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Upscaling community resilience through ecosystem-based disaster risk reduction (Eco- DRR) Project : an integrated approach

11 November 2022

Organiser(s) Wetlands International European Association

Co-organiser(s) UNEP, Partners for Resilience



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Partners for Resilience: a brief overview

Vincent van Haaren, Red Cross Netherlands

Partners for Resilience (PfR)



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Project locations and contexts

1

In Uganda, the project focused on micro catchment models to address flooding and drought.



2

In Haiti, the project enabled communities and humanitarian actors to address landslides and flooding.



3

In Indonesia, the project focused on peatland management for fire management through a bio-rights approach.



4

In India, the project focused on wetlands and water management for reducing flooding and drought



5

In Ethiopia, the project focused on water and rangeland management for addressing drought and food insecurity.



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Overall project results

Upscaling community resilience through ecosystem-based disaster risk reduction (Eco-DRR) Project



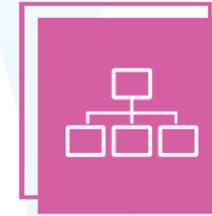
168,167 beneficiaries



47% women



32,996 hectares restored or protected



193 Community-based Organisations trained



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Learnings from field project in Uganda

David Omega, CARE

Drivers of risks

- Frequent and prolonged droughts in upstream areas and floods in downstream areas due to increasingly unpredictable rainfall patterns
- Adverse impacts on agricultural land use, shortened growing seasons, hampered crop production, limited availability of water resources, altered food and nutrition security, increased resource-based conflicts and degradation of ecosystems
- Covid crisis with increased HH poverty led to further encroachment on fragile ecosystems and resorting to deforestation (especially of shea-nut trees)
- Poor water catchment level coordination and non-functionality of water resource management structures
- Land ownership disputes



The project focused on Aswa River Catchment, specifically Middle Moroto secondary sub catchment (Otuke and Alebtong districts), Upper Agago secondary sub catchment (Abim and Agago districts), and Upper Pager Matidi secondary sub catchment (Kotido district).



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Strategies for Addressing Drivers of Risk

- Demonstrating model projects in different micro-catchments of the Aswa River.
- Bottom-up planning processes in different micro-catchments empowered communities to identify issues within their scope.
- Strengthening the capacity of Catchment Management Organisations.
- Mainstreaming Eco-DRR approach into sub-county, district and national development plans, programmes and policies through feeding the experience from the project into national and regional dialogues.
- Involving the private sector in the development of viable ecosystem-based livelihood options and supplying the necessary inputs



Farmers Rolling out Farmer Managed Natural Regeneration (FMNR) in Kotido



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EcoDRR upscaling model and link with the national programme

Eco-DRR upscaling model: Establishment of micro-water catchment committees and national guidelines for improved drought and flood management



Ecosystem Restoration/Protection

- Community-based micro-catchment planning empowers communities including women groups to identify ecosystem degradation issues, engage in restoration and protection of different ecosystem types and to realize community aspirations.
- Local communities are empowered to engage with local government for the resourcing and implementation of these plans, the local government annual plans and budgets.



Climate Smart Livelihoods

- Eco-enterprise promotion (apiary value chain, shea nut processing, small-scale irrigation technologies and green house for horticulture) through model farmers/champions.
- Farmer Managed Advisory hubs for provision of authentic local technologies, seeds, skills, and knowledge in cooperation with Agricultural Research Institutes and Private Sector.



Disaster Risk reduction

- Disseminate early warning and early action information on flooding and drought forecasts to farmers with the Ugandan Meteorological Authority.
- Integration of indigenous and scientific knowledge for improved forecasting, promoting local networks through VSLA that strengthen community social safety nets.



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Scalable feature



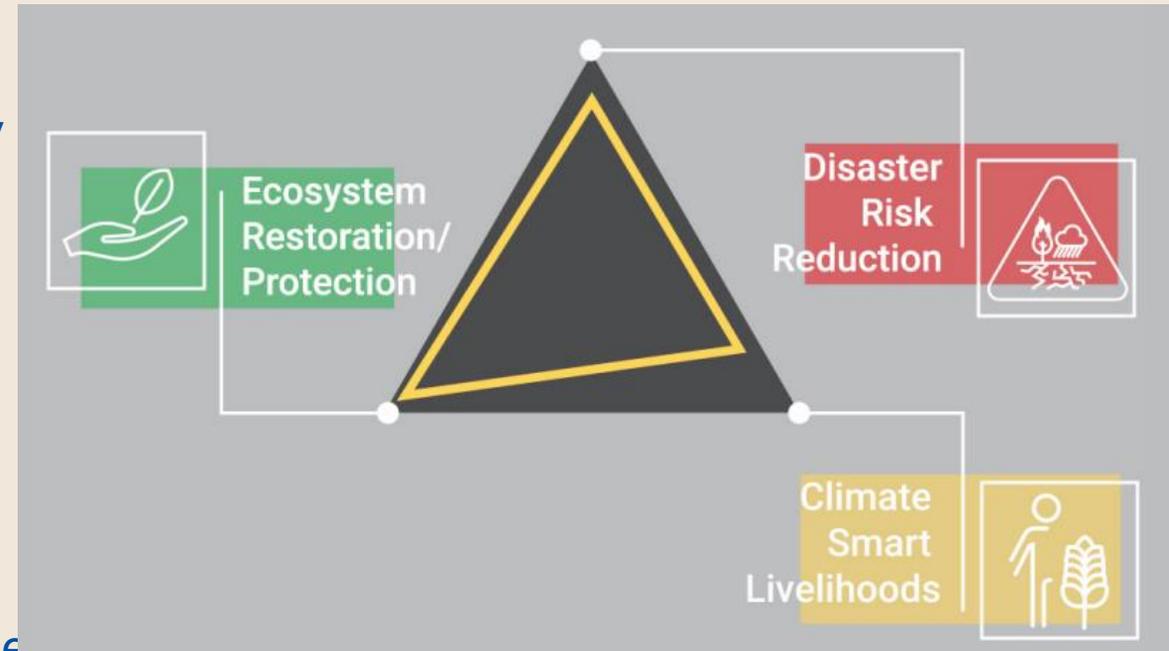
Disaster Risk Reduction: Promoting early warning and early action through both scientific and indigenous information on flooding and drought forecast to community members



Ecosystem Restoration/Protection: Adoption of Farmer Manager Natural Regeneration (FMNR) Techniques to aid in the restoration of drought prone locations



Climate Smart Livelihoods: Eco Enterprise Development to incentivise the community members from participating in degrading activities



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Lesson learned

- Improving the VSLA method by stepping out from traditional approach coupled with diversified ecosystem-based enterprises strengthened resilience of community livelihoods against disasters.
- Strategies and actions to address gender mainstreaming issues such as lower women participation and representation.
- Ecosystem restoration and protection measurement required specific data collection and format which resulted to readable GPS coordinates to generate GIS report. It required guidance and technical support from GIS expert to ensure the data is collected in the right way.



Farmers in Ogor sub county pruning indigenous trees in their FMNR sites, based on the training they received from the extension officer.



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Recommendations

- Promoting market-based approaches to restoration and protection of Ecosystems. Especially ensuring that the entire value chain of the Eco-enterprise is supported.
- Linking project efforts to existing and potential government programs like the Parish development model. This will ensure that the project activities will find a sustainable home and can continue to be implemented beyond the project life.
- Establishing learning hubs at the community level not only strengthens the capacity of community groups but also builds capacity of nearby institutions.



Community members setting up community tree nursery in Kotido



Apiary site in Obia village Okee micro catchment in a farmland with mixed shrubs



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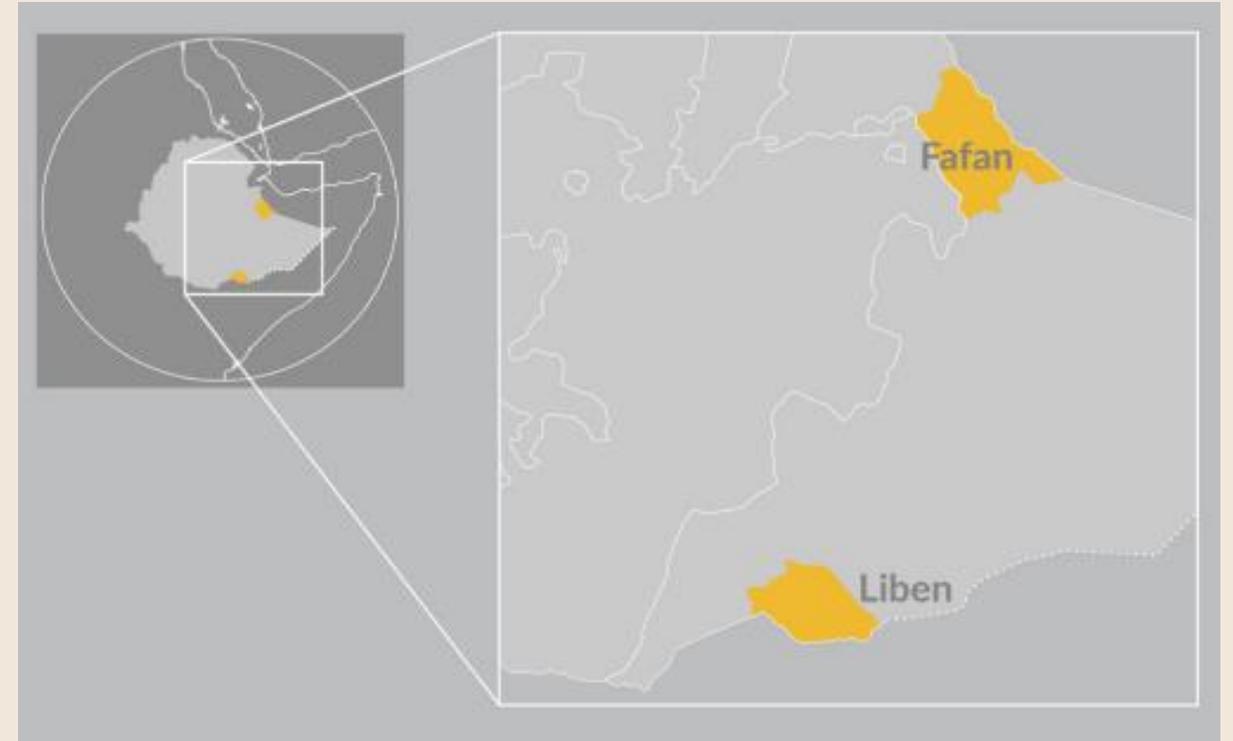
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Learnings from field project in Ethiopia

Sirak Temesgen, Red Cross Netherlands Ethiopia

Drivers of Risks

- Environmental crisis
- Climate Crisis
- Sensitivity of the pastoralists and agro-pastoralists livelihoods to climate variabilities



The project locations are in Liben (Dolo Ado Woreda/District) and Fafan (Shebelle, Harores, and Gursum Woredas/Districts) zones of Somali Region, Ethiopia.



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Strategies for Addressing Drivers of Risk

- **Community/landscape-level Eco-DRR measures** (including climate smart livelihoods, soil and water conservation measures, early warning and early action, drought tolerant multi-purpose trees distribution, etc) that would contribute to **resilience** to drought and flood.
- **CSO capacity building** to influence the planning and implementation of **sustainable Eco-DRR measures** (including VCA/DRM trainings, soil and water conservation measures, institutional strengthening, by-laws and MoUs development for proper restoration and management of nature, leading implementation of community plans).
- **Capacity building** of government sectoral offices and **Influencing flagship programmes** such as PSNP and also Red Cross own programmes.



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Eco-DRR upscaling model

Eco-DRR upscaling model: Addressing multiple risks through innovative water and soil management, rangelands restoration and protection, community participation, stakeholder capacity building and embedding Eco-DRR in institutional mechanisms such as the Productive Safety Net V programme.



Ecosystem Restoration/Protection

- Community members were empowered to participate in rangeland restoration and management, soil moisture conservation, rehabilitation of water sources and improved rangeland management.
- Community members were engaged in developing village by-laws to control over-grazing and tree cutting, producing multi-purpose tree seedlings in nursery, revegetating enclosure areas and individual lands.



Climate Smart Livelihoods

- Improved soil and moisture conservation was implemented through water spreading weirs, soil and stone bunds, check dams that contribute to better pasture and crop productivities based on agreements with all relevant parties to continue proper management and sustainability of the water spreading weirs.
- Farmers were involved in enhancing fodder production for improved livestock breeding to increase food security.



Disaster Risk reduction

- The project organized seasonal weather conferences to prepare sectoral advisories based on seasonal forecast information, established, and trained community-based disaster risk reduction groups on flood and drought risk assessments for preparing local disaster risk reduction plans.
- The project supported the rehabilitation of rainwater harvesting underground tanks (birkad) to prioritize water needs for humans, and livestock for livelihoods protection, food security and reduction of health risks in the communities.



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Lessons learned

- We can influence a lot even within our own organizations to scale up Eco-DRR measures
- Looking at the societal challenges from the landscape level – Nature provides solutions for most of the societal challenges – Zoom out
- Adapt and adopt to the changing realities
- Local system strengthening (CBOs) for ownership and effective implementations
- There are tested solutions and tools out there that can be implemented at scale
- Initial investment of WSWs could be high, but the long-term benefits outweigh the cost.



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Recommendations

- We have the relevant solutions and tools (even policy frameworks) on Eco-DRR approaches, let us use them.
- Use modern technologies for early warning early action, landscape approaches (satellite imagery)
- Climate change affects people through water (too much, too little, or too dirty) – time to enhance water management through NbSs.
- Always create linkages between ecosystem interventions and people's livelihoods.
- Generate evidence and share it widely.



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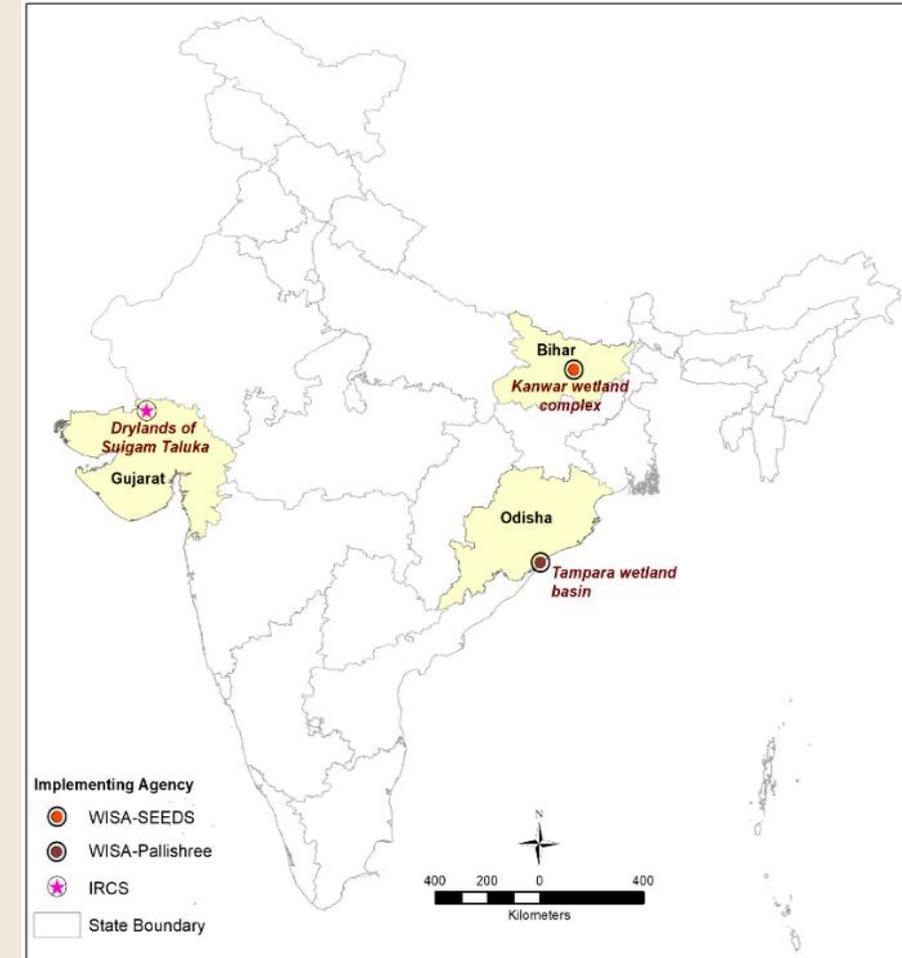
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Learnings from field project in India

Dhruv Verma, Wetlands International India

Drivers of Risks

- Inherent hazards: Floods, cyclones and extreme heat
- Landscape transformation: adverse LULC changes leading to fragmented hydrology
- Disjointed policies and plans: sectoral plans focus on development and beautification of ecosystems
- Communities favoured conventional approaches of disaster management (relief packages) than DRR
- Emerging risks: flash floods, water stagnation, coastal erosion and sea water intrusion



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Strategies for Addressing Drivers of Risk

- Establishing strategic partnerships at local, state and national level to co-design, implement and learn on Eco-DRR
- Strengthening community-based institutions on wetlands management and DRR through participatory approaches and capacity building
- With convergence funding, fostering community driven wetlands restoration and DRR
- Integrated Management Planning for conservation of nodal wetlands and their complete range of ecosystem services
- Incorporating wetlands and Eco-DRR in disaster and local developmental planning



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Eco-DRR upscaling model

Eco-DRR upscaling model: Integrate Eco-DRR measures on improved water management into local development plans and schemes (such as disaster, wetlands and rural employment) through capacity-strengthening and participation of communities and (local) governments.



Ecosystem Restoration/Protection

- Empower CBOs such as Fish Cooperatives, Women Self Help Groups and others to identify, restore, and protect ecosystems with wetlands management plans;
- Restore natural water regimes of wetlands, natural vegetation, rainwater harvesting, efficient use of water, and blending wetland ecosystem functioning with built infrastructure.



Climate Smart Livelihoods

- Local communities are empowered to engage with the local government for the resourcing and implementation of various social upliftment schemes such as MGNREGS and Jal Jeevan Hariyali Mission;
- Local community networks form the core of community centric wetland stewardship programme, for livelihoods enhancement.



Disaster Risk reduction

- Landscape scale risk assessment include ecosystem services and are embedded within community-based disaster risk reduction planning;
- Regeneration of natural water sources (village ponds) around wetland basins to improve water security during dry season.

Ramsar Sites Information Service
2,414 Sites covering 254,540,512 ha

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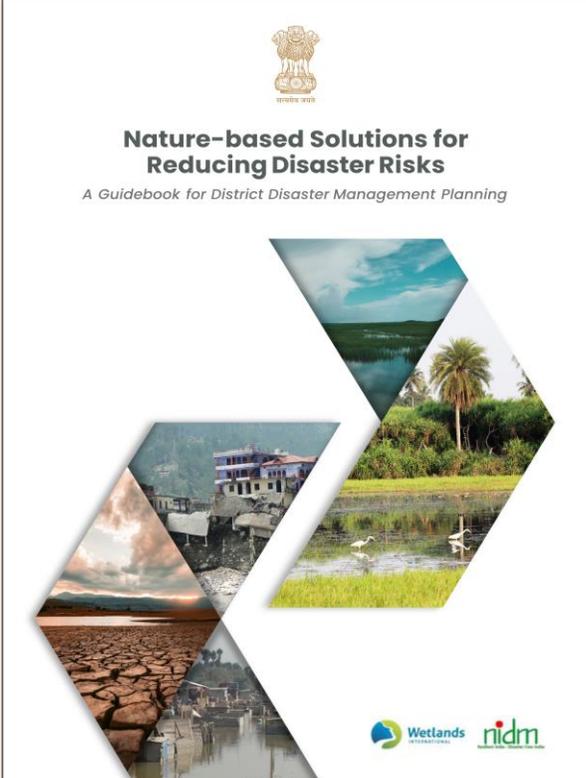
Kabartal Wetland

Country: India
Site number: 2436
Area: 2,620 ha
Designation date: 21-07-2020
Coordinates: 25°37'N 86°08'E



Overview Downloads

Kabartal Wetland, also known as Kanwar Jheel, covers 2,620 hectares of the Indo-Gangetic plains in the northern Bihar State. The Site is one of 18 wetlands within an extensive floodplain complex; it floods during the monsoon season to a depth of 1.5 metres. This absorption of floodwaters is a vital service in Bihar State where 70% of the land is vulnerable to



Nature-based Solutions for Reducing Disaster Risks
A Guidebook for District Disaster Management Planning



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Lessons learned

- Identifying **community-based volunteers and organisations** to champion Eco-DRR has been effective in succeeding project implementation
- Engagement with **women SHG or leaders is catalytic** in upscaling Eco-DRR actions
- **Partnership** with local experts and knowledge institutions can fill in knowledge gap and enhance effectiveness
- **Convergence with sectoral plans** and resources is critical for sustaining and upscaling Eco-DRR, since existing sectoral plans provide opportunities for upscaling



Training of farmers on flood resilient farming



Community based risk mapping



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Recommendations

Wetlands need to a part of risk resilient development agenda and delivering climate solutions

- Building **convergence** between Eco-DRR and relevant developmental programs
- Institutionalization of **Eco-DRR in training curricula** of early and mid-career disaster and development professionals (urban planning, rural development, water resources and PAs)
- Establishing a plausible **business case** for Eco-DRR through research and economic valuation
- Establishing a **country wide network** of Eco-DRR or NbS experts to pursue its upscaling in relevant policies and programs
- Engaging with **private sector** to support Eco-DRR actions on ground, complementing their CSR and CER programs



Release of Guidebook on NbS for District Disaster Management Planning



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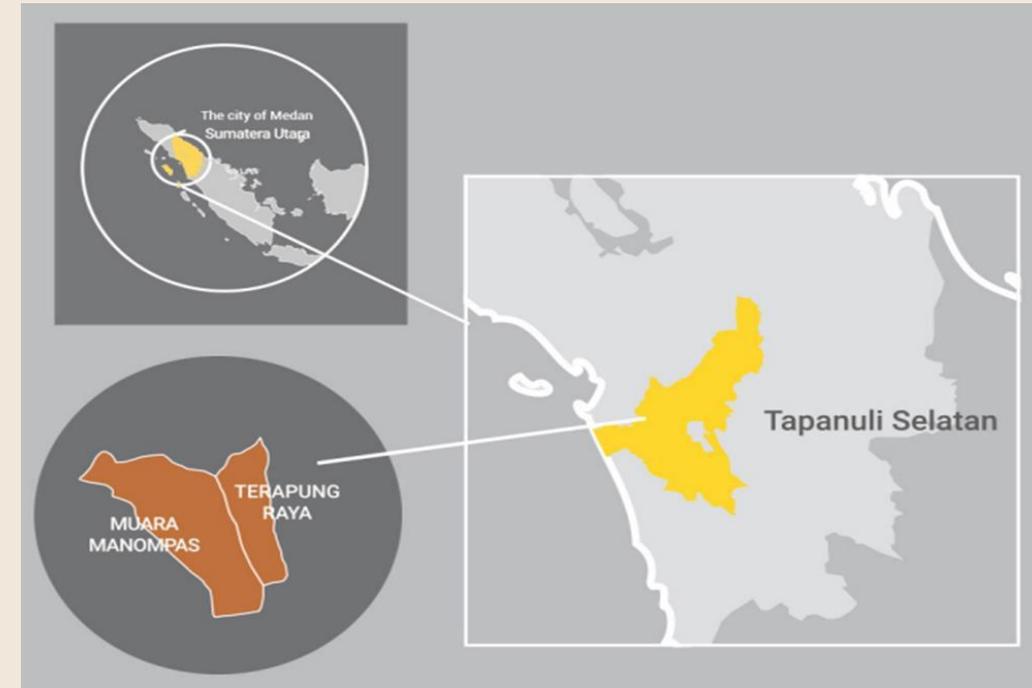
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Learnings from field project in Indonesia

Eko Buti Prianto, Wetlands International Indonesia

Drivers of risks

- Indonesia has approximately 21 million hectares of peatlands
- Peatlands provide enormous amounts of benefits to humans and are essential to biodiversity.
- They are mostly in degraded condition mainly due to the development of massive plantations.
- Dried peatlands are prone to fire, resulting in frequent and massive fire events that impact millions of hectares.



The project takes place in two villages: Muara Manompas and Terapung Raya of South Tapanuli District in Northern Sumatra.

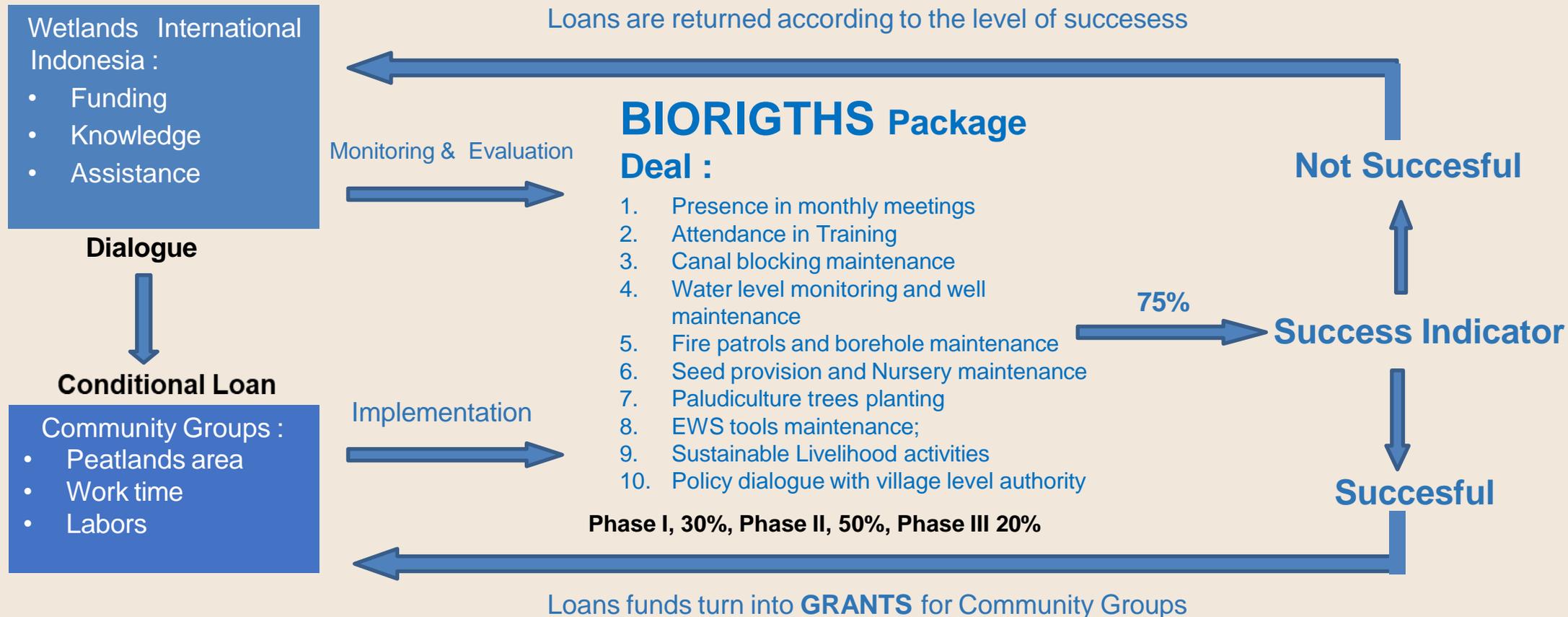


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Strategies for Addressing Drivers of Risk



Eco-DRR upscaling model and link with the national program



Ecosystem Restoration & Protection

- 3R approach: Rewetting, Revegetation, and Revitalization
- Paludiculture techniques



Climate Smart Livelihoods

- Bio-rights financial schemes
- Training on peat knowledge and diversification livelihood



Disaster Risk Reduction

- Hydrological monitoring: early warning tools
- Community-based fire brigades



The Cultivation of catfish with floating nets in Canal



Canal blocking effectively blocked the water in the upstream



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Lessons learned

- Bio-right agreements with the community groups should be developed at certain level of detail to allow mutual knowledge and understanding on the rights and obligations of the community groups.
- The development of village regulations on sustainable peatland management requires specific and longer timeline.
- Flexibility to adjust with the changing priority of national government is a key to successfully influencing the national level peatland management.



Farming activities in peatland without burning method



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Recommendations

- Village regulations on peat management need to be drawn up
- Ascertain the marketability of products
- Identifying and linking the relevant national government effort such as peatland management without burning training program.



Community-based fire brigades to prevent, monitor, and respond to peat fires



Community groups routinely measure the peat water level every month.



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