UNDP country office representatives, who have shared their experience with disaster risk financing in their countries.

Special thanks for assistance go to:

- *Phoenix CRetro*
- *McCarthy Denning*
- *IBI ILS Partners*
- *Risk Management Solutions (RMS)*
- *UNISDR*
- *Asian Development Bank (ADB)*
- *Islamic Development Bank (IsDB)*
- *JICA Turkey*
- *Swiss Re*
- *Axco Insurance Information Services*
- *Hannover Re*
- *AXA*
- *Munich Re*
- *Willis Towers Watson*
- *Food and Agriculture Organization (FAO)*
- *AON Securities*
- *Artemis.bm*
- *Fusion Asset Management*
- *Mayfair Research Associates*
- *UNDP Istanbul Regional Hub Manager*
- *UNDP BIOFIN Programme Manager*
- *UNDP Country Office in Bosnia and Herzegovina*
- *UNDP Country Office in Georgia*

This workshop proceedings report was prepared by Monica Moldovan (*Climate and Disaster Team/UNDP Istanbul Regional Hub*)

Executive Summary

Participants from Eastern Europe, Southern Caucasus, Western Balkans and Central Asia (RBEC/ECIS) countries and territories expressed their keen interest for a better understanding of economics behind disasters and shocks that are posing significant threat to human lives and personal wellbeing, accentuating inequalities. This UNDP regional initiative has therefore provided a multi-sectoral forum for technical assessments, partnerships, discussions, outreach and advocacy in DRR financing. The Government and international agencies representatives benefited from the perspective and solutions proposed by international financial institutions, private companies and academia. This event was promoted actively on social media (#eciscatbonds; #ResilientFinance).

At the opening of the workshop, Gerd Trogemann, UNDP Istanbul Regional Hub Manager has welcomed everyone and emphasized the importance of knowing the risks induced by climate change and the centrality of financing the risk reduction today, when disasters pose significant threat especially to the poor, accentuating inequalities. He pointed out the importance of Sendai Framework for achieving the SDGs, stating that UNDP is making DRR financing core to its strategic agenda.

Armen Grigoryan, UNDP Team Leader of the Climate and Disaster Team has introduced the participants to the workshop objectives. He stated that this two-days regional event is the first of such initiatives in the region to support countries build understanding and national capacities to increase DRR financing investments, stressing the importance of knowledge facilitation and announcing that a series of similar events will follow.

Jan Kellett, UNDP Special Advisor has further introduced the participants into the trends of DRR financing and the overall role for insurance in development, facilitating further sessions during the workshop and making links between the areas of discussion over the two days of workshop.

The workshop brought together 96 participants in what has been the first event in the region focused on DRR financing and the role of insurance for development, the first in a series of events and regional dialogues.

The workshop looked at the big picture of risk and vulnerabilities in the region, framing the risk reduction financing in the broader development context, identifying financing instruments for the region, flagging insurance penetration challenges in the region, discussing regulatory aspects of risk financing instruments such as Catastrophe Bonds, explaining what Insurance Linked Securities (ILS) are and what are the trend of ILS market. Then the discussions narrowed down at the level of micro- insurance, discussing barriers or limitations in using these instruments in agriculture sector (which is one of the most vulnerable in our region) and presented useful lessons learned provided by UNDP piloted approaches of risk insurance UNDP in the world (eg Philippines) and in the region (Bosnia and Herzegovina and Georgia). The workshop concluded by widening the picture again, looking at the SDG financing in middle income countries, the challenges posed by traditional financing approaches, proposed solutions and partnerships needed to achieve sustainability and resilience.

The event ended with a group exercise which have explored the feasibility of setting up sub regional DRR financing platforms with a focus on Insurance for Development to share knowledge and technical expertise at regional and sub regional levels. The target audience of the workshop entailed government representatives from ECIS states and territories, which have a role to play in developing an enabling legal and policy environment and promoting DRR financing mechanisms; representatives of international community (mainly international organizations and IFIs) and private sector practitioners developing and managing various disaster financing instruments.

TABLE OF CONTENTS

GERD TROGEMANN

Manager of the UNDP Istanbul Regional Hub for Europe and CIS

WELCOME ADDRESS

In his welcome address, Mr. Trogemann emphasized the importance of knowing the risks induced by climate change and the centrality of financing the risk reduction today, when disasters pose significant threat especially to the poorest of the poor, accentuating inequalities.

He underlined the importance of having risks acknowledged, planned for and financed, to increase resilience. While the costs have always been significant, disasters are increasingly more expensive. In 2017 the series of major hurricanes pushed overall losses for the year to US$ 340 bn. A lack of resilience to disasters (which increasingly have massive consequential impacts well beyond the direct event) in both developed and developing economies is a growing threat to economic growth and global security.

He further stated that the seven targets of the Sendai Framework are critical to achieving the SDGs and 2030 Agenda, showing that clearly sustainable development is to be achieved only if it will be risk informed. This workshop will pave the way to establishing a multi stakeholder platform to coordinate DRR financing initiatives, with focus on the role of insurance for development in the region and by so doing will complement and support the Priority 3 of Sendai framework.

Concluding, Mr. Trogemann showed that over more than a decade, UNDP has facilitated support for vulnerable communities through partnerships and explained the Organization's capacity for macro- and microinsurance products, initially by financing and executing feasibility assessments followed by contribution to product rollout.

He stated that building on this work, UNDP makes DRR financing core to its strategic agenda.

ARMEN GRIGORYAN

Regional Cluster Leader - Climate Change/Disaster Resilience and Global Energy Policy Advisor, Bureau for Policy and Programme Support, UNDP

OPENING REMARKS

In his opening statement Mr. Grigoryan has thanked countries and territories for the interest manifested and introduced the main scope of the regional workshop, framing the theme into the broader development context.

He walked the participants through the issues to be explored during the two days event, ranging from the current state of global natural disasters' financing-which contributes to making the sustainable development a reality, continuing with lessons learned that can be adapted in the region and discussing the policy reforms needed to accelerate development of national and regional disaster financing platforms as well as other DRR financing tools.

He further emphasized that UNDP leverages its neutral convening power and facilitates partnership with governments and representatives of private sector. The workshop discusses the opportunity of setting up sub-regional knowledge exchange and coordination platforms on DRR financing, among countries and territories in Europe and CIS that are seeking solutions to similar problems.

Mr. Grigoryan concluded his introductory remarks by announcing that UNDP is conducting regional events and dialogues and in 2019 the following Istanbul Development Dialogue will be dedicated to partnerships and development financing. He showed that this initiative is the first in a series of similar events that will follow suit, which are expected to add clarity to partnerships and financing needed to achieve development gains across the main global agendas Agenda 2030, Sendai Frameworks for DRR and Paris Agreement.

"It's paramount for all countries and communities to consider risk and development as two sides of the same coin, inseparable, indistinguishable. Only through doing this, and considering risk in every action, can development be truly sustainable. And insurance, risk financing, will help deliver on that commitment to sustainability"

The Past, the Future: Trends for Risk Financing

(**Jan Kellett,** Special Advisor, UNDP)

In his presentation, Mr. Kellett introduced the audience to the purpose of **Insurance for Development:** describing Insurance as a Manager/Carrier of Risk and central to development and management of risk, as well as a major investor; this is the case for countries and communities. Central to the relationship between insurance and development is not only the value of the 'thing' being protected but the choice protection gives to countries and individuals, allowing them to do something other than they may have done, knowing a critical asset or service is protected. Looking further into the issue, Mr. Kellett explained the two sides of the Insurance for Development: Protection and Investment, describing the bleak statistics of 2017 that highlighted the insurance gap: 710 "events", 330 billion US$ loss while 135 billion US$ insured. He further showed that uninsured losses are significant and effectively reversing development gains. On the investment side he noted that whereas ODA is only US$ 150 billion, the Insurance Industry has US$ 25 trillion under management. These assets, must be deployed to tackle the Investment needs in developing countries, US$ 5 to US$ 7 trillion a year until 2030; while the investment gap is around US$ 2.5 trillion a year.

Mr. Kellett further explained the issue within the framework of the Agenda 2030, showing that at least six SDGs are relevant for insurance even while the SDGs themselves are rather blind to risk, whereas other global discussions of 2015 have similar mixed priority on risk. Financing risk is delivering on the sustainable part, countries and communities would not be sustainable unless we understand risk and we transfer risk. Challenges to the increased role of financing risk in developing countries includes: limited number of donor, national relevance (priority unclear), fragmented initiatives while opportunities were highlighted eg. Donors are engaged (those engaged are **really** engaged); Industry is ready and willing to work with the development sector, which itself is increasing its focus on risk; and the Paris Agreement will increasingly focus country attention on risk, resilience and related investments in adaptation.

The **role of UNDP in the insurance-for-development** has been explained as building on past initiatives at country, regional, micro, sovereign, advocacy, research- and more levels and enjoying the highest level of commitments from its Administrator. UNDP is drafting an **Insurance-for-Development Strategy** which shows the importance of DRR financing at corporate level and coordinated actions to be taken. Key areas of future focus are: natural capital, micro, investments, and building insurance into existing initiatives.

He concluded by presenting future trends and the UNDP strategy which is tailored to fit countries' needs and make sense for the region; will build on countries' engagement while pursuing a participatory approach and facilitation of partnerships. And finally, critically is the focus on outcomes while being mindful of the tools and services which need to be right for the region or countries.

Session 1

The BIG PICTURE of DRR Financing

Facilitator: **Daniel Stander,** Global Managing Director at Risk Management Solutions (RMS)

Session 1 explores the experience in DRR financing, what has been done and what gaps exist

Keynote speakers:

- **Rosalind Cook,** External Relations Officer, UNISDR
- **Thomas W. Kessler,** Principal Disaster Risk Insurance & Finance Specialist, ADB
- **Mohamed A M Al-Hadi,** Senior Fragility and Post-Conflict Specialist, Human Development Division, IsDB
- **Kota Katsumata,** Representative, JICA Turkey Office

"On average economic losses from natural disasters outstrip insurance coverage 3:1

YET…

there is sufficient capital in the private sector to finance much more of this risk and solutions exist which can be tailored to each country's needs"

The BIG PICTURE of DRR Financing

(**Daniel Stander**, Global Managing Director at Risk Management Solutions)

Before introducing the panelists, Mr. Stander framed the panel in terms of the importance of financing resilience. He presented this challenge against the backdrop of three rising trends.

First, exposure is increasing – and increasingly concentrated. He provided statistics to evidence the pace and extent of urbanization. In 1900, fewer than 250,000 people lived in cities globally. By contrast, current estimates suggest that nearly 6.5 billion people will live in the world's urban areas by 2050. Exposure therefore is increasing exponentially in urban areas.

Second, hazards are increasing in all corners of the globe. In Eastern Europe and the CIS, there have been 314 disasters over the last ten years, resulting in more than 60,000 people killed, 11 million affected and physical damage alone of $25 billion.

Finally, he stressed that while risk is increasing, insurance penetration is not. On average, economic losses from natural disasters outstrip insurance coverage 3:1. The protection gap is increasing globally – and the gap is all the more acute outside of the US and Western Europe.

How do we turn these risks into resilience? Daniel invited the audience to reflect on the fact that governments – and therefore taxpayers – have become the insurers of last resort. Governments are not, however, capitalized to operate like insurers.

Yet, as Mr. Stander showed, there is sufficient capital in the private sector to finance the risk. Moreover, solutions exist, and these can be tailored to each country's needs.

“Economic losses tell us part of the story. Another part of the story is that there is a big amount of losses that we don’t have data on”

Disaster Risk profile of ECIS region

(**Rosalind Cook**, External Relations Officer, UNISDR)

Ms. Cook started her presentation by clarifying the mandate of UNISDR, being part of the UN family and the custodian of the Sendai framework. The presentations showed that most hazards are posed by earthquake, floods, storms, droughts, wildfires with two countries in the region (Tajikistan and Georgia) being part of the top ten countries affected by these hazards, leading to unsustainable losses, reversing development gains and driving inequality.

Economic losses in terms of GDP did raise up to 142 billion $US between 2007-2016, jumping to 334 in 2017. Rosalind stated that economic losses tell us part of the story. Another part of the story – is represented by a big amount of losses that we don’t have data on.

Rosalind has further emphasized the need for risk informed measures that build resilience and that are integrated and inclusive whole-of-society. Sendai Framework promotes global targets that are reducing human casualties, reducing the affected people, economic losses and damages to critical infrastructure at the same time increasing number of countries with national and local DRR strategies by 2020, increasing international cooperation and increasing availability and access to multi-hazard early warning systems and disaster risk information and assessments. Coherence across international agendas will be needed.

She concluded that as disaster risk is increasing investment decisions today shape future risks and Investing in disaster risk reduction is an essential component of Sendai Framework. Disaster risk reduction strategies can inform investment priorities, support bankable projects and risk transfer. Although action is underway, the scale of challenge calls for scaling up efforts and accelerate financing resilience to keep pace with disaster risks. Urbanization – where 20 trillion dollars will be invested in world’s infrastructure, was given as an example of an opportunity to go for a risk proof infrastructure.

“Costs of Disaster Risk Reduction and Response:

Reduce risk to the point where it is no longer cost efficient to reduce it any further and transfer the residual risk leveraging the private re/insurance industry and the capital market”

Experience in DRR financing: What are the gaps? What has been done? (**Thomas W. Kessler**, Principal Disaster Risk Insurance & Finance Specialist, ADB)

Mr. Kessler underscored the importance of acting now i.e. using the available data and modelling systems to know risks and act upon this information. Describing the main hazards with which the region is confronted (floods, droughts, earthquakes, landslides, extreme temperatures) he then illustrated how modelling and historic and modern data are used to estimate finance and protection gaps giving examples of cumulative losses in case of earthquakes in the ADB focus countries eg. expected annual loss for Afghanistan, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan, Mongolia = $US 2.8 billion (computed by the Karlsruhe Institute of Technology together with Chaucer).

He then discussed the Infrastructure finance gap in Asia Pacific estimated by ADB (US$ 26 trillion btw 2016-2030; US$ 241 billion annually being specific climate change mitigation and adaptation, including climate proofing) and highlighted that 2.4% of projected GDP for the 5-year period from 2016-2020 is the difference between investment needs and current investment levels explaining that governments could assume 40% of the gap (with support of fiscal reforms) while 60% of the gap would have to be filled with private sector financing up to $250 billion a year (an increase from $63 billion today).

Thomas walked the participants through the graphics representing the magnitude of the protection gaps in the world and explained the concept behind calculating the costs of disaster risk reduction and response ie. by “reducing risk to the point where it is no longer cost efficient to reduce it any further “depending on the severity of the potential disaster and taking into consideration the costs of disaster and climate resilient measures and residual risks (cost of information, cost of capital, operating costs, annual expected loss). Disaster and climate resilience measures can be incorporated into infrastructure investments through detailed engineering design and planning, sometimes with relatively little incremental expenses (on average 4.5%). Residual risks can be transferred leveraging the private re/insurance industry and capital market limiting overall exposure and ensuring more sustainable GDP growth in disaster risk prone economies.

He concluded by presenting the ADB risk transfer activities and with a description of ADB products, at the end suggesting the importance of exploring more the possible benefits to combine lending with innovative risk transfer solutions there by accelerating more private sector financing and public private partnerships for sustainable DRR infrastructure projects.

“Part of its **responsibility** towards its member countries, IDB has actively provided assistance and support to countries affected by natural or manmade disasters”

IsDB Intervention in Disasters (**Mohamed A M Al-Hadi**, Senior Fragility and Post-Conflict Specialist, Human Development Division, IsDB)

Mr. Al-Hadi has walked the participants through the mandate, geographical coverage and activities of the Islamic Development Bank highlighting the responsibility taken up by his organization towards the member countries, that is to actively provide assistance and support to countries affected by natural or manmade disasters, with most of this assistance entailing support ex-post after the disasters occurred as well as ex-ante in terms of planning and funding preventive projects.

He informed the audience about the transformation that his organization has gone through under the new management in which issues of building the resilience of disasters, climate change and fragility has been given special attention. As a result, a new department under the name “Resilience and Social Development” is created which is undertaking these mandates.

He then highlighted the fact that financing of DRR portfolio has increased throughout the years, presented models of DRR finance and examples of mixed financing underlining the different distribution of types of intervention being by and large of Rehabilitation type(80%) while Mitigation represents 11% and Response 9% of the total portfolio with most of the projects being distributed in Asia (71%), MENA region (18%) and Africa (10%).

He concluded by highlighting the organization’s increased focus on prevention, mainstreaming the DRR in project development, supporting member countries in development of National Disaster Management Strategies and studying the possibilities for disaster risk insurance.

“Disaster Risk Reduction requires a tailor-made combination of Structural and Non-structural measures”

“Insurances and Risk Transfer/Sharing are effective in some cases, however should not come as first priority in most countries due to the amount of unprotected risk”

JICA and JAPAN experience in DRR financing: what we’ve done, and lessons learned (**Kota Katsumata**, Representative, JICA Turkey Office)

Mr. Katsumata started by highlighting important issues in deciding the applicability of insurances, namely risk location, time, sharing risks and size of total risk. He continued with examples of hurricane cooperative mutual support insurance, where risk was shared among neighboring countries.

Another example provided by Mr. Katsumata referred to applicable insurances in case of crops (using rainfall oriented index as triggers) followed by discussion around a type of insurance that could cause moral hazard- namely flood insurance without measures-typically in urban areas, where damage could be too large to be entirely covered, where insurance may help recover, however without mitigation measure that could reduce damage losses and hazard will occur again causing moral damage. To exemplify the latter, he referred to flood disasters in Thailand where, in the absence of any mitigation measures, insurance companies have refused to provide further services. Mr. Katsumata has further touched upon how and why governments need to act and ensure required minimum safety and choose among the various insurance products that are tailored to suit specific hazards.

He then highlighted that structural measures are as important as nonstructural measures and ideally a combination of both should be implemented for the minimum civil protection safety and has showed how insurance helps activate financial flows and stressing the importance of efforts to shift towards pre investments and prevention. Examples of cost benefits (eg.$1 spent for prevention saves $4-$7 in response) were provided to show the economic incentives. He has further explained that during the efforts to shift from post-disaster response to prevention and mitigation before disaster happen, there are three types of support that need to work together: self-support, public support and mutual support to respond to unprotected risks.

After the maximum structural efforts implemented by the government, mutual support and self-support come at play to tackle the residual risks. Insurance might be a great tool as safety nets to cover the residual risks but as risks are too large to be covered and transferred, initially structural measures need to be in place to ensure minimum civil safety. Hence a combination of structural and nonstructural measures need to be implemented.

He concluded with examples from Japan that backs this statement, and that are indicative of the importance that the government of Japan is attaching to pre investments and Build Back Better measures eg. at the recovery stage of the Isewan Typhoon in 1959, Japan has strengthened the country’s DRR system by investing 5-8% of the annual budget in DRR structural measures to build a strong infrastructure. This approach is applied every time Japan is struck by a major disaster, when the respective event is used to Build Back Better infrastructure and improve regulations and technology.

Session 1

The BIG PICTURE of DRR financing

Moderated Discussions (Jan Kellett)

Discussions, questions and answers revolved around formal and informal measures to promote civic safety and governments' role. Participants agreed that informal community support (people helping each other at community level) is one form of excellent support that need to be complemented by insurance products, which are formal and based on clear data and which need enabling regulatory frameworks to be functional at country level.

Discussions also clarified the fact that DRR issue is broad and it tackles investment financing gap and protection gaps. Further touched upon the need for innovative approach, to apply a combination of products for risk insurance and transfer, tailored to country needs. For this to happen, governments need to know the risks and measure the risks.

Challenges remain: mobilizing private sector financing is still a problem, although insurance industry has the necessary capital, hence the need for governments to provide enabling regulatory frameworks.

Japanese government methodical allocation of DRR budget, mainstreamed into sectoral budgets, has been discussed as example; all participants acknowledged that this practice is not common in the region and agreed upon the existence of a real need to assign a proportion of the budget for DRR and redirecting funds for prevention measures, as exemplified by JICA representative.

The facilitator concluded the discussions by summarizing the main highlights of the session which has focused on various issues ranging from understanding the predominant natural hazards in the region and how to scale the disaster risk reduction for the region, ending with the costs associated to tackle its complexity.

Session 2

TRANSFERRING THE RISK

Facilitator: **Andy Palmer,** Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd

Session 2 explores modalities for Risk transfer, challenges and solutions, key considerations for sovereign risk financing and risk transfer programmes

Keynote speakers:

- **Andy Palmer,** Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd
- **Alexander Frost,** Head of Global Risk Intelligence & Data at Axco Insurance Information Services
- **Henning Ludolphs,** Managing Director Retrocessions & Capital Markets, Hannover Re
- **Rom Aviv,** IBI ILS Partners Ltd

"From an ex-post perspective, the availability of insurance offers the best mitigation approach against real and fiscal consequences of disasters"

Sovereign Risk Financing. Introduction to disaster risk transfer. Key Considerations for Development of Sovereign Risk Financing and Risk Transfer Programmes

The problem: need for capital to rebuild assets and avoid poverty post disaster events (**Andy Palmer,** Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd)

Mr. Palmer introduced Session 2 panelists and after a short presentation of Swiss Re Group, has continued by exemplifying how multiple risks can impact public budgets in a variety of ways: Higher costs (emergency response costs; reconstruction of public property and infrastructure; support for non-insured households; costs of replacements) are compounded by lower revenues (eg. Lower tax income; lower tourism income; lower export revenues; reputational damage/loss of investor confidence).

Mr Palmer has discussed the example of Chile 8.8 magnitude earthquake in 2010 resulting in 2 million people affected, 370,000 houses severely damaged or destroyed, 73 hospitals, 4000 schools 221 bridges damaged. Total cost estimated to 29.7 billion $ out of which 84% was uninsured. Further he shows that uninsured losses are growing and placing a significant burden on the public sector eg. public physical assets, costs of emergency response; foregone revenues; uninsured private assets; costs of livelihood assistance and rehabilitation of the poor.

Mitigation and prevention are important, but the reality is that there are risks that cannot be planned for and no country can insulate itself fully against extreme natural disasters, despite prevention and mitigation efforts. Climate change is making it worse. There is a growing consensus on the macroeconomic impact of climate change and natural events as natural disasters can damage sovereign creditworthiness.

The presentation continued with a discussion around risk transfer, sovereign risk financing and the government's role in risk financing. Governments' financing options are post-event (tax increases; donor assistance; raising debt; budget reallocation) and pre-event (Risk Transfer; contingent financing; reserve fund).

Andy has then walked the participants through the different risk transfer solutions to close the protection gap, clarifying different types of risks and the different carrier of risks and identifying risk transfer solutions.

He concluded by showing that sovereign risk transfer solutions can take various forms: eg risk transfer contracts can be Re/Insurance; Insurance-linked securities (cat bonds), derivatives. The types of risks are: catastrophes, agriculture risk, renewable energy, pandemics. Use of funds: emergency costs, long term liabilities, internal funding.

“Innovative solutions are needed and change in attitudes for insurance to penetrate the region, educating local population about insurance and frame it as a support mechanism would be the right way to go”

Region specific obstacles: low penetration, insurance underdevelopment, (re-) insurance protectionism (**Alexander Frost,** Head of Global Risk Intelligence & Data at Axco Insurance Information Services)

Mr. Frost began with a primer explaining the economic contrast in terms of GDP size among the 18 countries in the region, stating that economy size, markets, GDP size matter for insurance industry, so premiums are very different tailored to countries' needs and particularities. There are different degrees of insurance penetration in the countries, insurance amounts differ, Turkey and Ukraine for example compared to other countries; however, compared to South Africa the gap is immense. He then further explained that there is little difference in how insurance companies are financing. Why? Insurance is based on a strong consuming middle class interested in protecting its property. Per capita varies but penetration sometimes bears little difference, and in the region, some common features are present such as post-soviet hangover and structural problems. Little has been done to change population's mentality towards insurance and this is illustrative of a problem across markets, Mr. Frost has explained, exemplifying that in a survey in Russia 36% of Russians saw no need for voluntary insurance, 23% were distrustful of insurance companies and 15% know little about insurance or don't have any information. There were different factors presented that are affecting insurance development eg. state controlled industry, slow pace of structural reform, rapid increase in insurers, sense of complacency, insolvent unprofessional insurers, less private enterprise and private property and little knowledge of insurance.

He walked the participants through some of the market features of the countries in the region and he presented Turkey as being probably the best example of market innovation and performance in the region, where the government recognizes the prominent role of insurance pool, and as a result of pooling mechanisms 47% of dwellings have compulsory earthquake coverage. Foreign insurance represents 70% of free capital in Turkey. However, this is not translated in deeper penetration especially compared to Poland and cost of insurance is too high for many to buy. Ukraine is another example of a country trying to drop its barriers, the market in Ukraine however is still small and underdeveloped but it is trying to align itself with the EU.

Highlighting other examples- on Bosnia and Herzegovina Mr Frost said that it is an open close market, not aligned with the EU where complex and divided insurance legislation exists however foreign insurance is prohibited until 2022. The state has monopoly over insurance. Serbia was presented as a semi closed market where “socially owned” insurers are making up a significant percent of business. In Belarus, the state plays a key role with the toughest reinsurance protectionism while Turkmenistan is a close market.

He concluded that innovative solutions are needed and change in attitudes for insurance to penetrate the region, educating local population about insurance and frame it as a support mechanism would be the right way to go. Innovative models should be tailored for less developed and sustainable societies.

“2008 saw the financial markets <u>but</u> ILS down!

Investors are interested to invest in insurance risk, but these financial instruments need to be isolated from financial risks”

The Solution: ILS (Insurance Linked Securities) market and transfer of financial disaster risk to global investors

(**Henning Ludolphs**, Managing Director Retrocessions & Capital Markets, Hannover Re)

Mr. Ludolphs gave a talk on the ILS market and started by showing that investors are interested to invest in insurance risk, however these instruments need to be isolated from financial risks. He then offered his view on the pros and cons of catastrophe bonds looking at these bonds from the originator's perspective and from the investor's perspective. Usual quantities: 100m-300 m per insurance. Catastrophe bonds as of December 2017 are amounting to 30 billion $ with US dominating the market (covering hurricanes, earthquakes; multi-peril).

A large number of different parties are involved in the ILS market. Trigger mechanisms vary as well, some entail basis risk (basis risk is the risk that a catastrophe bond with a synthetic trigger may not be partially or fully triggered even when the protection buyer has suffered a loss). Mr Ludolphs continued explaining about the attachment point which is often defined as indemnity trigger, however there are other synthetic triggers: parametric, industry loss, modelled loss.

Mr. Ludolphs walked the participants through the current trends and developments of the ILS market, stating that the ILS market is more than just catastrophe bonds. The ILS market is larger and includes Collateralized Reinsurance; there is a robust growth of Collateralized Reinsurance; those investors involved in collateralized reinsurance have easier access to diversifying insurance risks and the investors believe in this business model. Significant money comes from pension funds and probably more is available to be invested in ILS in the future.

Both, catastrophe bonds and collateralized reinsurance, have pros and cons which need to be given consideration by the protection buyer and the investor. The ILS market could become of interest for disaster finance. Parametric / index-based disaster finance protection offers quick payout after a natural catastrophe, which for the government means: quick money for first aid, helping the uninsured, rebuild infrastructure, protect sovereign rating, offset loss in tax income and avoid budget reallocations. From investor's perspective it means diversifying risk and index based (investors like parametric / index-based triggers as they are more transparent).

When working with bonds, one must have however a (reliable) model for the risks, therefore modelling agencies play an important role in this puzzle.

Mr Ludolphs concluded by giving examples of a (illustrative) parametric/index-based catastrophe bond in Romania, where there is a mandatory system to buy earthquake coverage, showing how a catastrophe bond can be structured (in terms of categories of payment) using mapping of vulnerable locations.

"Cat Bonds

↓

- rapid access to capital, mitigation of shocks in budget,
- reconstruction and development,
- emergency plan financing,
- financial aid to population and reinsurance (in some context)"

Catastrophe Bonds: why this is a genuine win-win between governments and capital market investors? (**Rom Aviv**, IBI ILS Partners Ltd)

Mr Aviv started his presentation showcasing the Indonesian earthquake disaster used to exemplify what catastrophe bond offer and why this could be a solution, listing several advantages of interest to governments such as: rapid access to capital, mitigation of shocks in budget, reconstruction and development, emergency plan financing, financial aid to population and reinsurance (in some context).

He explained that investors have an appetite for alternative investments (for ILS) as it represents diversification (eg diversification is a necessity for pension funds as exemplified by Australia pension fund) and might be affected by financial crisis to a lower extent. Moreover, it offers some features such as: short maturity, it is linked to interest rates, limited counterparty risk, accurate pricing and deep and mature industry.

He showed why ILS exposure in ECIS market makes sense: catastrophe bonds are usually driven by USA however investors are interested in diversifying globally, hence the interest in ECIS. Furthermore, government backed catastrophe bonds and ILS risk capital transactions in the region would be structured with parametric triggers vs indemnity, hence they would be characterized by: less modelling uncertainty and more accurate pricing; lastly, this represents responsible investment with a social angle.

Concluding, Mr. Aviv touched upon pricing motivation explaining that cat bonds became cheaper to transfer risks, proved effective as a mitigating tool of natural catastrophe risks (for governments) and represent a diversifying segment for ILS investors, hence a genuine win-win.

Session2 TRANSFERRING THE RISK- **Moderated Discussions (Jan Kellett)**

With the panelists and facilitator's active support, the discussions session started by further clarification of the relation between ILS (Insurance Linked Securities) and Catastrophe Bonds so that participants were left with a full picture of the differences between these financial instruments.

The common understanding around ILS (Insurance Linked Securities) is that these are essentially financial instruments that allow the **transfer of risks to investors** and are mainly made up of cat bonds and collateralized insurance. Catastrophe bonds are financial instruments sold to investors through a process that entails several steps: basically, the insurance risk is acquired from insurance companies, assessed and restructured then sold to the investor. It therefore allows the transfer of insurance risk to capital market. It includes catastrophe bonds + collateral (re)insurance (cat bond is part of ILS). The panelists have shared their thoughts on the ILS instruments showing that due to a lack of awareness it takes a long time to convince stakeholders about the utility of these instruments, which are in fact more flexible than cat bonds. Collateralized insurance is more flexible and allows access to a broader range of catastrophe risks. Where legal issues were feared regarding ILS, the answer was that they could be put to ease by the proven record of ILS market growth during past years.

Panelists and participants have engaged in exploring the interest of insurers for ECIS region in a genuine discussion that followed. An issue of interest expressed by the participants was the need to identify the less positive aspects of these financial mechanisms that could represent a challenge- to which the panelists responded by flagging key risks such as basic risks, where there could be a situation when the loss is significant but the trigger mechanisms (which would trigger the payout) does not allow for a corresponding amount of payout. The panelists have therefore cautioned participants to pay attention to these aspects and to ensure that trigger payouts are clearly specified.

Reflections on how could these financial instruments be made more attractive for governments have generated feedback from the panelists that pointed to the fact that first and foremost governments should have a clear knowledge of risks and a red line (a clear line) below which cannot cover for potential disaster events and choose to transfer part of the risk (for which a premium will be paid); the basis risks will have to be clearly calculated by making the parametric instruments as responsive as best it can . Insurance companies could then match requirements and there is flexibility to make packages more attractive to governments, investors have always supported innovations and instruments may have double triggers which combine indemnity and parametric triggers. The main message from the panelists was that there has to be a clear demand and clear requirements from the government side to insurers, fir them to be able to design a suitable and tailor-made package to governments.

Other issues of interest revolved around whether some of the money (paid as insurance premium) could be redirected to resilience (esp. at city level) if no event occurs and whether the investors would be interested to invest in private cat bonds that addresses resilience and social angle, to which the panelists have indicated that there are resilience bonds out there, that are used for resilience measures, especially at city levels, subnational levels micro- levels etc where there are more solutions in terms of resilience.

The facilitator concluded the discussions by summarizing the main highlights of the session, which has touched upon many issues ranging from the magnitude of the impact on public budgets that disaster risks have and the available solutions for pre- and post-event financing. The key messages of the sessions revolved around the fact that Governments need to know their risks: what are the risks, how much of the risks can and should be covered. Then, choices must be made as to where the risks sit, how can some of the risks be transferred, what are the instruments available and feasible for this region. Clear demand from government side should be based on reliable data and knowledge of risks.

Session 3

TRANSFERRING THE RISK

Facilitator: **Henning Ludolphs,** Managing Director Retrocessions & Capital Markets, Hannover Re

Session 3 continues to explore modalities for Risk transfer considering Insurance Markets, Private Sector Opportunities

Keynote speakers:

• **Karina Whalley,** Public Sector Business Development Manager at AXA Global Parametrics

• **Andy Palmer,** Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd

• **Natalie Kraus,** Senior Manager, Origination team, Munich Re

• **David Simmons,** Managing Director of the Capital, Science and Policy Practice, Willis Towers Watson

"Parametric insurance is a key financing tool for governments to transfer their rising climate and disaster risk to the international risk markets

Parametric Insurance provides large volumes of funding **very quickly** which is critical for governments in the wake of a disaster.

Insurance is a key tool but should be used alongside debt and reserves"

Parametric insurance: a key tool in disaster risk financing

(**Karina Whalley**, Public Sector Business Development Manager at AXA Global Parametrics)

Ms. Whalley talked about the social and economic impact of natural disasters in Caucasus, Central Asia and SEE states and territories, pointing out that statistics indicate that about 6.9 million average number of people were impacted every year by floods and earthquakes in the region with an economic impact of $40.8 billion average GDP value affected every year by floods and earthquakes in the region.

She then presented the various types of natural disasters affecting some of the countries in the region and showed how disaster risk is exacerbated by climate change, pointing out that agriculture in ECIS region will suffer about 7% reduction in yield of major crops by 2050 due to climate change. South Caucasus will face rise in extreme temperatures and lower precipitation.

Ms. Whalley indicated that under these conditions parametric insurance is a key financing tool for governments to transfer their rising climate and disaster risk to the international risk markets because it allows for fast payouts in the wake of disaster which is triggered by third party, objective data.

She explained how this tool works, clarifying that it is based on the use of a weather parameter (hazards such as drought, rain, flood etc) correlated to insured damages, financial losses or funding needs. That parameter will act as a proxy that represent the risk on the ground. A pre-agreed threshold is then chosen beyond which the parametric index triggers a payout. Parametric insurance can be done without underlying exposure data. Once exposure data is available, the hazard data can be overlaid to provide insurance that is closer to indemnity coverage called modelled loss coverage.

Karina pointed out the advantages of parametric insurance compared to traditional insurance when a disaster strikes, highlighting the speed at which parametric payouts can be made (within days or weeks). This type of insurance provides large volumes of funding in the relief phase (0- 3 months after disaster) and onwards following a disaster. Ms. Whalley walked the participants through AXA Global Parametrics' activities and its focus on public-private partnerships, explaining also how risk pooling lowers premium through diversification of risk and economies of scale for operational costs.

She continued with several case studies: the Caribbean Catastrophe Risk Insurance Facility (CCRIF), which has made 36 payouts totaling $130,5 million to 13 governments helping millions of people impacted by cyclone and earthquakes, continuing with a case study on Philippines parametric insurance scheme covering 25 provinces and concluded with Mexico's CADENA agriculture pool offering traditional livestock insurance and crop area-linked index insurance.

Insurance markets: Private Sector Opportunities

(**Andy Palmer**, Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd)

Mr. Palmer started his presentation with some examples of innovative public-sector risk transfer solutions for different types of disaster, continuing with three case studies exemplifying three different risk insurance products.

The first case study explained was the Pacific Alliance Catastrophe Bond, presented as the second largest cat bond in history, the largest sovereign-sponsored cat bond and largest parametric bond in history (the value was 1.36 billion transaction transferring earthquake risk for the governments of Mexico, Chile, Peru and Columbia through the World Bank platform). Mr. Palmer walked the participants through the characteristic of this transaction highlighting that customized coverages were applied, aligned with each country's exposure and overall DRR strategy showing that payouts are to be used by Pacific Alliance members to recover faster from major earthquake and protect their economic development.

"…such a hybrid transaction could have been in place in 2014 in June when Ebola pandemic has emerged and could have enabled a first payment in June, that could have made in difference by the end of the year, to stop the life loss"

The second case study presented by Andy was the Pandemic Emergency Financing Facility (PEF), a transaction of 425 million US$, cat bonds and swaps transferring emerging pandemic risk to capital markets and re/insurance industry through the World Bank platform. Covered diseases: New Influenza, Corona- and Filoviruses (e.g. Ebola) and others. He explained that this was the first ever parametric insurance cover for response costs to pandemics of new influenza and other viruses in the World's 77 poorest countries and leverages capital markets to fill pandemic response funding gap before large scale donor funding is mobilized. He continued by saying that this is a combination of products, a hybrid product that had it been in place in 2014 in June when Ebola pandemic emerged it could have enabled a first immediate payment that could have made a difference in the spreading of the virus and could have stopped life loss.

Mr. Palmer concluded with the presentation of a third case study on Heilongjiang Provincial Government- Multi-Peril Parametric Disaster Relief Coverage, a 360 million US$ transaction, insuring fiscal contingent liabilities for disaster relief in 28 countries, payouts to be used for disaster relief and post disaster reconstruction of properties and infrastructure. It covers: floods, excess rain, drought and temperature and has parametric triggers designed to reflect significant yield losses of agricultural crops based on satellite flood footprint index, precipitation index, drought (temperature and precipitation) and low temperature.

“Risk transfer can be a key element of a risk reduction and effective risk response strategy”

Insurance market, private sector opportunities

(**Natalie Kraus**, Senior Manager, Origination team, Munich Re)

Ms. Kraus talked about the Nat Cat Insurance and different emerging schemes in their different formats e.g. ILS, swaps, insurance and effective schemes. She continued by showing the huge protection gap that exists all over the worlds in many countries.

Clarifying what protection gap is, she said that this is the difference between insured losses and economic losses or uninsured losses. The protection gap is a global problem that affects almost every country. The insurance protection gap (underinsurance) is the difference between the amount of insurance coverage that is economically beneficial, and the amount of coverage purchased.

The biggest challenge, she showed, is to identify the value proposition of the risk transfer. She explained and exemplified that the risk transfer mechanisms must address a constraint to add value; must contribute to longer term cost reduction and must be cost efficient. New risk transfer mechanisms have to be challenged against available alternatives as post disaster financing.

Natalie concluded by stating that different solutions can be designed and include products to fit different countries or just an area eg. Albania may need just a parametric cover for floods or Azerbaijan may need just to cover one city for the danger of an earthquake etc different tools can combine to fit one country situation. The main message emerged from the conclusion was that it is important to firstly identify the individual need of a country and how it looks like and then develop the right tool to cover the risk, underscoring that one size does not fit all.

"Risk pooling not only reduces costs, leading to affordable and stable insurance premiums, but also provides a platform for knowledge sharing and co-operation between members"

Towards Resilience - Insuring Climate Risk

David Simmons, Managing Director of the Capital, Science and Policy Practice, Willis Towers Watson

Mr. Simmons explained how the catastrophe insurance market had been transformed in the last 30 years by big investment in science, modelling, risk/hazard understanding. It is moving beyond property risk towards other areas including disaster response and insurance for the poor. He exemplified Caribbean Catastrophe Risk Insurance facility formed in aftermath of Hurricane Ivan in 2004 when aid arrived too little too late and explained that CCRIF is an insurance to allow countries to mutualize risk (capitalized by donors), using reinsurance to ensure that it can respond to the largest events. He continued with another example the African Risk Capacity, inspired by the CCRIF it is a mutual of African countries covering drought, donor funded, paying far more quickly that tradition aid but also embedding the concept of capacity building and real-time monitoring.

Mr. Simmons continued by explaining the scale for maximum climate risk impact at city-sub state region level and requirements for immediate post disaster liquidity, to which he added a few characteristics of PCDIP (Philippines City Disaster Insurance Pool) chief among them the fast payout after a disaster. He continued by showing how risk pooling at city level reduces costs (eg. uncertainty reduces with more members, expenses are shared between members and importantly underwriting profit is held within the poll for the benefit of members) and describing what Philippines City Disaster Insurance Pool (PCDIP) covers and the fact that cities have the flexibility to decide what to cover and that data modelling is available for design of products to city needs.

Mr. Simmons walked the participants through the key benefits of parametric insurance and further detailed the administrative and governance structure of PCDIP. He continued by giving a few examples of disaster risk insurance for the poor and showing how insurance can incentivize sustainable behavior. He then identified some of the local private sector opportunities eg insurers and service providers and had reminded participants that Insurance Development Forum is offering to provide practical advice and support to governments to increase resilience.

Session3

TRANSFERRING THE RISK **Moderated Discussions (Henning Ludolphs, Jan Kellett)**

During the discussions, the participants were provided with further clarification over the Philippine city level insurance, the panelists explaining that whereas in the Caribbean scheme governments can spend money received from CCRIF as they chose, in the Philippines audit concerns mean that it is likely that guidance will be given about how money received by cities to be spent post disaster insurance is spent (e.g. asset repair and rebuild) in a transparent and accountable manner ensured by a strong audit body. It is important that schemes are very much tailored on local issues and owned and managed locally. Discussions have continued with a focus on losses and insurance gaps, the example of Caribbean islands has been further discussed as having had (in 2017) two major hurricanes damaging many islands.

The Caribbean scheme CCRIF performed well, but it received criticism in some quarters for its perceived inadequate response. This was partially due to a misunderstanding of what CCRIF is set up to do: to provide immediate liquidity immediately after disaster events; it is not aiming to cover reconstruction costs. The panelists concluded that some countries did not buy enough cover due to budgetary concerns. The panelists' view was governments and donors need to think of insurance in a larger context of risk understanding, risk management, risk reduction and disaster response. A pragmatic approach (assessing prioritizing risks, countries risk pooling etc) is advisable.

The example of African countries was discussed as a model of how countries have worked together starting in 2014 sponsored by the World Food Programme and the African Union. African Risk Capacity, inspired by the CCRIF it is a mutual of African countries covering drought, donor funded, paying far more quickly that tradition aid but also embedding the concept of capacity building and real-time monitoring. The aim of the African Risk Capacity (ARC) is not only to provide fast post disaster funding but also to help member countries to better understand the risks they face, who could be affected and how a disaster response could be best be implemented. A recent study found that $1 provided quickly after a drought event is first recognized is worth over $4 received later consistent with a typical aid cycle.

The facilitators concluded the discussions by summarizing a few highlights of the 3rd session, which has started with the presentation of the various types of risks in the region, exacerbated by climate change and showed the benefits of parametric insurance as ex-ante and ex-post financing products. The session gradually dived deeper into the details of parametric insurance products showing how they are suitable for different country contexts and degree of risks, examples were provided entailing a range of different facilities pandemic facilities, hybrid transactions and went further into stressing the importance of knowing the risk, measuring the risk, assessing volume, timing, allocation and designing different tools for different situations. The session also touched upon the benefits of risk pooling reducing costs, importance of context, importance of insurance for the poor and how to move beyond some of the larger models and concluded with the critical issue of political leadership and ownership.

Session 4

THE WIDER PICTURE OF RISK TRANSFER AND DEVELOPMENT

Facilitation: Jan Kellett, Special Advisor, UNDP

Session 4 look into legal considerations surrounding the issues of risk transfer and presents examples of how it works elsewhere

Keynote speakers:

- **Onno van den Heuvel,** Global Manager, the Biodiversity Finance Initiative – BIOFIN; Finance solutions for nature-based interventions, the experience from the Biodiversity Finance Initiative (BIOFIN)
- **Yusuke Taishi,** UNDP Regional Technical Advisor for climate change adaptation, UNDP's experience in delivering crop insurance for the poor
- **Olga Buto,** Disaster Risk Reduction Specialist, FAO Risk Transfer after Risk Reduction

Risk Transfer after Risk Reduction

(**Olga Buto**, Disaster Risk Reduction Specialist, FAO)

Ms. Buto talked about FAO's experience in disaster risk reduction and management financing in agriculture sectors. She touched upon issues such as: damage and loss from natural disasters, trends in investments for disaster risk reduction and risk transfer mechanisms in agriculture sectors.

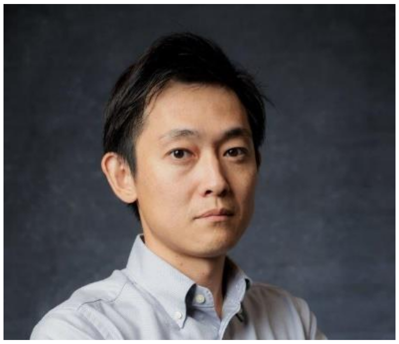
Ms. Buto shared global findings from FAO's 2017 study which analyzed damages and losses from natural disasters absorbed by the agriculture sectors. According to the presented graphs, drought is the hazard inflicting most of the damages and losses (storm, floods come next however at a large distance in terms of percentage). Drought had disproportionately affected agriculture sectors, with livestock suffered mostly. The presentation also pointed to that fact that most frequent disasters for the ECIS region are floods, extreme temperatures and storms, whereas the susceptibility of agriculture sector differs, with Uzbekistan, Armenia, Moldova, Cyprus, Tajikistan, Kyrgyzstan, Albania and Mongolia being among the most affected.

She continued by showing FAO's efforts in assessing development aid allocations to prevention and preparedness in agriculture relevant sectors which point out that a very small proportion of humanitarian aid goes into disaster risk prevention and preparedness and that DRR is only a small fraction of development assistance.

Olga also talked about FAO's experience in comprehensive disaster risk management, including risk transfer mechanisms in agriculture sectors. She exemplified FAOs continued efforts by presenting a few examples: in Ethiopia on interlinking insurance with credit for agriculture, followed by an example of aquaculture insurance project in Vietnam and a case study of crop insurance feasibility in Malawi. She pointed that some potential solutions for weather limited monitoring could be the spatial interpolation and the usage of Agricultural Stress Index. It is already used for issuing Drought Early Warning and was applied in Kyrgyzstan. She further explained that social protection tools are part of the risk transfer in agriculture and FAO supports countries with building relevant 'safety nets'.

Ms. Buto concluded that agriculture sector is highly affected by frequency and intensity of natural hazards and disasters, whereas investment in prevention and preparedness in agriculture is low. The Risk transfer mechanisms are needed, as can be part of the solution to achieve sustainable development of rural livelihoods.

"Risk transfer mechanisms in agriculture are a necessity needed on the path to achieving sustainable rural livelihoods"



UNDP's experience in delivering crop insurance for the poor,

(**Yusuke Taishi**, Regional Technical Advisor for climate change adaptation, UNDP)

Mr. Taishi spoke about UNDP experience putting in place parametric index in Philippines and lessons learned. He reviewed the promise of index-based insurance as posing no moral hazards, no adverse selection, faster payout and lower transactions--- which, in theory, leads to more affordable insurance, greater outreach and improved protection for vulnerable farmers. The objective of his presentation is to share lessons from a pilot test and provide some ideas to attest whether these promises can really be achieved. Then he continued with details of experience in Philippines were UNDP has tested this approach. 178 out of 2500 farmers received payouts but they were in small numbers, due to no events.

"Verification of accuracy and continuous improvements of indices are important

because…

Farmers' trust in insurance can erode quickly"

During the pilot some technical and institutional challenges emerged: One of the biggest technical challenge was the accuracy of the index. The product initially adopted used a methodology that set an index based on cumulative rainfall over a long period and the empirical results suggested that the index was not accurate enough for up-scaling. New indices with a new indexing methodology were developed during the project implementation. Mr. Taishi stressed that, given that there are many sources of basis risks in agriculture in developing countries, continuous monitoring of the performance of the product and product improvement are critical, especially in the nascent stage of the crop insurance sector. Yusuke continued by describing how the index-based insurance product used in the project was structured to protect a portion of production input costs, rather than farmer's income, to keep the overall cost of the insurance program at a reasonable level for the Government. This has raised an issue about the overall effectiveness of a risk transfer mechanism even if the product works perfectly well. Yusuke highlighted that this is not an issue with the product design per se, but a common policy question that many governments/regulators would need to think about.

Mr Taishi concluded with several lessons for scaling, sustainability and impact, stating that the discussions of the "right" level of subsidy tends to become more politically driven as it touches on the issue of food security; and excessive rate of subsidies can crowd out private sector players and possibly discourage the incentive for product improvement. He also touched upon weaknesses of weather index insurance, conventional insurance, the use of technology and cost-benefit of other intervention.

Finance solutions for nature-based interventions, the experience from the Biodiversity Finance Initiative (BIOFIN), (**Onno van den Heuvel**, Global Manager, the Biodiversity Finance Initiative – BIOFIN)

Mr. van den Heuvel spoke about how is biodiversity finance relevant to disaster risk reduction finance and started by presenting the UNDP Programme BIOFIN and explaining the overarching role of ecosystems that provide multiple livelihood benefits, increasing the resilience of vulnerable people to withstand cope and recover from disasters resulting from hazards events such as droughts, hurricanes, earthquakes and others. He continued by showing that finance solutions can be applied to different themes.

..the main framework is to address the need to measure existing expenditures levels and future finance needs, and then work to reduce national finance needs through BIOFIN process

In BIOFIN the main framework is to address the need to measure existing expenditures levels and future finance needs, and then work to reduce national finance needs through BIOFIN process.

Presentation of BIOFIN approach followed, as an innovative approach to develop national financing strategies and develop the optimal mix of finance solutions. Onno continued by showing examples of how lessons learned from biodiversity finance solutions can be drawn for DRR financing, and referred to examples in Georgia, Philippines, Mongolia, Indonesia, South Africa Guatemala, Kyrgyzstan and Costa Rica.

He concluded by stating that finance needs for biodiversity are limited compared to most areas, but benefits are immense, and each country follows a tailored approach; he mentioned that many elements of BIOFIN can be applied to other areas (eg. Results based budgeting, monitoring and evaluation of budget effectiveness etc).

Session 4

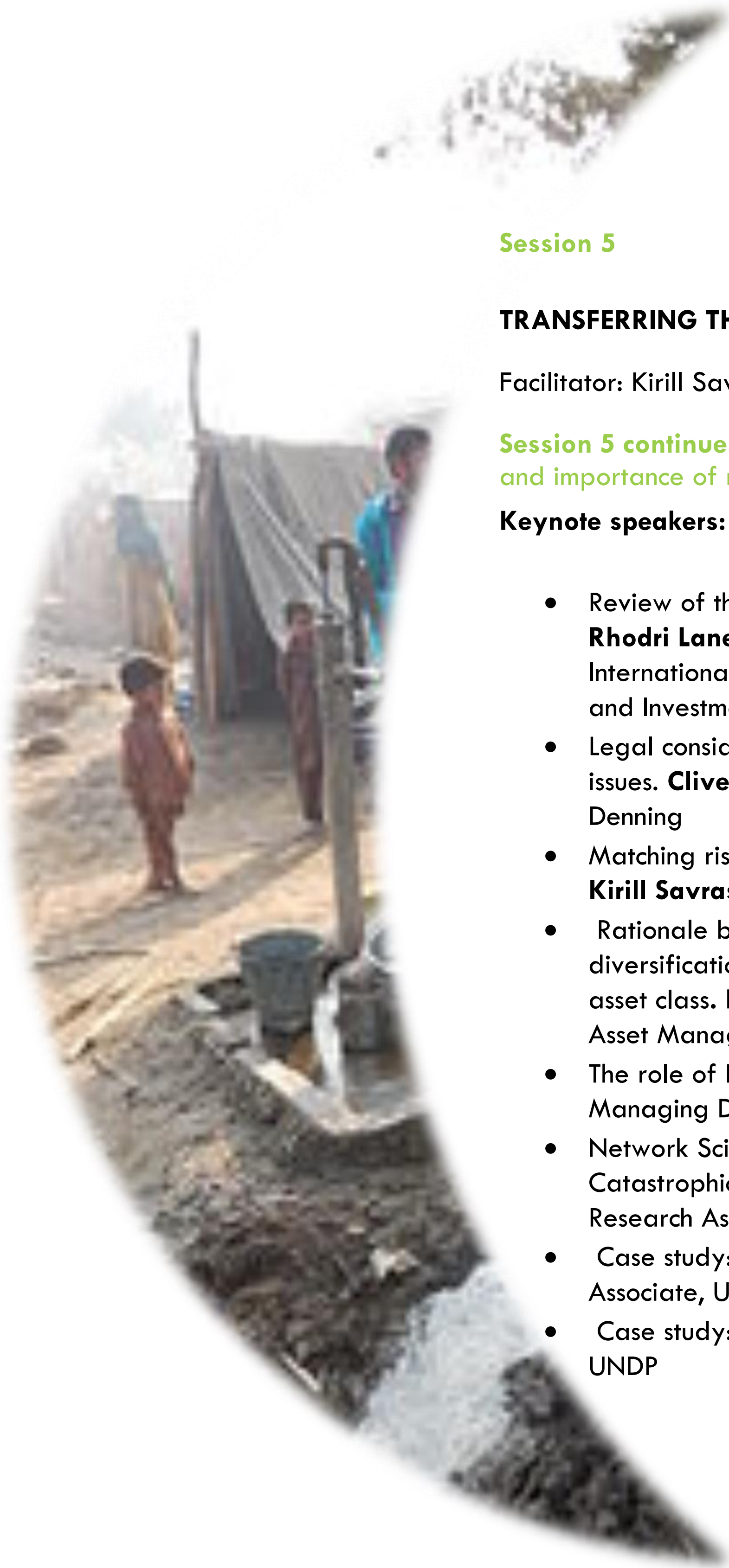
THE WIDER PICTURE OF RISK TRANSFER AND DEVELOPMENT

Moderated Discussions (Jan Kellett)

The facilitated discussions revolved around issues of projects selection and government drive; example of BIOFIN project selection procedure has been provided and clarified that always the program responds to the government's request in coordination with stakeholders; the projects are selected based on qualitative and quantitative criteria in different areas such as: impact on biodiversity, feasibility, financial impact and scalability. FAO representative has clarified that this approach is employed by FAO as well (i.e. government request comes first).

The facilitator has concluded the final session of the day, by summarizing the session and overall the first day's highlights, looking at the big picture of risk and vulnerabilities in the region framing the risk reduction financing in the broader development context, identifying tools for the region.

The sessions explored regulatory challenges in the countries of the region, towards the end of the day were widening the conversation by talking about tools that were applied in different places in the world reflecting on what could be feasible the region, went through examples from financing biodiversity and what could be adapted to DRR, then the discussions narrowed down again with focus on more details on risk insurance barriers or limitations in agriculture sector and how to avert them and then dived into some useful lessons learned provided by other piloted approaches in Philippines.



Session 5

TRANSFERRING THE RISK (cont.)

Facilitator: Kirill Savrassov, CEO at Phoenix CRetro

Session 5 continues to explore modalities for Risk transfer and importance of risk modelling

Keynote speakers:

- Review of the governments`-supported Cat Bonds. **Rhodri Lane**, Managing Director, Head of International Business, AON Securities; Risk, Capital and Investment
- Legal considerations & insurance management issues. **Clive O'Connell**, Partner at McCarthy Denning
- Matching risk & capital, investors' expectations. **Kirill Savrassov**, CEO at Phoenix CRetro
- Rationale behind decisions of capital diversification into ILS, as uncorrelated alternative asset class**. Kirill Ilinski**, Managing Partner, Fusion Asset Management
- The role of Risk Modelling. **Daniel Stander,** Managing Director at Risk Management Solutions
- Network Science to Model (Cascades of) Catastrophic Risks. **Maxim Bouev**, Mayfair Research Associates
- Case study: BiH, **Jovanka Cetkovic**, Project Associate, UNDP BiH
- Case study: **Georgia**, Margaretta Ayoung, Expert, UNDP

"catastrophe bonds are offering an insurance product and transfer of risk for financial resilience in face of natural catastrophe"

Review of the governments`-supported Cat Bonds

(**Rhodri Lane**, Managing Director, Head of International Business, AON Securities; Risk, Capital and Investment)

Mr. Lane gave the participants an overview of cat bonds which are circulating in the market issued by different governments. Government of Mexico is a great sponsor of cat bonds Mr. Lane stated, explaining that the insurances are typically parametric in nature. He underscored that there have been government sponsored cat bonds by the US, Mexico, Chile, Columbia, Peru, Turkey and Caribbean. There is a scope for insurance to take up generally in Europe and Australia, but investors have an appetite for a broader geographical coverage.

He spoke about catastrophe bonds offering an insurance product or transfer risk for financial resilience in face of natural catastrophe then he described different catastrophe bond recovery mechanism options (indemnity, parametric index, modelled loss, industry index) and gave an overview of the parametric index recovery mechanisms (as being automatic and relative straightforward which allows for an ideal approach to government sponsors looking to transfer risks). Parametric risk transfer is typically the preferred way for governments.

He continued with several examples, the first being case study FONDEN 2017 Chiapas Earthquake Loss Recovery covering Westcoast North and Central America, a 150 mil $ transaction against earthquake and with parametric trigger. The Chiapas earthquake occurred on sept 8 2017 registering over 2 billion losses out of which 1 billion insured losses; 100% bond payout. The second example presented focused on the Pacific Alliance Earthquake Catastrophe Bond, the 1.36 billion joint multi-country floating rate earthquake-linked capital at risk (CAR) notes provide parametric coverage for each member of the Pacific Alliance and this transaction marks the second largest catastrophe bond on record, the largest sovereign risk transfer in the history of insurance-linked securities sector.

Mr. Lane further explained that the parametric trigger is based on the US Geological Survey data. He concluded with another case study: US FEMA, Flood Smart covering flood event in certain covered areas, explaining the transaction structure and how payout is triggered.

Legal considerations & insurance management issues

(**Clive O'Connell**, Partner at McCarthy Denning)

Mr. O'Connell spoke about the legal consideration and management issues related to catastrophe bonds and insurance.

He introduced the participants to the key elements of insurance (insurable interest and proof of loss) and disadvantages that this mechanism displays in the context of natural disasters (insurance gap, delay, lack of flexibility).

By comparison, Mr O'Connell underscored the advantages of catastrophe bond which can respond immediately to losses and are fully collateralized; he gave examples of such government sponsored CAT bonds, which were listed and presented to participants.

He then walked the participants through the structure of CAT bonds and legal issues, explained how they work, clarifying that a parametric trigger must be modellable (and definite, easily determinable, objective, free from interference), otherwise a price cannot be set, he therefore highlighted the importance of a properly defined catastrophe bond.

"A parametric trigger must be modellable- if it is not modellable Insurance requires insurable interests

YET

In a sovereign risk situation, the government doesn't necessarily have an interest

Cat Bonds- Respond immediately to losses and are fully collateralized

A catastrophe bond must be properly defined"

"We enjoy a great opportunity that within these two days of workshop we can skip 10-15 years of development of different sovereign risk transfer instruments, which saves a lot of time and will deliver the ILS and sovereign risk transfer market which exist at the moment"

Matching risk & capital, investors' expectations

(Kirill Savrassov, CEO at Phoenix CRetro)

Mr. Savrassov spoke about the institutional investors and particularly pension funds' interest to invest in ILS market, as their alternative investments allocations are on the rise, currently with many having ILS stakes over 100 or even 250 million $.

Mr Savrassov showed different types of ILS market investments driven by various pension funds. He continued with several examples of European pension schemes and their overall assets allocations with ILS having certain place in it. He continued by showing that between 2002-2016 CAT bonds performed most stable when compared to other investment classes (e.g. equities, bonds, commodities).

The question of CAT bonds and broader ILS market performance in 2017 following an unprecedented market loss after Harvey, Irma and Maria US hurricanes has been discussed and clarified that total defaults remain at a modest proportion of the market, which represents a good argument to intra-class diversification and balancing factor of individual investment strategies.

Mr Savrassov continued with the catastrophe bonds and insurance-linked capital by showing that high level of intra-class diversification is given by their correlation to different and independent risk factors like geography or different perils covered and that CAT bonds improve a portfolio's risk statistics such as volatility, value at risk and worst month return by increasing at the same time its average return.

He concluded by presenting some of the largest ILS Fund managers.

“Sovereign CAT bonds can be both economically viable, generate sustainable social impact and widen ILS sector to make it fit to scale for international financial markets”

Rationale behind decisions of capital diversification into ILS, as uncorrelated alternative asset class

(**Kirill Ilinski**, Managing Partner, Fusion Asset Management)

Mr Ilinski spoke about the place of the insurance-linked products in global asset allocation. He showed that current capitalisation of CAT bonds in the context of global asset allocation is insignificant. He continued with a short history of the evolution of paradigms in asset allocation and framed ILS in this picture saying that ILS against natural disasters are important as a source of returns uncorrelated with financial markets. He then continued with statistics on the CAT bond and private sector ILS issuance showing some current obstacles with ILS for retail investing.

Kirill pointed out that that “uncorrelated does not mean interesting” and that it is important to have high enough premiums to have generalist managers to be interested. This, once again, directed the discussion towards necessity to work on increasing the size of the ILS market.

Mr Ilinski spoke about specifics of sovereign CAT bond issuance, emphasizing that this source of insurance-related securities can be both economically viable, generate sustainable impact on society and, at the same time, can be done on the scale which would make them relevant in the context of international financial markets. For this purpose, he suggested to differentiate approaches to issuance - either through pooling smaller countries within established frameworks, such as CIS or regional organisations, or by incorporating the issuance within existing sovereign Eurobond programs.

He continued speaking about necessary level of wider education on the complexities and available functionality of ILS for key decision makers.

Session 5

TRANSFERRING THE RISK (cont.)

Moderated discussions- part 1

Facilitator: Kirill Savrassov, CEO at Phoenix CRetro

The facilitator opened the session presenting the first speaker and giving a few insights into the first presentation's topic (governments' supported cat bonds), highlighting the insurance penetration challenges in the region and the unequal distribution among countries of the region (eg in Europe) of insured assets. The facilitator also expressed confidence in this (workshop) opportunity "we can skip 10-15 years of development of different sovereign risk transfer- instruments, which saves a lot of time and will deliver information on the ILS and sovereign risk transfer market which exist at the moment".

The facilitated discussions revolved around the private insurers driving the market and the place of the National Flood Insurance Programme (NFIP) (discussed part of the FloodSmart Re Ltd. Portfolio) in this case, the panelists clarifying that NFIP exits to fill the need for at risk location, showed in the feed maps, driving up private insurers and it charges lower rates so that the taxpayer does not have to hold the bill for non-sustainable assets.

The discussions focused then on risks around the CAT bonds which participants were keen to know (eg what are the risks that governments should be aware of) to which the panelists clarified that with CAT bonds risk disputes may arise due to Basic risks but the reasons for these disputes were removed in the recent years by "good lawyering" ie clear risk definition and clear legal aspects included in the transaction contract.

Other risks may arise when investors try to claim the money back in sovereign cat bonds, panelists explaining that cat bonds for sovereign risks have more investors and they can be designed in different ways so that this kind of risk is mitigated; also, as the discussions showed there are different options available and choosing the right one may depend on the governments and their financing frameworks , looking at their priorities first.

Other issues touched upon the possibility of trading bonds, clarifications followed on what can be traded and what is more difficult to trade. Participants also wished to know whether investors would be interested in potential SDG bonds in the current context of SDG financing to which the panelists reply that there is scope for diversification, investors do have an appetite to diversify their portfolios to broaden geographical coverage and there is also interest of certain funds (eg pension funds) for alternative investments and a more diverse portfolio.

The role of Risk Modelling (Daniel Stander, Managing Director at Risk Management Solutions)

Daniel began by asking the attendees what had struck them over the proceeding days. One voice from the floor ventured the incredible diversity of the countries inside the region, showing that a tailored approach towards managing risk is critical. Daniel used this as the departure point for his presentation. Resilience, he said, is always situational. That situation might be an individual asset in a specific location exposed to a certain peril. Or it might be a neighborhood, or an entire city, or a collection of cities, or a sovereign state or a collection of countries. Resilience modelling must be able to work across all situations and all scales. However, no matter at what scale risk is being managed, we need to have a way to quantify it, and to verify that quantification. Daniel argued cat risk models are the language of resilience. He then explained what makes a model useful and how it can be applied for different purposes, underscoring that no model is perfect. Learning is always part of the process. He continued by showing how good analytics are fundamental to strategic action, explaining them in the context of resilience. He asserted that there are five pillars of resilience practice, as follows: Quantification, Strategy/Governance, Reduction, Financing and Precovery. He underscored that the quantification of resilience is a discipline in itself. A government cannot prudently invest in one resilience initiative versus another unless it knows what is driving the risk. Only with the right analytics can you build resilience and invest in 'precovery'.

"If you can't measure it, you can't manage it and certainly you can't fix it! The analytics must be fit for purpose"

Daniel continued by distinguishing 'indicators' from 'metrics'. While indicators may help government officials identify strengths and weaknesses in broad terms, they are not robust enough to set and achieve meaningful resilience goals around reducing the impacts of potential shocks. He argued that we need metrics which measure risk and impact using actual values. Metrics give you a wealth of information to help manage risk and understand the potential impacts of various mitigation schemes. He emphasized the need to move from soft indicators to hard metrics, urging that "you need to put a dollar value and human value on your resilience – for the sake of a strategy and for the market to work with you".

Daniel explained the importance of simulating a full range of possible futures. In order to understand what could happen, governments cannot just rely on 100 years of historical data. Extremes are by definition infrequent and severe. History is a poor precedent for the future in terms of frequency, severity and location. (There were ten earthquake-related deaths in Haiti over 100 years, and then over 200,000 deaths in one fateful afternoon). Daniel advocated creating thousands of synthetic events that haven't occurred but could. He concluded this segment of his presentation by talking about how the private sector had solved this problem, encouraging governments to work with well-calibrated and validated approaches that already exist. Indeed, given that the vast majority (over 90%) of investors in the market use RMS models, there is little sense in building your own. He talked also about the benefits of using metrics at municipal level to define and understand a resilience profile. He concluded with five case studies where municipalities had quantified the resilience dividend of their interventions to prioritize and finance them, including one example of quantifying the resilience benefit of nature.

"Risk models **must** account for second order effects"

Network Science to Model (Cascades of) Catastrophic Risks

Maxim Bouev, Mayfair Research Associates

Mr. Bouev gave a talk on modelling the catastrophe risk problems, stating that countries in the region do not have yet a reliable model for risk showing that existing models do not take into account second (and higher) order effects when assessing risks and probable maximum loss. Second order effects depend on critical infrastructure and it is important for impact diffusion pathway.

He continued by presenting an approach that help address these problems, namely network analysis. Maxim explained how this concept may be used, providing an example of the Ebola outbreak in Sierra Leone in 2014. In this example, the particular way infrastructure was organized, e.g. the clustering of roads and hospitals- was an instrumental factor in spreading the virus.

Generally, one can find key hubs in an infrastructure network by using one of the so-called centrality measures – a fundamental concept in network theory. The full scale of a disaster impact can only be worked out by analysing how the key economic hubs are affected by the disaster in focus. The modeller needs to estimate not only the direct damage inflicted by the disaster on the hubs, but also the following after-effects on the economy of the region, once the economic links to the damaged hubs are severed.

Maxim noted that many countries in the ECIS region carry the legacy of the forced industrialisation that happened in the former Soviet Union in the first half of the XX century. The critical infrastructure then was built effectively out of a single central point – Moscow. The dissolution of the USSR at the end of the last century meant that for some successor countries critical hubs in the infrastructure network may now be situated beyond country's borders. The latter fact effectively implies that a proper modelling of catastrophe risks in the case of the former USSR countries is better done not on a country-by-country basis, but for the region as a whole. Higher order effects of a disaster in this case become cross-border ones.

Finally, Maxim mentioned that factoring in the potential higher-order effects of a disaster leads to estimates of a different kind of risk than simply a catastrophe risk. The former can be thought of as an economic risk of a broader scale. Its size should naturally be expected to be much larger. Thus it should be of more concern for the country(s)/government(s) involved. Eventually, that suggests an argument in favor of increasing the size of ILS issuance which aim to cover for a potential disaster impact.

"Based on our experience, clearly, we need technical assistance in modelling risks.
On the same time the industry itself should develop new products and our countries should work on enabling legal frameworks for the introduction of new financial instruments for disaster risk insurance"

Case study: Bosnia and Herzegovina

Jovanka Cetkovic, Project Associate, UNDP Bosnia and Herzegovina

Ms. Cetkovic spoke about UNDP Bosnia and Herzegovina's experience with technology transfer for climate resilient flood management in Vrbas river basin, highlighting the periods of repeated climate caused disasters i.e. droughts floods and how it impacted the national budgets during the years.

She walked the participants through what has been done within this project in terms of climate resilient management of the flood risk, the process entailing: support to the transposition of relevant EU flood legislation, development of flood risks and flood hazard maps, flood forecasting and early warning systems, GIS loss/damage modelling and implementation of a twenty-one (21) non-structural measures including inter-alia, agro-forestry measures, civil engineering measures and insurance.

Jovanka then narrowed down her talk addressing the particularities of the financing instruments i.e. insurance models developed in accordance to flood zoning and its structure and premiums, enumerating the predicaments encountered on the way, among which the limitations in coverage, the decision on whether to go for indemnity or index-based insurance, mandatory or voluntary insurance, separate it or including it (i.e. flood insurance) as part of a broader risk insurance package.

She continued with lessons learned and what can be built on this experience saying that the next steps will include the financing instruments i.e. flood insurance models field implementation in pilot municipalities, flood insurance as part of a broader risk insurance package, use of tariffs in compliance with the risk zone.

At the community level, the project will work with farmers to create awareness on farm-level risks and vulnerabilities, then at the institutional level to establish a flood insurance pool and legislative amendments if needed and finally it will promote new financial models including flood insurance, credit deference schemes, even index-based insurances- which may be further developed when preconditions are established in the country.

She concluded by reflecting on the opportunity for follow up (and further development) on the insurance map developed by the project, to cover the entire country and if possible even go beyond borders, at regional level.

"The project has served as a baseline project for a 27 million US$, secured by UNDP Georgia from the Green Climate Fund"

Case study: Georgia

Dr. Margaretta Ayoung, Expert, UNDP

Dr. Ayoung presented Georgia's experience in developing climate resilient flood and flash flood management practices to protect vulnerable communities. She started with an overview of the project implemented by UNDP Georgia. She outlined the integrated flood risk management (IFRM) framework which was introduced, explained that the project has developed a floodplain zoning policy which will govern landuse; has revisited building codes to include flood resilience measures and has developed a flood insurance scheme to transfer residual risk that cannot be reduced. The project also implemented structural and non-structural measures and a flood forecasting and early warning system (FFEWS) supported by a rehabilitated hydrometric monitoring network. Dr. Ayoung emphasized that the insurance scheme was one measure within a broader integrated flood risk management framework which includes avoidance, resilience, reduction, protection and preparedness measures.

Dr. Ayoung detailed the flood hazard modelling and mapping approach which was based on the EU Flood directive methodology and described the GIS-based socio-economic risk model which integrates flood hazard data, receptor data (property, infrastructure, agriculture), environment and heritage, and socio-economic data). The model derives flood risk to people (risk to life, disruption to community and disruption to daily life), risk to infrastructure, risk to Agriculture, risk to the environment at the level of every property, and agricultural plot and maps were presented showing risk by municipality. She explained that property risk is converted to damage as a function of property value, depth and velocity of flooding for properties of different types using proprietary Proportional Loss Curves for Georgia. Agricultural flood risk is converted to weighted crop loss per hectare based on yield and producer price data, according to seasonality of flooding and yield loss through growing period.

The insurance scheme developed was the Weather Index Insurance (WII) – the financial instrument to mitigate losses and replace current ex-post Government/Donor intervention. It compares annual average anticipated losses (calculated by socio-economic model) with annual premiums and corrects for any imbalance. The model equates premiums to risk exposure and is therefore simple and transparent. Premium setting is risk-based while the payout principle entails payment calculation in correlation with the index used. The WII is designed to work in tandem with new structural measures, so as standards of flood protection improve then residual flood risk will reduce and reflected in lower flood premiums. It also works in tandem with non-structural measures like flood zoning and FFEWS.

Margareta highlighted lessons learned and the challenges encountered during scheme design which included insufficient political will, lack of financial commitments, technical limitations of the insurance scheme including the single peril approach.

She concluded her presentation by showing that despite the drawbacks the project did laid down the foundation for follow up of similar initiatives in fact the project has served as a baseline project for a 27 million US$, secured by UNDP Georgia from the Green Climate Fund for the further development and implementation of the insurance scheme and scaling up.

Session 5

TRANSFERRING THE RISK (cont.) Moderated discussions-part 2

Facilitators: Jan Kellett and Kirill Savrassov

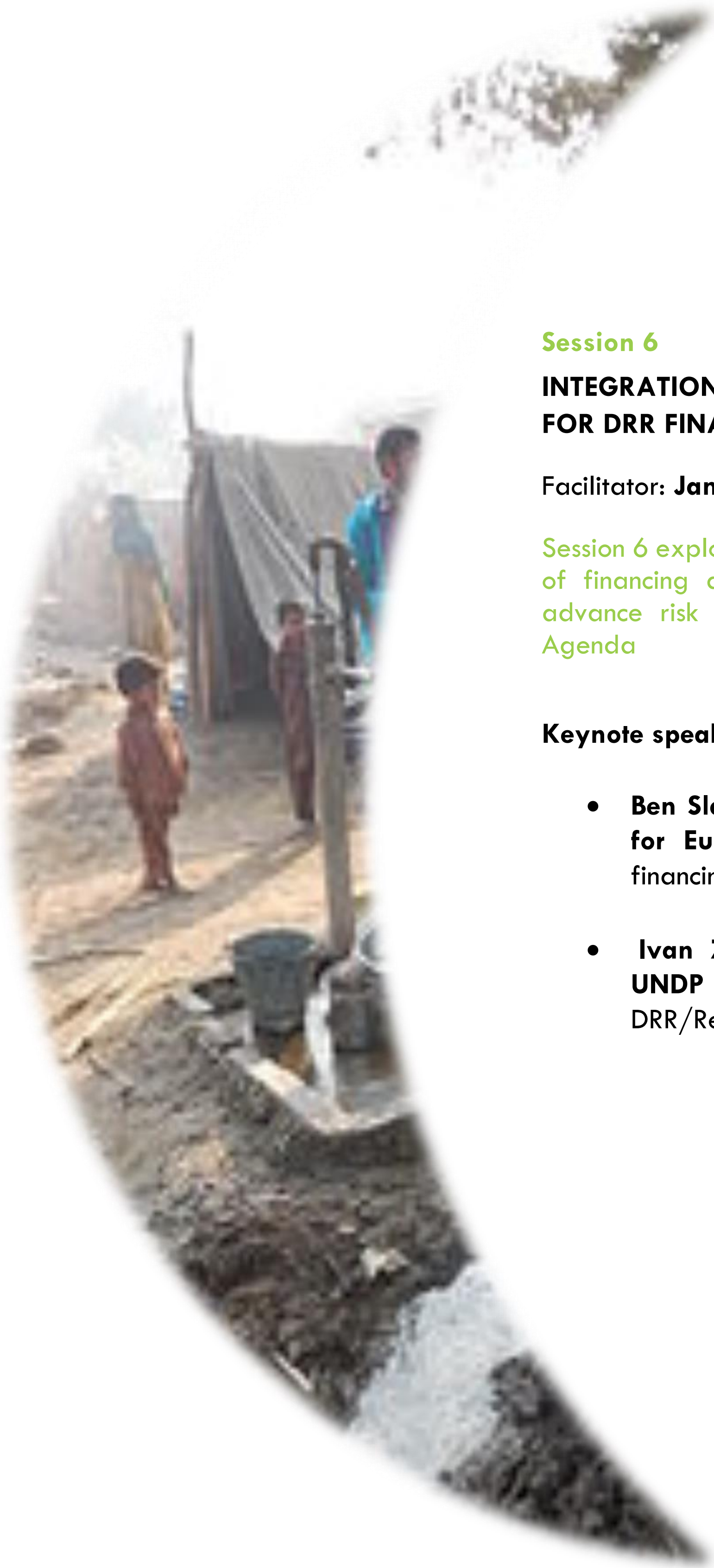
Discussions following Session 5 have revolved around the participants' interest of knowing how far are the risk modelling agencies in designing a model for the region, to which the panelists have responded that based on demand there is sufficient capacity within the private sector (insurance sector) to immediately design appropriate models, which were however not yet released as there is no demand; an example was given from the RMS representative that commercial models are available and that a model could be designed immediately upon demand, he however stressed the need for a demand from the government based on reliable data. Participants have pointed to the challenges in convincing the government representatives of the usefulness of a risk model to which the panelists suggested that a regional multi-country model would perhaps bear more traction with the governments in the region and it would take the same speed and resources to be developed, however the participants agreed that as the region is very diverse most likely sub-regional risk models would be more suitable for this part of the world.

The importance of knowing the risk came into focus again, while the panelists exemplified the preparatory steps that need to precede a bond issuance.

The discussions highlighted that governments need to understand and quantify risk to a level of detail that allows to reduce it first, as part of a wider risk management framework, and then transfer the residual risk through insurance and other instruments.

In the absence of an internal capacity, the governments could hire risk modelling agencies to model the risk, then a rating agency to rate the risk. However, before all these, governments need to know the exposure, the type of hazards, shortly, need to know the risk and then have a reliable risk model that will be accepted by the insurance industry- "it is important to talk the language of the insurer" or rather to find a common language (ie.it is important to have a reliable risk model accepted by insurance agencies).

The discussions then explored whether there is an accepted model closer to communities reflecting their vulnerability and the general understanding was that there are no blanket models, each model can and should be designed differently but there are common principles upon which models can be developed and key for a good accepted model are understanding risk, defining triggers and building in the cost benefits of the intervention.



Session 6

INTEGRATION INTO DEVELOPMENT and ACTION ITEMS FOR DRR FINANCING IN ECIS Facilitator:

Facilitator: **Jan Kellett, Special Advisor UNDP**

Session 6 explores DRR financing's place into the bigger picture of financing development and the partnerships needed to advance risk reduction financing within the broader 2030 Agenda

Keynote speakers:

- **Ben Slay, Senior Advisor of UNDP Regional Bureau for Europe and CIS, Istanbul Regional Hub.** Risk financing, as central to development

- **Ivan Zverzhanovski, Head of Partnerships Team, UNDP Istanbul Regional Hub.** Partnership on DRR/Resilience/Climate Risk Financing

“State budget is critical in financing SDGs, but a more sophisticated treatment of fiscal data is needed

ODA is not enough but it still matters in some places esp. for countries with large remittance inflow

…importance of blending finances eg. Remittances, ODA and budget finance…
“

Risk financing, as central to development

(**Ben Slay**, Senior Advisor of UNDP Regional Bureau for Europe and CIS, Istanbul Regional Hub)

Mr. Slay spoke about potential financing avenues for Agenda 2030 and the SDGs, reflecting on the availability of the exiting financing that can be treated as potential SDG (or Sendai) finance. He showed that SDGs cannot be really costed unless they're nationalized first, continuing with the description of traditional finance development approaches (remittances, portfolio equities, short and long term debts, FDI, ODA etc) showing that the problems with such approaches is that they may be obsolete for the existing development and financing for development trends and are rarely based on national data (especially for public finance).

He said that financing for development is not only about net transfers of capital from developed to developing countries but it's also about boosting development potential and competitiveness, continued by showing that not all developing economies are net recipients of international capital flows but that countries such as Azerbaijan, Kazakhstan, Turkmenistan, Uzbekistan are also net international capital suppliers. SDG, DRR finance is not only external but domestic financial flows (eg government budget) matter, although they are not captured. Financial services also matter but are not captured- the latter being of particular relevance for the insurance industry.

Ben walked the participants through the shares of potential for SDG financing in the countries of the region, showing that state budget supersedes other shares in case of Turkey, Serbia, Belarus, Ukraine, Kazakhstan, Albania, the former Yugoslav Republic of Macedonia, Azerbaijan, Montenegro, Georgia, with Turkey having the largest share of state budget shares (84%). He continued by showing other leaders -taking as a reference other criterion- eg remittances (where Kyrgyzstan, Armenia and Moldova take the lead) ODA *(Kosovo [all references to Kosovo in this document are within the context of UNSCR 1244/1999]* leading, having the largest share) and commercial flows (Azerbaijan and Kazakhstan with the largest shares).

He showed that the next critical step should be unpacking the domestic finance and gave the case of Albania where the 2015-2017 budget review has identified 61% of the budget lines that could be linked to various SDGs, inviting participants to reflect on the feasibility of a similar exercise in their respective countries.

Concluding, he highlighted that the state budget finance is critical but that a different, more nuanced analysis of fiscal data is needed. He also said that ODA matters in some places more than in others especially for global leaders in remittance flows and that this underscores the importance of blending remittances with ODA, budget finance. On commercial flows he said that FDI, bank loans are larger than flows associated with stocks and bonds and financial services, clarifying that in economies with largest commercial flows (eg Azerbaijan) most of this goes to the extractive sector.

"…governments have other strategies available to widen the fiscal space to finance sustainable development and they can: realign expenditures, avoid over expenditures and deliver better"

Partnership on DRR/Resilience/Climate Risk Financing

(Ivan Zverzhanovski, Head of Partnerships Team, UNDP Istanbul Regional Hub)

Mr. Zverzhanovski spoke about the partnerships needed for DRR, resilience and climate risk financing and SDG 17, underscoring that the financing needs to advance Agenda 2030 are high, and it has a differentiated approach when compared with MDGs which had an emphasis on ODA; the SDGs shift the focus on domestic and private sector resources.

He underscored that there is no shortage of capital but that there is a need for critical reflection on how to channel more public and private capital to sustainable development what kind of finance and under what conditions. Ivan talked about UNDP's Signature Solutions captured in the Organization's Strategic Plan for the next four years revolving around Poverty, Governance, Resilience, Environment, Energy and Gender equality. He spoke about partnering and bringing new actors around the table, being done in the form of a platform approach, interacting in a horizontal manner around complex issues and creating an environment that focuses on co-ownership of solutions.

He continued by touching upon the emerging donors and IRH focus on strategic ODA partnerships with Russia, Turkey, Romania, Czech Republic, Slovakia and the underlying principle that anticipates demand, delivers high quality support for ECIS donors and strengthens the community of practice.

Ivan walked the participants through the strategic partnerships with emerging donors in the ECIS region, their major achievements and highlighted the climate change window opportunity under UNDP Russia Trust Fund for Development relevant for DRR and climate financing. He also touched upon working with the International Financing Institutions (IFIs) to respond to the changing dynamics of development finance and concluded with an example of successful tripartite programme for recovery in Ukraine.

Addressing private sector engagement, his presentation revolved thereafter around UNDPs corporate focus on private sector engagement and concluded with an example of a successful partnership with Deutsche Post DHL Group in conducting joint preventive trainings (in 30 airports/14 countries) known as Get Airports Ready for Disasters.

Session 6

INTEGRATION INTO DEVELOPMENT and ACTION ITEMS FOR DRR FINANCING IN ECIS

Moderated Discussions (Jan Kellett and Armen Grigoryan)

Discussions at the end of this session have touched upon the partnerships possibilities at city level with panelists highlighting the importance of municipal, subnational authorities to drive the Agenda 2030 and mobilize partnerships at city level however for a real impact these partnerships need to be mobilized at national levels- which is the right scale to have an impact. Then, discussions have touched upon the feasibility of a fiscal exercise similar to the Albanian example but at a city level, provided that disaggregated and reliable data are available.

The facilitators closed the session with two highlights of the day showing the range of topics brought on the table during the second day's sessions around the narrative of risks, highlighting the need to understand risk, assess risk, reduce risk and chose what needs to be transferred. The facilitators concluded the discussion sessions, highlighting that these conversations will be carried onto the future events discussing DRR financing, and that the full understanding of the DRR financing issues represent a full-fledged process and this topic will feature strongly on the agenda of the future regional dialogues.

The participants have split into three groups discussing opportunities for setting up sub regional DRR financing platforms followed by a brief reporting back to the plenary which has concluded the workshop.

INTERACTIVE SESSION

Groups reporting back to plenary

Moderated by Jan Kellett and Armen Grigoryan

GROUP ONE

The discussions in Group 1 have focused on Balkan countries and participants have touched upon three areas: policy reforms needed to accelerate development of national and regional disaster financing platforms and other DRR tools, pros and cons from path to action of regional facilities and potential roadmap and next steps. The rapporteur has highlighted the different situations regarding disaster risk financing in the sub region however as problems are similar a sub-regional platform could explore joint solutions (common solutions to common problems) and identify particularities and differentiated approaches among countries while sharing of technical expertise to support tailor made approaches for each country. Mindful of the role of governments to address regulatory changes for enabling environments for insurance penetration, the participants in the group have also agreed that insurance products and insurers portfolios are limited which does not leave many options at hand.

A representative from the reinsurance community made a few specific observations: (i) Pooling of several countries may be a good idea in order to self-finance risks which have a certain frequency. On the other side, countries could jointly buy coverage for rare but severe natural catastrophes. Such coverage could be in catastrophe bond form (advisable for larger volumes, e.g. from USD 100 m. upwards) or in collateralized derivative type of contract form (advisable for smaller volumes) (ii) To start with, it does not have to be a very large protection limit. A cover with a (relative) small limit of USD 10 – 20 m. could be a good starting point and once parties involved have gained comfort and experience such limits could be broadened in later years (iii) The political will is of utmost importance(iv)Other countries (Turkey, Romania) have put schemes in place to allow policyholders to buy (earthquake) cover. Such schemes then itself buy cover from reinsurance / ILS markets to protect themselves. These schemes could be examples for other countries to tackle the protection gap.

With reference to the pros and cons from path to action the group agreed that countries could work well together and immediately increase national capacities but flagged that any solutions and insurance products should be tailored to each country, as a blanket solution may not fit all.

Next steps (roadmap) were discussed and participants agreed about the need of good intelligence to be collected with characteristics of each country; the set-up of a regional or sub-regional pool of technical experts (OnDemand facility type) could be useful to strengthen national capacities especially in terms of legal expertise; identification and design of new insurance products (if enabling legal frameworks are in place) that could provide for a combination of two or more products (hybrid product) to be tailored to countries' characteristics or sub region's particularities. Concluding, the facilitators reminded participants about the broader European platform that convenes in November every two years and about the forum on preparedness and response called DTPI (10 countries in Balkans participating in disaster preparedness initiative) agreeing that there is a scope for sub regional platforms in the likeness of the one created by countries in Central Asia and Azerbaijan.

GROUP TWO

Group 2 included participants from Armenia, Ukraine, Moldova, Georgia, Belarus and the rapporteur gave a detailed account of the discussions highlighting the main points.

On barriers preventing the use of all the advanced risk modelling techniques and financial instruments presented- there was consensus, all participant agreed that these financing instruments are very good but may be a bit too advanced for the countries. However, one common situation was identified namely the governments' reluctance or lack of capacity or inability to understand, know and measure risk.

The recurrent predicament (present throughout the workshop) i.e. government complains that there are no viable risk models, private insurers complain that there is no demand from government's side- has surfaced within Group 2 again and participants highlighted that without reliable risk models it is less likely for governments to enter into risk transfer transaction.

Except for some examples, there are no models in the region. The participants mentioned that in Armenia the government is interested to look at the externalities of the disaster (in terms of damages to economic sectors)- if the metrics would be clearer the ownership and involvement would be easier to secure. Moldova has put in place a scheme of cross border collaboration insurance scheme with Romania for catastrophic floods whereas Georgia has modelled a river and it ponders on its applicability for the entire country. Ukraine believes that there are budgetary limitations to transaction insurances, legislative limitations etc all of which are rather prompting the government (and the people) to opt for traditional insurance.

Steps forward discussed could include: (i) reaching a common understanding at the national level first (via national participatory workshops and meetings that will table the problems and explore solutions) the next step would be to have further sub-regional and regional meetings that could better explore the needs and solutions and could identify multi country approaches, paying due consideration to national characteristics.

GROUP THREE

Group three focused on countries in Central Asia, who agreed that insurance markets vary among countries and the level of data collection differ greatly from country to country therefore the setup of sub regional platform and expert facility was deemed extremely helpful offering better opportunities to share knowledge as well as exchange opinions in terms of regulatory framework, insurance and level of preparedness.

The discussions also touched upon the institutional frameworks in different countries, with different mandates and responsibilities but geography is similar, hazards are common at sub-regional level.

The discussions concluded by highlighting that strengthening knowledge is a must in the region and that more often meetings at sub regional levels will increases opportunities to share and strengthen knowledge.

A whole-of-region analysis of the insurance market would be useful to have a reliable information on what instruments are available, then explore what are the regulatory changes that could be implemented to make the markets more permissive (to insurance instruments for risk management) and then go to the details and technicalities of setting up a mechanism for sharing knowledge and coordination on risk management including financing.

On sub regional platform, although there is a disaster risk reduction platform in place, the participants felt that there should be a shift from small to a larger facility/platform. The group agreed that there is a stringent need for more information to improve the knowledge base and especially in Russian language.

WAY FORWARD, possible follow up actions (largely emerging from the moderated discussions and group exercise):

Set-up of a regular regional platform for exchange of best practices, knowledge and organization of Special sessions within various regions events. The (possible) future regional platform will be promoting sustainable and risk-informed development in the region and will have a distinct focus on Insurance for Development complementing and working in partnership with other regional platforms or activities such as the regional Insurance for Development (IFD) Platform, UNISDR and others.

Implementation of a series of regular sub regional meetings for development of national and regional schemes for DRR financing: One of the key feature of the above-mentioned platform will likely be the sub-regional series of meetings, to be coordinated and organized through the platform, with specific themes characteristic to different sub-regions.

Development of regional DRR financing knowledge sharing mechanism for materials distribution, capacity building: The regional platform will feature a knowledge sharing facility (mechanism) and will act as a repository of valuable knowledge, captured and codified into different knowledge products.

Development of awareness raising materials for ECIS region: Developing awareness in general and at the highest political level in particular is of paramount importance to promoting Insurance for Development initiatives and increasing the knowledge and understanding among governmental and non-governmental partners, at individual, city, country and multi-country levels.

Expert support to interested governments to develop national or sub regional DRR financing instruments **(On-Demand Expert Facility).** An On-Demand Expert Facility will be built and integrated into the regional/sub-regional platform features and will be set-up in partnership with the Insurance for Development Forum(IFD) and aligned with one of IFD priority working initiatives namely the Technical Assistance Facility (TAF). In addition, the UNDP facilitated regional/sub regional platform will include specific and relevant expertise for the region, entailing knowledgeable experts from many thematic areas relevant to disaster risk insurance financing and DRR investments.

Leaving no one behind: Affordable Insurance Financing Innovation Lab. The Innovation Lab, could serve as a feature of the regional platform that will facilitate partnerships for tailor-made and innovative risk insurance financing framework covering the poor and vulnerable communities, therefore promoting more effective solutions with a social angle. The need for affordable insurance emerged from the moderated discussions of the workshop's sessions and will build upon UNDP's work on micro-insurance products especially for agriculture. Partnerships with FAO, IFAD, farmers organizations etc. will ensure that adequate micro-insurance instruments are designed with affordable premiums so that that innovative solutions will be explored to cover the most vulnerable communities.

Also, UNDP will arrange: a post-workshop discussion between the CDT teams in Istanbul and Geneva on the workshop, and consideration of any individual pitches to be made to countries; an invitation to COs to discuss with their country representatives on their thoughts on the workshop, and any further specific support they would require (which would need to be financed by the countries.); a meeting in Istanbul, early 2019 with the Istanbul and Geneva teams on the creation of an overall offer to the region, broken down into the three sub-regions; at the IDD in April 2019, working together between CDT teams in Istanbul and Geneva on the nature of the risk financing/insurance part of the agenda, and the announcement of any strategies, initiatives in the insurance/risk finance space.

DRR Financing Regional Workshop
UNDP Istanbul Regional Hub
4-5 October 2018

ANNEXES:

Concept note: DRR financing regional workshop

Disasters and the associated economic shocks are a significant threat to human life and personal wellbeing, especially for the poorest states and the most vulnerable people in all countries. While the costs have always been significant, disasters are increasingly much more expensive. In a period of 2005-2014, only the region of Eastern Europe and CIS faced 314 disasters, resulted in more than 60 000 people killed, 11 mln. people affected with only damage around 25 bln. USD.

A lack of resilience to disasters (which increasingly have massive consequential impacts well beyond the direct event) in both developed and developing economies is an increasing threat to economic growth and global security. Therefore, investors seeking to mitigate these risks need to prioritize funding for development that targets resilience and sustainability provided by better infrastructure.

As per Sendai Framework for DRR Priority #3 "Investing in disaster risk reduction for resilience": ".... Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation."

The Paris Agreement on Climate Change recognizes the importance of disaster financing as an integral part of national climate risk management strategies. A separate pillar on Loss and Damage from climate change is included with specific mention of insurance and climate risk pooling: "...Parties recognize 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..." The Agreement further states that the 195 Parties to the Agreement must boost their understanding, action and support relating to climate change-caused Loss and Damage in, above all, early warning systems, comprehensive risk assessment and management, and risk insurance facilities, climate risk pooling and other insurance solutions.

To address those challenges, UNDP is now working to develop insurance solutions and resilience with over 200 development, financial and insurance industry members. In the realm of insurance for development, UNDP's expertise and track record can be described as facilitating multi-stakeholder convenings to discuss mechanisms for risk-financing, conducting market soundings (demand generation, reasons for low/no coverage), and enabling solutions through field testing. Over more than a decade, UNDP has facilitated support for vulnerable communities through partnerships and capacity for macro and microinsurance products, first financing and executing feasibility assessments and later contributing to product rollout. Building on this work, UNDP is solidifying its strategy, making insurance core to its strategic agenda. Clear from the work with IDF to date and UNDP's history in the sector, the insurance industry and product solutions generated (whether at regional, national or individual consumer level) are essential for sustainable development and for achieving the SDGs.

Objective

Considering a high demand expressed by RBEC[1] countries to understand better global trends of disaster financing market development and opportunities for the RBEC region, the workshop organized by UNDP in association with international and public-sector players will set a multi-stakeholder platform for disaster financing knowledge sharing in ECIS and coordinated actions for disaster financing development. The workshop will focus on questions in three key areas:

What is the current state of global disaster financing that contributes to transform the promises of sustainable development into reality? What lessons have been learned that can be shared with the countries of ECIS?

How international development partners, the private sector and academia can help governments to capture the potential of the global disaster financing market for building resilient countries?

What policy reforms are needed to accelerate development of national and regional disaster financing platforms and other DRR financing tools? Which political, economic, financial, and social constraints must be addressed?

By providing a multi-sectoral forum for technical assessments, partnership discussions, outreach, and advocacy, DRR financing workshop will complement, support, and build on global actions for Sendai priority 3 implementation. Government and international agencies representatives will benefit from the perspectives, advice, and solutions offered by international financial institutions, private companies, think tanks, and academia.

About the Participants

The main target audience of the workshop is governmental representatives from ECIS states, which have a role to play in developing an enabling legal and policy environment and promoting DRR financing mechanisms. As well as including representatives of international community (mainly international organizations and lead bilateral donors) and private sector practitioners developing and managing various disaster financing instruments. Below is a draft proposed general agenda, a detailed version will be shared with participants prior to the conference.

The workshop will be organized in cooperation with international organizations, international financial institutions and private sector. Technical support for workshop organization was provided by Bermudian ILS Phoenix CRetro, Israeli ILS IBI ILS Partners, McCarthy Denning.

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[1] **RBEC/ECIS countries:** *Albania, Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Kosovo**(All references to Kosovo, shall be understood in full compliance with UN Security Council Resolution 1244 and without prejudice to the status of Kosovo), *fYR of Macedonia, Montenegro, Moldova, Serbia, Tajikistan, Turkmenistan, Turkey, Ukraine, Uzbekistan*

AGENDA

Day 1, October 4th, 2018	
08:30 - 9:00	*Registration, coffee*
Welcoming session Facilitator: ***Armen Grigoryan,*** *Regional Cluster Leader - Climate Change/Disaster Resilience and Global Energy Policy Advisor, Bureau for Policy and Programme Support, UNDP IRH*	
09:00 - 09:15	**Welcoming. *Gerd Trogemann***, *UNDP IRH Manager*
09:15 - 09:35	**The Past, the Future: Trends for risk financing. *Jan Kellet***, *Special Advisor, UNDP*
Session 1. THE BIG PICTURE of DRR financing Facilitator: ***Daniel Stander***, *Managing Director at Risk Management Solutions*	
09:35 - 09:50	**Disaster risk profile of ECIS region. *Rosalind Cook***, *External Relations Officer, UNISDR*
09:50 - 10:50	**Experience in DRR financing: What has been done? What are the gaps?** • ***Thomas W. Kessler***, *Principal Disaster Risk Insurance & Finance Specialist, ADB;* • ***Mohamed A M Al-Hadi,*** *Senior Fragility and Post-Conflict Specialist, Human Development Division, IsDB;* • ***Kota Katsumata,*** *Representative, JICA Turkey Office*
10:50 - 11:20	*Group photo* *Coffee & Networking*
Session 2. TRANSFERRING THE RISK Facilitator: ***Andy Palmer***, *Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd*	
11:20 - 13:00	**Sovereign Risk Financing. Introduction to disaster risk transfer. Key Considerations for Development of Sovereign Risk Financing and Risk Transfer Programmes:** • The problem: need for capital to rebuild assets and avoid poverty post disaster events. ***Andy Palmer***, *Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd;* • Region specific obstacles: low penetration, insurance underdevelopment, (re-) insurance protectionism. ***Alexander Frost***, *Head of Global Risk Intelligence & Data at Axco Insurance Information Services;* • The Solution: ILS market and transfer of financial disaster risk to global investors. ***Henning Ludolphs,*** *Managing Director Retrocessions & Capital Markets, Hannover Re;* • Catastrophe Bonds: why this is a genuine win-win between governments and capital market investors? ***Rom Aviv***, *IBI ILS Partners Ltd*
13:00 - 14:00	*Lunch & Networking*
Session 3. TRANSFERRING THE RISK (cont.) Facilitator: ***Henning Ludolphs,*** *Managing Director Retrocessions & Capital Markets, Hannover Re*	

14:00 - 15:30	**Insurance Markets, Private Sector Opportunities:** • ***Karina Whalley,*** *Public Sector Business Development Manager at AXA Global Parametrics;* • ***Andy Palmer****, Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd;* • ***Natalie Kraus,*** *Senior Manager, Origination team, Munich Re;* • ***David Simmons,*** *Managing Director of the Capital, Science and Policy Practice, Willis Towers Watson*
15:30 - 16:00	*Coffee & Networking*
Day 2, October 5th, 2018	
08:30 - 09:00	*Coffee & Networking*
09:00 - 09:10	**Recap of the previous day and introduction to second day.** *Participants*
Session 5. TRANSFERRING THE RISK (cont.) Facilitator: ***Kirill Savrassov****, CEO at Phoenix CRetro*	
09:10 - 10:10	**Review of the governments`-supported Cat Bonds. *Rhodri Lane*,** *Managing Director, Head of International Business, AON Securities;* **Risk, Capital and Investment:** • **Matching risk & capital, investors' expectations. *Kirill Savrassov*,** *CEO at Phoenix CRetro:* - Bonds issuance financing options & mechanisms; - Outreach to the investors base; • **Rationale behind decisions of capital diversification into ILS, as uncorrelated alternative asset class. *Kirill Ilinski*,** *Managing Partner, Fusion Asset Management*
10:10 - 11:25	**Modelling the Risk** • **The role of Risk Modelling. *Daniel Stander*,** *Managing Director at Risk Management Solutions (RMS);* - Modeling: their importance for risk transfer activities; - How can modelling help governments assess their natural disaster risk and capital needs? - The role of climate information • **Network Science to Model (Cascades of) Catastrophic Risks. *Maxim Bouev*,** *Mayfair Research Associates;* • **Case study: BiH, *Jovanka Cetkovic*,** *Project Associate, UNDP BiH;* • **Case study: Georgia, *Margaretta Ayoung*,** *Expert, UNDP*
11:25 - 11:50	*Coffee & Networking*
Session 6. INTEGRATION INTO DEVELOPMENT and ACTION ITEMS FOR DRR FINANCING IN ECIS Facilitator: ***Jan Kellet****, Special Advisor, UNDP*	
11:50 - 12:10	**Risk financing, as central to development, *Ben Slay*,** *Senior Advisor of UNDP Regional Bureau for Europe and CIS, Istanbul Regional Hub*
12:10 - 12:35	**Partnership on DRR/Resilience/Climate Risk Financing, *Ivan Zverzhanovski*,** *Head of Partnerships Team, UNDP Istanbul Regional Hub*
12:35 – 13:45	*Lunch & Networking*

13:45 - 15:00	**Facilitated group discussion. 3 groups:** • What policy reforms are needed to accelerate development of national and regional disaster financing platforms and other DRR financing tools? Which political, economic, financial, and social constraints must be addressed? • Pros and Cons from path to action of other regional facilities; • Roadmap? Framework agreement?
15:00 - 15:30	**Group presentations**
15:30 - 16.00	**Discussion of further actions for DRR financing development in the region of ECIS.** ***Jan Kellet***, *Special Advisor, UNDP*
16:00 - 16:20	**Closing remarks. *Armen Grigoryan,*** *Regional Cluster Leader - Climate Change/Disaster Resilience and Global Energy Policy Advisor, Bureau for Policy and Programme Support, UNDP IRH*
16:20 - 17:00	*Coffee & Networking*

Keynote speakers BIOs

Armen Grigoryan

Regional Cluster Leader - Climate Change/Disaster Resilience and Global Energy Policy Advisor, Bureau for Policy and Programme Support, UNDP

Mr. Grigoryan is a Regional Cluster Leader - Climate Change/Disaster Resilience and Global Energy Policy Advisor for Europe and CIS region in UNDP's Bureau for Policy and Programme Support. In this role, he oversees work on DRR, CC/A, Energy and Crisis Response, as well as risk integration and resilience.

Mr. Grigoryan comes with over 20 years of experience in UN system on DRR at country, regional and global levels. He has extensive work experience in working on DRR and Climate issues from previous assignments in UNDP (BCPR). Armen has also extensively worked on UNDP Led inter-agency initiative – CADRI (Capacity for Disaster Reduction Initiative), which focuses on capacity development for Disaster Risk Reduction. He served as BCPR Training Coordinator. His technical focus has been on Disaster Risk Reduction, Climate Change (Adaptation and Mitigation), Disaster Preparedness and Recovery, Energy, Humanitarian-Development nexus, Disaster Assessments - PDNA, sectoral DRR/CC such as Conflict and Disaster Interface, and Mine Action.

Mr. Grigoryan holds degrees from Yerevan State Pedagogical University and Central European University in International Relations, European Studies and Crisis Management/Conflict Resolution. Mr. Grigoryan is a certified and active member of UNDAC (United Nations Disaster Assessment and Coordination), UNDP Learning Network and an invited lecturer of the Central European University in Budapest, Hungary and the Crisis Management Academy in Armenia.

Gerd Trogemann

Manager of the UNDP Regional Bureau for Europe and Central Asia

Istanbul Regional Hub.

Previously, Gerd has been the acting Director (July 2016 to April 2017) and Deputy Director (since July 2013) of the Regional Service Centre for Africa in Addis Ababa, Ethiopia. In 2012/2013, he led the change management processes underpinning the relocation of the previous sub-regional office from South Africa to Ethiopia. Prior to this, he served as Director a.i. (2011) and Deputy Director (2005-2010) for Resources Mobilization in New York as well as with the UNV programme in various programme and management functions (1995-2004).

Before joining the UN, he headed the office of the Spokesperson for Development Policy of the Liberal Parliamentary Group in the German Parliament (1992-1994). Gerd studied in Germany, Viet Nam and the UK. He holds a Master's degree in Southeast Asia Studies, Law and Economics.

Jan Kellett

Special Advisor for External Engagement within the climate, disaster and energy team of UNDP

Jan Kellett (United Kingdom) is a Special Advisor for External Engagement within the climate, disaster and energy team of UNDP, responsible for: partnerships; advocacy and communications; research, evidence and innovation. He has been a core member of UNDP's global advocacy around risk and climate, including the World Conference on Disaster Risk Reduction, the Financing for Development Forum and the Paris Climate Negotiations. He leads on UNDP's corporate insurance work as well on aspects of its climate investment and related policy and programming areas, especially the increasing work with the private sector.

Before UNDP, Jan was a senior research advisor at the Overseas Development Institute, where he was a member of the climate and environment programme. During his two years at ODI, Jan worked on influential aspects of work in and around risk management, especially in the areas of climate adaptation, aid financing, international institution capacity, resilience, transition and fragility. Prior to ODI, Jan led the Global Humanitarian Assistance programme at Development Initiatives, focusing on delivering detailed and concise information on humanitarian financing.

Before this, Jan spent more than ten years working for the United Nations in 15 diverse post-conflict and post-disaster contexts at a country level, as part of UNDP country offices or later as senior advisor to UN Resident Coordinators. He has also worked for 6 years for HSBC and once turned down a job with GCHQ. Jan has an undergraduate degree in media arts and a master's degree in civilization and barbarism.

Daniel Stander

Global Managing Director, RMS

Daniel has spent his entire career bringing new ideas to the risk and resilience industry. A member of RMS' Global Leadership Council, Daniel has responsibility for driving innovative, strategic solutions across RMS' entire client base – covering both public sector and private sector clients. He is also the Global Head of RMS' Public Sector Group, with overall leadership responsibility for RMS' relationships with all levels of government. Over the last 15 years, Daniel has worked closely with public and private entities on every continent, advising them on a variety of complex risks, from natural hazards, environmental stresses, terror attacks and pandemic outbreaks to marine, supply chain and cyber exposures.

Daniel's clients include non-profit entities as diverse as cities, central banks, finance ministries, healthcare agencies, transportation authorities, security agencies, national insurance pools, quasi-government agencies, international development donors and NGOs. He is currently advising RMS' public sector clients in mature and emerging markets alike, helping them articulate their risk tolerance, quantify their exposure, develop mitigation strategies, reduce disaster risk, build resilience to extreme events, finance infrastructure projects and transfer residual risk. He also leads RMS' involvement as a founding partner in the Rockefeller-funded 100 Resilient Cities program.

Prior to RMS, Daniel managed the group strategy and development function at an 80,000-employee, £10bn global healthcare group, serving 30 million customers in over 190 countries. He also has considerable start-up experience, having been a founding team member of an award-winning, SaaS company, bringing internet technologies to the risk transfer value chain. Prior to that, Daniel worked for Deutsche Bank.

Daniel holds a Masters from the University of Oxford, where he graduated, double first with Honours in Philosophy & Modern Languages. He also studied for a Masters at the Humboldt University in Berlin and is a graduate of the Center of Creative Leadership's EMEA campus in Brussels, Belgium.

Rosalind Cook

External Relations Officer at the UNISDR Regional Office for Europe and Central Asia

Ms. Rosalind Cook is the External Relations Officer at the UN Office for Disaster Risk Reduction in the Regional Office for Europe and Central Asia, joining in October 2017. She is part of this, she is responsible for institutional relations, and also the finance/private sector aspects of DRR in Europe. Rosalind has over 8 years of experience in the fields of climate change adaptation, foreign policy, urban resilience, advocacy, communication and inter-governmental processes.

Rosalind began her career working for the European Commission on climate change adaptation and disaster risk reduction. She then moved on to the UK Foreign Office where she was the environment attaché at the UK Delegation to the OECD and IEA. Rosalind went on to work for the environmental think tank E3G where she led the organizations work on EU climate change adaptation, resilience and climate diplomacy. Rosalind has a Master's in Sustainable Development and a law degree.

Thomas Kessler

Principal Finance Specialist (Disaster Insurance)

Asian Development Bank

Thomas has started his assignment at the Asian Development Bank (ADB) in April 2018 as Principal Disaster Insurance and Finance Specialist. His focus is to integrate Risk Transfer instruments into comprehensive Disaster Finance, Infrastructure Project Finance as well as other Developing Market Finance solutions.

Before his move to ADB, he was the Head for South East and East Asia at Swiss Re Global Partnerships. Based in Singapore, he was appointed in September 2015 being responsible for implementing innovative insurance solutions with the public sector to close the insurance protection gap.

Prior to that, he was seconded by Swiss Re to Vietnam National Reinsurance Corporation (VINARE) as its Deputy Chief Executive Officer from April 2012 till September 2015. He was based in Hanoi, as part of a Strategic Cooperation Agreement between the two companies.

Thomas joined Swiss Re Zurich in 1994 as a Credit & Surety Underwriter. Since then, he has assumed various responsibilities in different locations around the world. From 1998 to 2002, he was based in Japan where he was actively involved in the development of domestic commercial credit reinsurance.

In 2005, Thomas moved to New York for more than three years and was amongst others in-charge of the development of a credit portfolio capital modelling tool. Thereafter, he operated out of Zurich and Hong Kong in turns as Head of Marketing and Underwriting responsible for Europe, South Africa, Asia Pacific and Latin America.

As a Swiss citizen, Thomas holds a master's degree in General Economics and Business Administration of the University of Berne, Switzerland.

Mohamed A M Al-Hadi

Senior Post Conflict and Fragility Specialist in Resilience and Social Development Department, Islamic Development Bank

Mohamed A.M studied Conflict, Violence and Development in SOAS University of London.

Before joining the IDB, Al-Hadi was a Member of Parliament (MP) in Somalia (2009-2012) and founding member of Alliance for the Re-liberation of Somalia (ARS) in 2007 as well as Alshahid Centre for Research and Media Studies. He worked as a consultant and Project Manager in many conflict areas including Yemen, Iraq, Lebanon, Kenya and Somalia with different institutions including Foreign and Commonwealth Office, DfID, Media Support Solutions, Oxford University, JBCS & Associates Ltd in UK, International Development Law Organisation (IDLO) in Rome, Al-Jazeera Centre for Studies in Doha, Almisbar Centre in Dubai and ISDB.

Al-Hadi is a political analyst and writer who appeared as a commentator on many TV shows about Horn of African, East African and Middle Eastern issues in leading TV channels such as BBC, Aljazeera, Al-Hiwar, Al-Alam, ANB, Al-Mustakillah, etc. He published analytical articles online and printed media like Alquds Alarabi and aljazeera.net.

Al-Hadi participated in numerous conferences in the UK and abroad. He was an active member of Chatham House involved in close and open meetings; he also gave a talk at Oxford University. Prior to this, he worked in many fields including Journalism, Education and IT. His expertise includes Third World Development, Conflict and Violence, Horn of Africa, Middle East Studies, International Relations, e-Parliament, Islamism, ICT, Web development and Graphic Design.

Kota KATSUMATA

Representative, JICA Turkey Office

Kota joined Japan International Cooperation Agency (JICA) in 2012. He has been engaged in a lot of Official Development Assistance (ODA) projects especially in the field of disaster risk reduction. From 2014 to 2016, he was a member of the Secretariat of Japan Disaster Relief Team (JDR) in JICA. During his assignment, JDR teams were dispatched to several disasters, such as the Nepal earthquake (2015) and cyclone in Vanuatu (2015). From August 2016, he has been working at JICA Turkey Office in Ankara, as a Representative. He obtained master's degree of engineering in architecture at Tokyo Institute of Technology.

Session 2. TRANSFERRING THE RISK

Andy Palmer

Director, Deputy Head of ILS Structuring, Swiss Re Capital Markets Limited

Andy is the Deputy Head of ILS Structuring at Swiss Re Capital Markets and is based in London. In this role, Andy has led the structuring of major non-life and life catastrophe bonds, sidecars and cat derivatives for insurance and reinsurance companies, corporates and public entities. Notable transactions in the sovereign space include the Pandemic Emergency Financing Facility (2017) on behalf of the World Bank, Bosphorus Ltd. (2015) for the Turkish Catastrophe Insurance Pool, and MetroCat Re Ltd. (2017) for the Metropolitan Transit Authority of New York.

Andy is a member of the U.K. ILS Taskforce, having advised HM Treasury on the implementation of ILS regulations in the U.K., and having previously supported Gibraltar Finance on establishing similar regulations.

Prior to joining Swiss Re, Andy worked for Benfield Advisory, which was then to become Aon Securities. Before entering the reinsurance industry, Andy studied Mathematics at the University of Cambridge.

Alexander Frost

Head of Global Risk Intelligence & Data

at Axco Insurance Information Services

As Head of Global Risk Intelligence and Data at Axco Insurance Information Services, Alexander Frost works to identify and analyse emerging risks and mitigation strategies, studying their effect on societies and systems at large.

As an ambassador for Axco, Alex is a frequent participant in conferences and events concerning strategic risks and has been featured in a variety of publications including *The Canadian Slavonic Papers, The China and Eurasia Forum Quarterly, Emerging Europe, Global Reinsurance, Insurance Day, The International*, and *Trade and Forfeiting Review*.

Before joining Axco in 2010, Alex was an independent journalist and commentator on global political and security challenges, ranging from terrorism and great power politics, to climate change. Alex holds a Master's degree in East European, Russian and Eurasian Studies from Carleton University, a Bachelor's degree in History from Concordia University in Canada, and is an alumnus of the Faculty of Philology at Saint Petersburg State University in the Russian Federation.

Henning Ludolphs

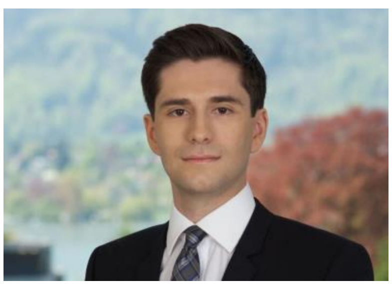
Director, Retrocessions & Capital Markets

Hannover Re

Henning was named to head up Hannover Re's recently formed Retrocessions & Capital Markets division in July 2014. This division consolidated the Hannover Re unit in charge of buying retrocession cover with its Insurance Linked Securities (ILS) department.

Henning was placed in charge of Hannover Re's ILS unit in 2008, with a business focus on the transfer of third-party reinsurance risks into the capital markets and the ILS investment model. Risk transfer activities since 2011 have included life and non-life business.

Henning first joined the Hannover Re in 1989, when he began working with a South Africa subsidiary. He returned to Germany and became involved with the company's North America treaty underwriting. From 1991, his focus was on structured reinsurance transactions in the United States and subsequently international business. In 2002, Henning became managing director of Hannover Re's non-life companies in Ireland, which at the time were the flagship carriers for the company's Advance Solutions business group.



Rom Aviv

Co-founder and Managing Partner of IBI ILS Partners Ltd.

Rom is a Co-founder and Managing Partner of IBI ILS Partners Ltd., a Tel-Aviv-based alternative asset management boutique, exclusively focused on investments in Insurance-Linked Securities. Rom possesses wide-ranging expertise in Insurance-Linked Securities comprising of analytics, origination, structuring, trading and portfolio management.

Between 2012 and 2016 Rom was an Executive Director and Head of Catastrophe Bonds at Twelve Capital in Zurich and London, an independent investment manager with AUM in excess of USD 4.5bn. In this capacity, Rom managed broad array of investment vehicles on behalf of institutional and private investors with total AUM amounting to c. USD 800 mm.

Rom earned a PhD in Financial Mathematics from ETH Zurich, Switzerland and holds M.Sc. (Summa Cum Laude) and B.Sc. (Magna Cum Laude) in Mathematics from Tel-Aviv University, Israel. Rom is also a Certified Catastrophe Modeler (CCM) from AIR Worldwide.

Session 3. TRANSFERRING THE RISK

Henning Ludolphs

Director, Retrocessions & Capital Markets

Hannover Re

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Karina Whalley

Business Development Manager, AXA Global Parametrics

Karina Whalley joined AXA Global Parametrics in October 2017 as a business development manager focusing on PPPs and the public sector.

She was previously working at the African Risk Capacity, a specialized agency of the African Union that acts as a sovereign natural catastrophe risk pool for African governments.

Karina began her career in the investment banking sector at RBS, Goldman Sachs and Fortis, specializing in financial derivative products.

Karina holds a Master's Degree in Geopolitics from the Université libre de Bruxelles, with a focus on Development Economics in Africa. She also holds an Undergraduate Degree in Pure Mathematics and Finance from the University of Cape Town.

Andy Palmer

Director, Deputy Head of ILS Structuring, Swiss Re Capital Markets Limited

Andy is the Deputy Head of ILS Structuring at Swiss Re Capital Markets and is based in London. In this role, Andy has led the structuring of major non-life and life catastrophe bonds, sidecars and cat derivatives for insurance and reinsurance companies, corporates and public entities. Notable transactions in the sovereign space include the Pandemic Emergency Financing Facility (2017) on behalf of the World Bank, Bosphorus Ltd. (2015) for the Turkish Catastrophe Insurance Pool, and MetroCat Re Ltd. (2017) for the Metropolitan Transit Authority of New York.

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Prior to joining Swiss Re, Andy worked for Benfield Advisory, which was then to become Aon Securities. Before entering the reinsurance industry, Andy studied Mathematics at the University of Cambridge.

Natalie Kraus

Senior Manager Origination, Capital Partners, Munich RE

Natalie Kraus joined Munich Re as a senior manager origination in 2009. Main purpose is to develop new solutions applying all options available in reinsurance and capital markets. Exploring solutions for the public sector is an important part of her tasks.

Prior to joining Munich Re she has worked at Allianz and Swiss Re Germany in actuarial positions, gaining deep and broad experience in the powerful tools of reinsurance.

She is member of the German actuarial association since 1999 and has a master's degree in mathematics from the Munich Technical University.

David Simmons

Managing Director of the Capital, Science and Policy Practice, Willis Towers Watson

David is Managing Director of the Capital, Science and Policy Practice in Willis Towers Watson. David is a pioneer in the development of models to understand the frequency and severity of catastrophic hazards and their impacts. Recent work has looked to apply the risk management, modelling and mitigation techniques developed to support the commercial sector for governmental and humanitarian needs. Examples include African Risk Capacity, the Caribbean Catastrophe Risk Insurance Facility and the Pacific Catastrophe Risk Insurance company. He recently was part of the team wording with the ADB to design the Philippines City Disaster Insurance Pool (PCDIP)and is currently working on schemes to protect the property and livelihoods of the poor in Fiji.

Session 4. THE WIDER PICTURE OF RISK TRANSFER AND DEVELOPMENT

Jan Kellett

Special Advisor for External Engagement within the climate, disaster and energy team of UNDP

Jan Kellett (United Kingdom) is a Special Advisor for External Engagement within the climate, disaster and energy team of UNDP, responsible for: partnerships; advocacy and communications; research, evidence and innovation. He has been a core member of UNDP's global advocacy around risk and climate, including the World Conference on Disaster Risk Reduction, the Financing for Development Forum and the Paris Climate Negotiations. He leads on UNDP's corporate insurance work as well on aspects of its climate investment and related policy and programming areas, especially the increasing work with the private sector.

Before UNDP, Jan was a senior research advisor at the Overseas Development Institute, where he was a member of the climate and environment programme. During his two years at ODI, Jan worked on influential aspects of work in and around risk management, especially in the areas of climate adaptation, aid financing, international institution capacity, resilience, transition and fragility. Prior to ODI, Jan led the Global Humanitarian Assistance programme at Development Initiatives, focusing on delivering detailed and concise information on humanitarian financing.

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Clive O’Connell

Partner at McCarthy Denning

Since qualifying as a Solicitor in 1982, Clive O’Connell has specialized in the areas of reinsurance and risk transfer. Clive has handled some of the largest and most complicated disputes in the area, many running into hundreds of millions of dollars in a variety of jurisdictions. Utilizing the experience gained in resolving issues, he has also made a specialty of advising on risk transfer wordings, particularly in the areas of financial reinsurance, alternative risk transfer (ART) and insurance linked securities (ILS). Clive is an acknowledged expert in the area and has been commended in many legal directories.

In 2014, Insurance Day named him as one of the 50 most influential people in the world of insurance; the only lawyer to appear on that list. Clive writes regularly in the insurance and reinsurance trade press and has contributed to and edited books on reinsurance alternative risk strategies and law. He is a board member and General Counsel to the International Insurance Society. Clive is also serves as a non- executive director of an ILS Fund manager and is involved in a non- executive capacity with an “insurtech” start-up.

Karina Whalley

Business Development Manager, AXA Global Parametrics

Karina Whalley joined AXA Global Parametrics in October 2017 as a business development manager focusing on PPPs and the public sector.

She was previously working at the African Risk Capacity, a specialized agency of the African Union that acts as a sovereign natural catastrophe risk pool for African governments.

Karina began her career in the investment banking sector at RBS, Goldman Sachs and Fortis, specializing in financial derivative products.

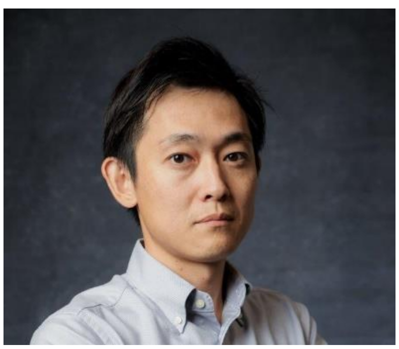
Karina holds a Master’s Degree in Geopolitics from the Université libre de Bruxelles, with a focus on Development Economics in Africa. She also holds an Undergraduate Degree in Pure Mathematics and Finance from the University of Cape Town.

Onno van den Heuvel

Manager, The Biodiversity Finance Initiative (BIOFIN)

Onno is the Global Manager for the Biodiversity Finance Initiative (BIOFIN), an innovative programme working with 35 countries in the world on a new approach to national financing strategies for conservation. He leads the global BIOFIN team and is one of the co-authors of the BIOFIN Workbook.

His previous work includes being an advisor for the establishment of a Clean Air Fund in Mongolia, a 4-year tenure as UNDP's Biodiversity Programme Officer/Environment Team leader in Mongolia and a 4-year assignment with UN-HABITAT's Regional Office for Africa and Arab States. Onno holds a Master's Degree in Economic Geography from the University of Utrecht.



Yusuke Taishi

UNDP Regional Technical Advisor

Yusuke Taishi is a UNDP Regional Technical Advisor for climate change adaptation based in Bangkok. He has overseen a $132 million climate change adaptation portfolio in the Asia-Pacific Region over the last 8 years. Prior to moving to Bangkok, he was based in New York working at the Regional Bureau for Asia and the Pacific. Before joining UNDP, he was working in the microfinance industry in India working on impact assessments of microfinance programs and pro-poor financial product design, including micro-insurance products. He has a Master's degree in Economics and a Master's degree in Environmental Science.

Olga Buto

Disaster Risk Reduction Specialist, Climate and Environment Division, Food and Agriculture Organization (FAO), Rome

Since 2013 Ms. Buto has been working in the international intergovernmental field. In 2014 she joined the UN system and served as Climate Change Officer at FAO Regional Office for Europe and Central Asia. The geographical scope of her work included countries in Central Asia, South Caucasus and Western Balkans. Technically, focused on supporting the countries with planning and implementing climate change adaptation and disaster risk reduction measures in agriculture sector from sub-regional to community – levels.

In 2016 Ms Buto transferred to FAO headquarters in Rome and joined the Climate and Environment Division, where she continues working with the team on Natural Hazards, with a strong focus on climate change adaptation and disaster risk reduction planning, risk and vulnerability assessment, analysis of investment in prevention and preparedness. The geographical scope of her work includes countries in South East Asia, West Africa, Latin America and the Caribbean, Central Asia. Before joining the UN she supported the Climate Change and Energy programme in Heinrich Boell Stiftung's Regional Office in Washington DC. Ms. Buto, a national of Lithuania, holds a Master of Arts degree in European Union Studies and Modern European Languages (German & Spanish) and Master of Science degree in Ecological Economics, both from the University of Edinburgh, United Kingdom.

DAY 2
Session 5. TRANSFERRING THE RISK

Kirill Savrassov

CEO at Phoenix CRetro

Kirill is the founding CEO of Phoenix CRetro - Bermudian reinsurer & ILS specialist with the focus on Central, Eastern and Southern Europe.

He is a seasoned (re-) insurance industry professional (since 1998) & regulated company executive (BMA) with extensive connections in Central, Eastern, Southern Europe, London, Bermuda & the United States at both corporate and government levels.

Kirill has a proven track record for deal making and strategic leadership in implementation of mid- and long-term projects at all stages with strong motivation to achieve results. Effective "interfacing" capability between Western and Eastern European financial & commercial cultures with ability to work in (and to solve) complicated and stressful situations.

Prior to establishment of Phoenix CRetro in 2013 he was an active Lloyd's & London market producing broker within various established names (Lambert Fenchurch, Heath Lambert, Cooper Gay, Chesterfield) and was looking for the companies' developments in the region of Central & Eastern Europe as well as introduction of collateralised reinsurance business to local clients.

Rhodri J. Lane

Managing Director

Head of International Capital Markets, Aon Securities Ltd

Rhodri Lane is a Managing Director at Aon Securities Ltd. with oversight of the capital markets practice in Europe and internationally. Mr. Lane has experience in the Insurance-Linked Securities market since 2010 having held senior positions at AIR Worldwide and, most recently, as a Vice President at Guy Carpenter.

Collectively, since 2010 Mr. Lane has held positions in catastrophe modelling, reinsurance broking, and investment banking focused on Insurance-Linked Securities. From 2005 to 2010 Mr. Lane worked in more traditional financial markets in high net-worth portfolio management and retail brokerage. He holds a BA in Economics from the University of Colorado.

Kirill Ilinski,

Managing Partner of Fusion Asset Management

Fusion was established in May 2004 as a provider of asset management and advisory services to institutional clients. Since then, the business has evolved into a diversified group of financial companies which provide corporate risk management advice, wealth management, retail financial advice as well as continue to offer institutional investment products and services. Kirill's primary focus in Fusion is overseeing investment management team, investment research and development of new investment products and services.

Prior to founding Fusion, Kirill worked at JPMorgan Chase in London in equity exotic analytics, European equity index options and JPMorgan Debt-Equity Relative Value Group. Kirill graduated from Leningrad State University and obtained a PhD in Mathematical Physics from the Mathematical Institute of Russian Academy of Sciences. He pursued an academic career as a Physics Research Fellow at the University of Birmingham. During his fellowship, he published more than 40 research papers with a particular focus on the application of theoretical physics to financial modelling. He authored the monograph "Physics of Finance", published by Wiley&Sons in 2000, dedicated to non-equilibrium pricing theory and its application in portfolio management and arbitrage trading. Kirill is a regular speaker and moderator at financial industry conferences, covering topics such as risk management, protective investment products and corporate treasury management.

Daniel Stander

Global Managing Director, RMS

Daniel has spent his entire career bringing new ideas to the risk and resilience industry. A member of RMS' Global Leadership Council, Daniel has responsibility for driving innovative, strategic solutions across RMS' entire client base – covering both public sector and private sector clients. He is also the Global Head of RMS' Public Sector Group, with overall leadership responsibility for RMS' relationships with all levels of government. Over the last 15 years, Daniel has worked closely with public and private entities on every continent, advising them on a variety of complex risks, from natural hazards, environmental stresses, terror attacks and pandemic outbreaks to marine, supply chain and cyber exposures.

Daniel's clients include non-profit entities as diverse as cities, central banks, finance ministries, healthcare agencies, transportation authorities, security agencies, national insurance pools, quasi-government agencies, international development donors and NGOs. He is currently advising RMS' public sector clients in mature and emerging markets alike, helping them articulate their risk tolerance, quantify their exposure, develop mitigation strategies, reduce disaster risk, build resilience to extreme events, finance infrastructure projects and transfer residual risk. He also leads RMS' involvement as a founding partner in the Rockefeller-funded 100 Resilient Cities program.

Prior to RMS, Daniel managed the group strategy and development function at an 80,000-employee, £10bn global healthcare group, serving 30 million customers in over 190 countries. He also has considerable start-up experience, having been a founding team member of an award-winning, SaaS company, bringing internet technologies to the risk transfer value chain. Prior to that, Daniel worked for Deutsche Bank.

Daniel holds a Masters from the University of Oxford, where he graduated, double first with Honours in Philosophy & Modern Languages. He also studied for a Masters at the Humboldt University in Berlin and is a graduate of the Center of Creative Leadership's EMEA campus in Brussels, Belgium.

Maxim Bouev

Head of Research at Mayfair Research Associates

Maxim is head of research at the London-based Mayfair Research Associates (MRA). Being a spinoff of the Fusion Group, a group of financial services companies, MRA is a new generation marketplace. It brings together index inventors, financial product issuers and institutional investors. Prior to MRA Maxim had spent nearly 10 years as a quantitative researcher for FX options desks with the Royal Bank of Scotland, ABN AMRO Bank, and with the M&A division of N.M. Rothschild & Sons.

Besides his work for MRA Maxim is also vice-rector for strategic development at the New Economic School (NES) – a leading economics institution in Russia. Before joining NES in January 2018 Maxim had headed the Department of Economics at the European University at St. Petersburg. There he also held a position of professor of applied finance, the chair specifically created for him and funded by Barclays Bank and JTI. Maxim's interests include asset pricing, portfolio and risk management. He holds a DPhil in economics from Oxford and co-authored several books in economics and finance.

Jovanka Cetkovic

UNDP Bosnia and Herzegovina

Jovanka Cetkovic is a senior finance professional with more than twenty-six years of experience in internationally financed projects such as World Bank, IFAD, European Union, etc. under the Ministry of Agriculture, Forestry and Water Management of the RS, where she was responsible and successfully managed the projects' portfolio of 86 mil USD.

Ms. Cetkovic joined United Nations Development Programme in 2015 following seventeen years with the Ministry of Agriculture, Forestry and Water Management of the RS. With the UNDP team, Jovanka works on *Climate Resilient Flood Management in Vrbas River Basin* Project where, in addition to her many other duties under the Project, she leads all the activities related to very challenging task of introduction of financial instruments such as index-based flood insurance and credit deference schemes as means of compensating for flood damages. Her tasks include research of insurance and agricultural markets and industries as a whole, for designing and establishing of a highly effective flood insurance scheme for BIH based on flood zoning, flood mapping, etc. for the first time ever in BIH.

However, not to forget, before joining Ministry of Agriculture, Forestry and Water Management, Jovanka worked for the EU funded projects as an economist and finance specialist in the process of establishment, for the first time in BIH, an Extension Service and Designing and Establishing of a highly effective inter-entity Market Information System in Bosnia and Herzegovina, where she proved to be highly professional and committed, goal oriented project manager as well as team member.

Margaretta Ayoung

UNDP consultant

Dr. Margaretta Ayoung is a chartered hydrologist with over 18 years international experience in in climate change adaptation (CCA) and disaster risk management (DRM) with domain expertise in river basin strategic flood risk management (FRM). She has been instrumental in the design and implementation of large-scale national and regional projects throughout the world, notably applying her knowledge and skills to projects in Europe and the CIS, Central Asia, Sub-Saharan Africa, and Asia and the Pacific.

As a respected technical authority Dr Ayoung focuses on delivering holistic and strategic solutions to multi-faceted challenges, with experience in strengthening institutional capacity through enhancing risk assessment, risk knowledge and risk communication, implementation of structural and non-structural risk reduction measures, development of financial risk transfer instruments such as weather index-based insurance, community-based capacity and resilience building, forecasting, early warning and emergency response planning, and the enhancement of national CCA and DRM legislative and policy frameworks. She delivers projects that build climate change resilience and provides long term sustainable benefits to both communities and institutions.

Session 6. INTEGRATION INTO DEVELOPMENT and ACTION ITEMS FOR DRR FINANCING IN ECIS

Jan Kellett

Special Advisor for External Engagement within the climate, disaster and energy team of UNDP

Jan Kellett (United Kingdom) is a Special Advisor for External Engagement within the climate, disaster and energy team of UNDP, responsible for: partnerships; advocacy and communications; research, evidence and innovation. He has been a core member of UNDP's global advocacy around risk and climate, including the World Conference on Disaster Risk Reduction, the Financing for Development Forum and the Paris Climate Negotiations. He leads on UNDP's corporate insurance work as well on aspects of its climate investment and related policy and programming areas, especially the increasing work with the private sector.

Before UNDP, Jan was a senior research advisor at the Overseas Development Institute, where he was a member of the climate and environment programme. During his two years at ODI, Jan worked on influential aspects of work in and around risk management, especially in the areas of climate adaptation, aid financing, international institution capacity, resilience, transition and fragility. Prior to ODI, Jan led the Global Humanitarian Assistance programme at Development Initiatives, focusing on delivering detailed and concise information on humanitarian financing.

Before this, Jan spent more than ten years working for the United Nations in 15 diverse post-conflict and post-disaster contexts at a country level, as part of UNDP country offices or later as senior advisor to UN Resident Coordinators. He has also worked for 6 years for HSBC and once turned down a job with GCHQ. Jan has an undergraduate degree in media arts and a master's degree in civilization and barbarism.

Ben Slay

Senior advisor in UNDP's Regional Bureau for Europe and the CIS (RBEC)

Ben Slay is working as a senior advisor in UNDP's Regional Bureau for Europe and the CIS (RBEC). Previous appointments include service as UNDP's poverty reduction practice leader for this region (2012-2014), as senior advisor on sustainable development with UNDP's Bureau for Development Policy (2012), as RBEC's senior economist (2008-2011), and as director of UNDP's Bratislava Regional Centre (2001-2008). His publications include: The Polish Economy: Crisis, Reform, and Transformation (Princeton University Press, 1994); Demonopolization and Competition Policy in Post-Communist Economies (Westview Press, 1996); and the co-edited volume Beyond Transition: Development Perspectives and Dilemmas (Ashgate Publishers, 2004). Other work includes serving as editor of the M.E. Sharpe journals Problems of Economic Transition (2002-2008) and Russian and East European Finance and Trade (1993-1998).

Before coming to UNDP in 2001, Dr. Slay worked as a senior economist in a Washington D.C.-based international economics consultancy. He holds doctoral and master's degrees in Economics and Russian and East European Studies from Indiana University, and an undergraduate degree in Economics from the University of California. Dr. Slay has held academic positions at several universities in the United States, including most recently Georgetown University.

Ivan Zverzhanovski

Regional Partnerships Specialist

Ivan leads UNDP's engagement with new donors in the region, including new EU Member States, Kazakhstan, Russia and Turkey, heading a multifaceted team that helps countries exchange resources, knowledge and experience, over and above the traditional donor-recipient relationship.

He works on building and strengthening effective partnerships between UNDP and emerging donors, regional organizations and initiatives, universities, NGOs, private companies and foundations. Ivan has over 15 years of experience in research, policy and programmatic work both within UNDP as well as in academia and think tanks. His main areas of expertise include: security sector reform, gender mainstreaming, EU accession in the Western Balkans, migration and DRR.

List of participants

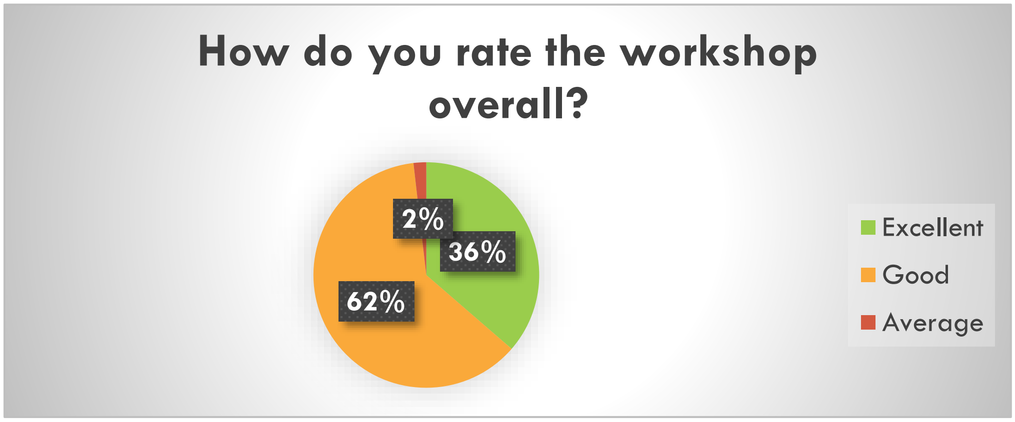
#	Name	Organization, position
Albania		
1	Fatbardha Hebovija	Director, Directorate of Enforcement of Authority for Financial Oversight under the Ministry of Finance
2	Rudina Kici	Specialist, Directorate of Risk Management of Authority for Financial Oversight under the Ministry of Finance
3	Maksimiljan Dhima	Director, Planning and Coordination of Civil Emergencies of the General Directorate for Civil Emergencies
4	Lorenc Koci	DRR specialist, UNDP Country Office
Armenia		
5	Sofi Baghtamyan	DRR Consultant of Standing Committee on Defense and Security of the National Assembly
6	Ara Barseghyan	Acting Director, National DRR Platform
7	Georgi Arzumanyan	Programme Policy Adviser, UNDP Country Office
Azerbaijan		
8	Adalat Alivev	Head, Infrastructure Projects Financing Department, Ministry of Finance
9	Aytakin Mustafayeva	Deputy Head, International Relations Department, MoES
10	Chingiz Mammadov	Senior Programme Advisor, UNDP Country Office
Belarus		
11	Dmitry Arestovich	Department of Management of Protection from Emergency Situations, University for Civil Protection under MoES
Bosnia and Herzegovina		
12	Aida Imamović	Head, Department of International Cooperation, Finance, Statistics and Actuarial Activities, Insurance Agency
13	Almir Beridan	Ministry of Security
14	Aida Hadzic-Hurem	Recovery Coordinator, DRR specialist, UNDP Country Office
15	Jovanka Cetkovic	Project Associate, UNDP Country Office
Georgia		
16	Salome Chakvetadze	Senior Specialist, Public Debt Management Department, Euro-integration and programs Division, Ministry of Finance
17	Nana Tabaghua	Head, Analytical Department, Emergency Management Service
18	Salome Lomadze	National Project Officer, UNDP Country Office
Kazakhstan		
19	Gulnar Derbisbayeva	Deputy Director, Government Liabilities Policy & Financial Sector Development Department, Ministry of National Economy
20	Asel Amirbaeva	Deputy Director, Department of Regulation of Non-Bank Financial Organizations, National Bank
21	Aliya Akhmetova	Programme Specialist, UNDP Country Office
Kyrgyzstan		
22	Bakyt Sharshenaliev	Deputy Chairman, State Insurance Company
23	Turusbek Jumakunov	Head, Department of International Cooperation, MoES
24	Marat Abdrakhmanov	DRMP Specialist, UNDP Country Office
Kosovo *(All references to Kosovo, shall be understood in full compliance with UN Security Council Resolution 1244 and without prejudice to the status of Kosovo)		
25	Sami Mazreku	Executive Director, Insurance Association
26	Alush Beqiri	Department of Prevention, Emergency Management Agency
27	Xheva Berisha–Rexhepi	UNDP Kosovo
fYR of Macedonia		
28	Violeta Stojanovska Petrovska	State Advisor, Ministry of Finance
29	Darko Blazevski	Head, Research and Development Directorate, Insurance Supervision Agency

30	Dimitar Sekovski	Project Manager, UNDP Country Office
Montenegro		
31	Branko Barjaktarović	Chief Controller, Sector for Insurance Market Supervision
32	Ljuban Tmusic	Ministry of Interior
33	Borko Vulikic	Project Manager, UNDP Country Office
Moldova		
34	Cristina IZMAN	Deputy Head, Insurance General Division, Regulation and Authorization Division of the National Commission for Financial Market
35	Svetlana Drobot	Head, International Cooperation and Project Management Unit, General Inspectorate for Emergency Situations
36	Inga Podoroghin	Programme Specialist/Cluster Lead, UNDP Country Office
Serbia		
37	Vladimir Lazovic	Sector for planning, programming, monitoring and reporting on EU funds and development assistance, Ministry of European Integration
38	Sandra Nedeljkovic	Deputy Director, Public Investment Management Office
39	Ana Mitic Radulovic	UNDP Country Office
Tajikistan		
40	Pairav Amirov	Head, Department of International Relations, Executive Office of the President
41	Dilbar Khuseinova	Head, Insurance Department, National Bank
42	Farrukh Dodarov	Specialist, State Treasury and Investment Department, Ministry of Finance
43	Firdavs Faizulloev	DRMP Manager, UNDP Country Office
Turkmenistan		
44	Shaberdi Eminov	Senior officer, International cooperation and legal support department, Main Department on Civil Defense and Rescuing, Ministry of Defense
45	Murat Saparov	Head, Borrowing department, Ministry of finance and economy
46	Rovshen Nurmuhamedov	Programme Analyst, UNDP Country Office
Turkey		
47	Musa Alphan Bahar	Claims & Catastrophe Project Manager, DASK – Turkish Natural Catastrophe Insurance Pool
48	Enes Baran	Planning and Risk Reduction Department, AFAD
49	Nuri Ozbagdatli	Portfolio Manager, UNDP Country Office
50	Bilal Turkmen	Assistant Secretary General, DASK
51	Yusuf Ozturk	Reinsurance Manager, DASK
52	Erdem Ergin	DRR advisor, UNDP Country Office
Ukraine		
53	Oleksandr Oliynyk	Director, Department of Economic and Finance, State Emergency Services
54	Alla Tynkevych	Programme Analyst, UNDP Country Office
Uzbekistan		
55	Umidjon Nurmatov	Deputy Head, State Inspection on Insurance Control, Ministry of Finance
56	Elvira Izamova	Programme Associate, UNDP Country Office
International Organizations		
57	Gerd Trogemann	Manager of UNDP Istanbul Regional Hub (IRH)
58	Armen Grigoryan	Regional Cluster Leader - Climate Change/Disaster Resilience and Global Energy Policy Advisor, Bureau for Policy and Programme Support, UNDP IRH
59	Ivan Zverzhanovski	Head of Partnerships Team, UNDP IRH
60	Ben Slay	Senior Advisor, UNDP IRH
61	Jan Kellett	Special Advisor, leading External Engagement, UNDP
62	Onno van den Heuvel	Global Manager, Biodiversity Finance Initiative – BIOFIN, UNDP
63	Kota Katsumata	Representative, JICA Turkey Office
64	Rosalind Cook	External Relations Officer, UNISDR
65	Olga Buto	Disaster Risk Reduction Specialist, FAO
66	Yusuke Taishi	Regional Technical Advisor for climate change adaptation, UNDP
67	Mara Niculescu	Programme Specialist, UNDP IRH

68	Stanislav Kim	Programme Specialist, UNDP IRH
69	Natalya Olofinskaya	Programme Specialist, UNDP IRH
70	Margaretta Ayoung	Consultant, UNDP
71	Cansu Demir	Consultant, UNDP IRH
72	Monica Moldovan	Consultant, UNDP IRH
73	Handan Bezci	UNDP IRH
74	Saran Selenge	Research Assistant, UNDP IRH
75	Gulgun Sahin	Programme Assistant, UNDP IRH
76	Catherine Arseneau	UNDP IRH
77	Ege Kurtuldu	UNICEF ECARO
IFIs		
78	Thomas W. Kessler	Principal Disaster Risk Insurance & Finance Specialist, ADB
79	Mohamed A M Al-Hadi	Senior Fragility and Post-Conflict Specialist, Human Development Division, IsDB
Private Sector		
80	Daniel Stander	Global Managing Director, Risk Management Solutions
81	Karina Whalley	Public Sector Business Development Manager at AXA Global Parametrics
82	Andy Palmer	Deputy Head of ILS Structuring, Director, P&C Structured Solutions, Swiss Re Capital Markets Ltd.
83	Henning Ludolphs	Managing Director Retrocessions & Capital Markets, Hannover Re
84	Alexander Frost	Head of Global Risk Intelligence & Data at Axco Insurance Information Services
85	Rhodri Lane	Managing Director, Head of International Business, AON Securities
86	Natalie Kraus	Senior Manager, Origination team, Munich Re
87	Kirill Savrassov	Chief Executive, Phoenix CRetro Reinsurance Company Ltd.
88	Rom Aviv	Co-founder & Managing Partner, IBI ILS Partners Ltd.
89	Clive O'Connell	Partner and Head of Insurance and Reinsurance, McCarthy Denning
90	David Simmons	Managing Director of the Capital, Science and Policy Practice, Willis Towers Watson
91	Kirill Ilinski	Managing Partner, Fusion Asset Management
92	Maxim Bouev	Head of Research at Mayfair Research Associates
94	Kamile Rudaviciute	Analyst, Consulting, Risk Management Solutions (RMS)
Interpreters		
95	Svetlana Erozgen	Interpreter
96	Maria Beat	Interpreter

WORKSHOP EVALUATION

Most participants **(61.82%)** felt that the workshop has been overall good while **36.36%** rated the workshop as excellent.



The Workshop Self-Assessment Results show that 63.64% of the participants felt that the workshop has met their expectations, and 62.96% expressed trust that they will be able to apply the knowledge learned during these two days. The participants were highly appreciative of the workshop logistics and time management throughout the event. Half of the participants agreed that content was easy to follow, speakers knowledgeable and presentations and materials were pertinent and useful.