MERGING ECOSYSTEM-BASED ADAPTATION (EBA) AND INSURANCE/FINANCE - WHY WE NEED IT!

Microsoft Teams
19 June 2020
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<th>Merging Ecosystem-Based Adaptation (EBA) and Insurance/Finance - why we need it!</th>
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| 19:00 (Manila time) | **Opening Messages**  
- Dr Antonis Malagardis, Program Director, GIZ RFPI Asia III  
- Dr Rodel Lasco, Philippines Coordinator and Senior Scientist, World Agroforestry (ICRAF) |
| 19:10 | **The conundrum of agricultural insurance**  
- Nuno Meira, ICRAF/CIM Integrated Expert in Agricultural Financial Risk  
**Biodiversity and ecosystem services: understanding risks towards sustainable production landscape**  
- Dr Beria Leimona, Senior Expert Landscape Governance and Investment at ICRAF  
**Insurance and Ecosystem-based adaptation: Successes, Challenges and Opportunities**  
- Dr Kerstin Pfliegner, Director Germany, Europe Strategy Lead Climate Risk & Resilience at The Nature Conservancy  
**Restoration Insurance Service Company (RISCO) as a practical solution merging ecosystem-based adaptation and insurance**  
- Romas Garbaliauskas, Senior Legal Advisor at Conservation International |
| 19:30 | Open Forum |
| 19:55 | Highlights and Wrap Up |
| 20:00 | End |
MERGING ECOSYSTEM-BASED ADAPTATION (EBA) AND INSURANCE/FINANCE - WHY WE NEED IT!

Nuno Meira

INTEGRATED EXPERT, ICRAF AND CENTRE FOR INTERNATIONAL MIGRATION
THE CONUNDRUM OF AGRICULTURAL INSURANCE
Farming

- Volatile activity
  - High level of uncertainty
  - Frequency x Intensity

- Agricultural Risk Management
  - Identify
  - Analyze
  - Control

- Agricultural Risk Management strategic mix
  - Increase productivity
  - Increase resilience

- Agricultural insurance
  - Financial Risk Transfer mechanism
Agricultural Insurance

- Increases resilience to shocks

- Leverages farmers ability to pursue more modern farming, decreasing volatility
- Helps them to be integrated in the financial system by giving them a voice and identity

However...

- It may lead farmers to bet on techniques and approaches that promote specialization, monoculture
Agricultural insurance impact drivers for a sustainable future

- Keeping farming as main activity
- Increased inclusivity by reducing poverty
- Enhanced food security
- Uplifting women to more equitable roles in society
- = SUSTAIN LIFE ON EARTH
Which factor is missing in the equation?

- **Farming uses around 150 species of plants**
- **75% of global food supply comes from only 12 plant and 5 animal species**
- **3 of those plant species represent 50% + of calories consumed by humans**

Sources:
- https://www.weforum.org/agenda/2019/02/chart-of-the-day-this-is-how-many-animals-we-eat-each-year
- https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/livestock-species
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Dr. Beria Leimona

SENIOR EXPERT, LANDSCAPE GOVERNANCE AND INVESTMENT BASED IN THE WORLD AGROFORESTRY (ICRAF) SOUTHEAST ASIA
Biodiversity and ecosystem services: understanding risks towards sustainable production landscape

Beria Leimona
L.Beria@cgiar.org

World Agroforestry (ICRAF)
IPBES Global Assessment (2019)

Nature’s dangerous decline
‘unprecedented’ species extinction rates
‘accelerating’

Current global response insufficient;
‘Transformative changes’ needed to restore and protect nature;

Opposition from vested interests can be overcome for public good

Most comprehensive assessment of its kind; 1,000,000 species threatened with extinction

“Through ‘transformative change’, nature can still be conserved, restored and used sustainably – this is also key to meeting most other global goals. By transformative change, we mean a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values.”

IPBES Chair, Sir Robert Watson
Ecosystem Services
the benefits people obtain from ecosystems

**Tangible (Goods)**
Goods obtained from ecosystem directly (through harvesting):
timber, rattan, bamboo, resin, etc

**Non Tangible (Services)**
Benefits obtained from ecosystem indirectly (not through harvesting):
water cycle, soil fertility, landscape beauty, fresh air, seed dispensers, pest-control, pollinators, etc.

- **Provisioning**
- **Regulating**
- **Cultural**
- **Supporting**
The Cascade Model of Ecosystem Services

Institution and human decisions determining the use of services

Management/Restoration

Feedback between value perception and use of ecosystem services

Ecosystems and Biodiversity

Biophysical structure or process (e.g., Vegetation cover or NPP)

Function (e.g., slow water passage, biomass)

Service (e.g., flood-protection, products)

Human wellbeing (socio-cultural context)

Benefit(s) (contribution to health, safety, etc)

Value (economic) (eg. WTP for protection or products)

(Braat de Groot, 2012)
Ecological uncertainty leading to supply uncertainty
Socio-economic uncertainty leading to demand uncertainty
Role of agricultural insurance?


Yield of certified organic paddy compared to the conventional practice (2020)
Data from Kelompok Tani Dewasa (KTD) Lemah Dhuhur, Bogor, West Java.

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<th>Practice</th>
<th>Yield (ton /hectare)</th>
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<tbody>
<tr>
<td>Conventional</td>
<td>7-8</td>
</tr>
<tr>
<td>Organic 1st 3 years</td>
<td>3</td>
</tr>
<tr>
<td>Organic after 5 years</td>
<td>6.5</td>
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Recent meta-analyses with global coverage show that organic crop yields are on average 80% (de Ponti et al. 2012), 66–95% (Seufert et al. 2012) or 81% (Ponisio et al. 2015) of conventional yields.

Key messages

Supply of ecosystem service provision from production landscapes is highly uncertain influenced by ecological and socioeconomic factors.

Resilience of ecosystem services in production landscape depends on landscape management.

Trade-offs and risks associated with land use transition towards ES-benign land practices & management.

Role of agricultural insurance to minimize ecological and socioeconomic risks for smallholders managing sustainable production landscapes.
We risk losing what nature is if we couch its value in human terms.

THANK YOU

Beria Leimona L.Beria@cgiar.org
Contributed by Lalu Deden Pratama, Yoga Putra Yusa, Imam Hanafi
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Dr. Kerstin Pfliegner

GERMANY DIRECTOR & LEAD, EUROPE CLIMATE RISK AND RESILIENCE STRATEGY AT THE NATURE CONSERVANCY
Insurance and Ecosystem-based adaptation: Successes, Challenges and Opportunities

Mike Beck
Academia

Oliver Quast
Risk Management

Kerstin Pfliegner
NGO
Findings
Challenge of integrating EBA into risk management solutions

- Although payments for recovery from natural disasters are growing exponentially

- EbA solutions not well understood by risk industry

- Perceived as “no bang for the buck”

- Quantitative adaptation (risk reduction) benefits identified for only a few ecosystems and not yet broadly evaluated, wetlands have been considered in industry risk models

- Multi-stakeholder interests make EbA implementation difficult

- No fully implemented CFRI and EbA demonstration projects as yet (pre-disaster financing and post-disaster financing)
Educate the people about the costs... they are lower than expected

Perception

KEEP CALM THIS IS NOT FEASIBLE

Facts

vs.
Look at EBA from a holistic perspective

Perception

Grey infrastructure

> vs. 

Green / blue EbA measures

Facts

- **Financial attractiveness:**
  - Less costs
  - Additional Revenue

- **Biodiversity**

- **Social Aspects**
MERGING ECOSYSTEM-BASED ADAPTATION (EBA) AND INSURANCE/FINANCE - WHY WE NEED IT!

Romas Garbaliauskas

SENIOR DIRECTOR AND SENIOR LEGAL ADVISOR, CONSERVATION FINANCE DIVISION (CFD) AT CONSERVATION INTERNATIONAL (CI)
Instrument Mechanics

RISCO identifies sites and invests in mangrove conservation and restoration, securing revenue from insurance companies who accrue mangrove risk reduction benefits and from the sale of blue carbon credits.
RISCO invests in mangrove conservation and restoration, securing revenue from insurance companies who accrue mangrove risk reduction benefits and from the sale of blue carbon credits.

### 2019/2020
**Phase 1: Pre-Pilot**
- Setup RISCO
- Secure partnerships
- Site selection
- Design credits
- Finalize business plan and secure financing

### 2020-2029
**Phase 2: Pilot Implementation**
- Conserve and restore mangroves
- Secure annual payment from insurance companies
- Generate and sell blue carbon credits

### ~2025+
**Phase 3: Replication**
- Identify additional countries and sites for replication
- Identify new insurance partners
Financial Impact of Pilot

Private finance mobilization

- **US$ 10+ million in revenue** over 10 years
  - **US$ 5.2m** from the insurance sector
  - **US$ 5.0m** from blue carbon credits
- **IRR: 5.2 – 15.5%** depending on the financing scenario

Assumptions

- **4,000ha**: conservation (3,400ha) and restoration (600ha)
- **Insurance payments**: 3.5 - 5% of projected annual flood reduction benefits of mangroves (US$ 3,200 in the Philippines)
- Annual sales of **blue carbon credits at US$ 10/tCO2**
Social and environmental impact

The pilot will result in more than 600,000 tCO₂ in avoided emissions and sequestration

Pilot
• 4,000ha of mangroves protected
• Reduced flooding risk for 7,000 people
• Livelihood benefits for 3 communities including 15 community-based orgs.

At scale
• Top 5 countries: avoided emissions and sequestration of 16 million tCO₂
• Top 10 countries: avoided emissions and sequestration of 29.7 million tCO₂
More information

https://www.climatefinancelab.org/project/coastal-risk-reduction/
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QUESTION

&

ANSWER

implemented by gIZ
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THANK YOU!