



ADAPTATION FUND



Protected Areas Conservation Trust

# FROM PILOTS TO PORTFOLIOS: Scaling the Water-Energy-Food (WEF) Nexus in LAC & SIDS

Regional Perspectives on Collaboration,  
Knowledge Exchange, and Technical  
Cooperation

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# Scaling WEF Nexus Technologies at the Regional Level

01

**Moving from isolated projects to integrated, systemic resilience across LAC & SIDS.**

02

**How do we turn successful national pilots into regional transformative change?**

03

**Case Study Reference: Belize (PACT & Executing Entities) –The SEAM & EDA Projects.**

# The Problem – Why the WEF Nexus is Critical for LAC/SIDS

01 The Reality: LAC and SIDS face a "perfect storm."

Belize Data Point (from SEAM & COASTAL)

02 Energy: Reliance on fossil fuels for water pumping (expensive & fragile).

Toledo District: 81.7% poverty, off-grid, water contamination (E-coli/Fecal Coliform).

03 Water: Watershed degradation due to agricultural expansion (Milpa farming).

Corozal District: Shallow wells running dry; salinity intrusion.

04 Food: Crop failure due to drought and salinity.

Vicious Cycle: Water scarcity → Poor yields → Poverty → Unsustainable land use (deforestation) → Worse water scarcity.

# The Solution – System Transformation (The "Triple Win")

System transformation means solving all three problems at once.  
Case Study: SEAM Project (Belize) – The Integrated Model:

01

**Energy: Solar/Hybrid water systems (Toledo off-grid; Copper Bank hybrid).**

02

**Water: Reliable potable water (22,000-gallon storage, chlorination).**

03

**Food/Livelihoods: Climate-smart agriculture (cacao, apiculture) + Watershed restoration (mangroves/riparian buffers).**

Quote from SEAM: "Training women in solar maintenance provides income and ensures the water system lasts."



CHOC INSTALLING SOLAR PANELS IN RURAL VILLAGES IN TOLEDO  
AND MIRIAM CHOC



# The Barrier to Scale – The "Innovation Chasm"

Why do pilots fail to scale?

01

**Siloed Governance: Water Ministry doesn't talk to Energy Ministry.**

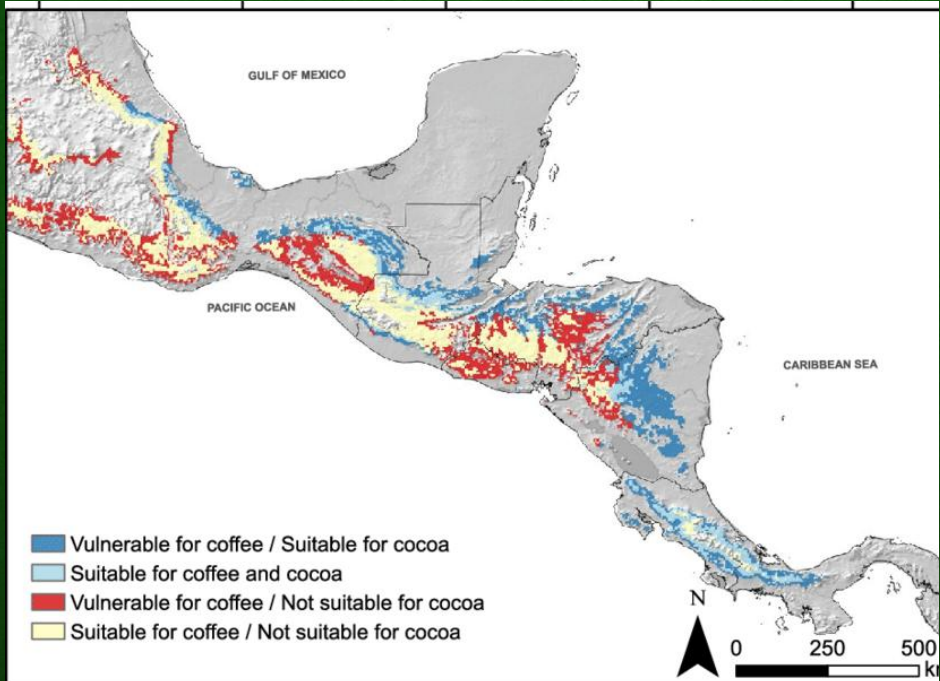
02

**Financial Isolation: Communities cannot afford maintenance (5.50/month fee vs .5.50/month fees.12 break-even cost).**

03

**The "Hardware Trap": Installing solar pumps without fixing the watershed (the source) leads to failure.**

Observation from the EDA (Forest/Wildfire Project): You cannot restore water without restoring the forest (Protected Areas Conservation Trust model).



# Regional Opportunity #1 – Leveraging the "CCA" (Climate-Conscious Agriculture) Market

Southern Belize (Toledo) has the same geological/topographic profile as parts of Guatemala, Honduras, and Chiapas (Mexico).

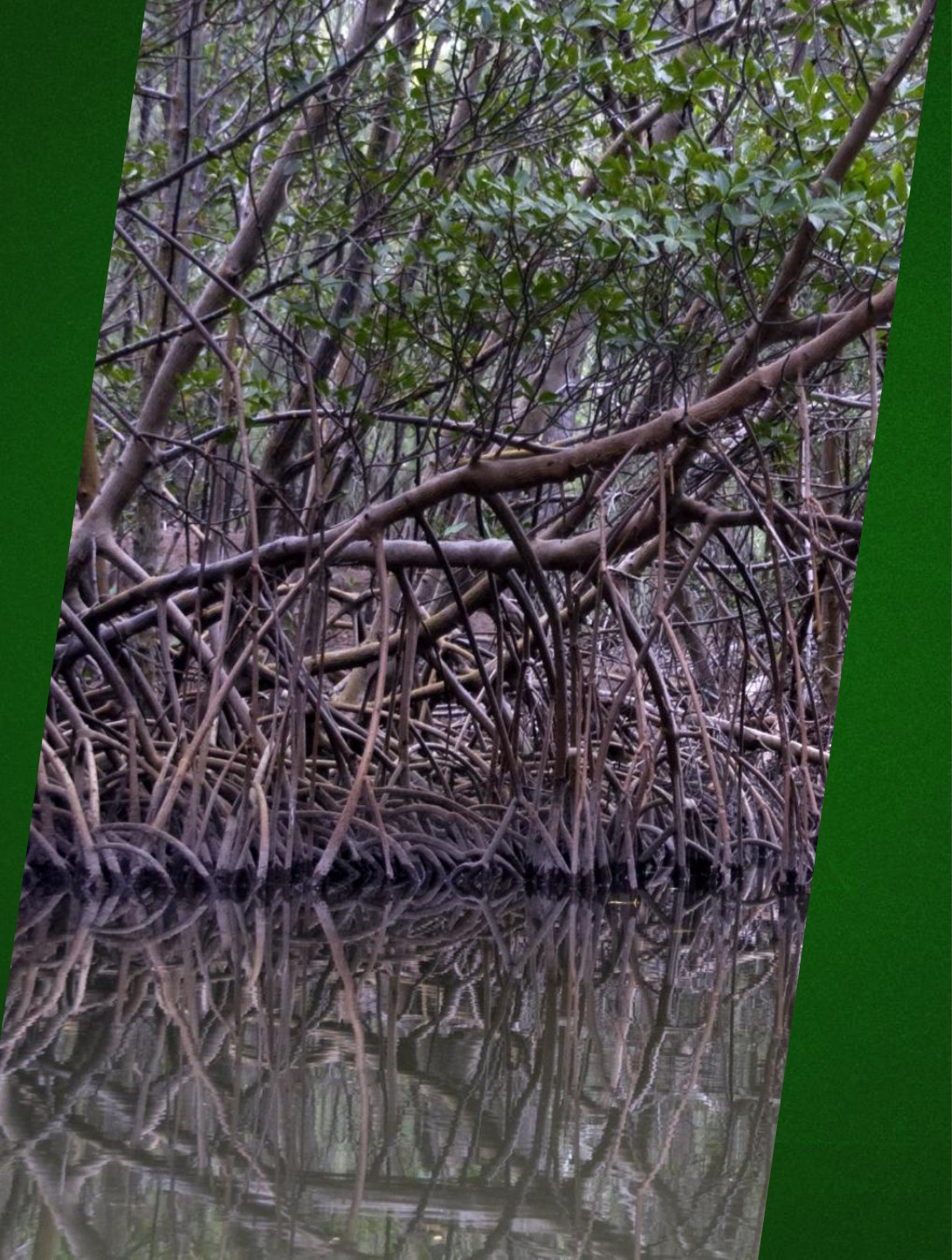
## Scaling Strategy:

**Technology:** Replicate the Agroforestry Model (Inga alley cropping, Cacao under shade).

**Methodology:** Use the Ya'axche Conservation Trust model (Community-led reforestation for water retention).

**Market Access:** Regional branding for "Nexus-Friendly" crops (Cocoa/Coffee grown via watershed conservation).

**Regional Action: Create a Regional WEF Carbon Credit scheme for riparian forest restoration.**



## Regional Opportunity #2 – The "Hybrid" Energy-Water Standard

SIDS and coastal LAC share the Salinity Intrusion problem (Belize's Copper Bank vs. Caribbean islands).

### **Scaling Strategy:**

**Technology Replication:** The Solar-Hybrid with Reverse Osmosis (RO) model is replicable across the Caribbean.

**Cost Reduction:** Regional procurement of RO membranes and solar batteries (reducing the US\$250k premium for RO).

**Governance:** Export the Water Board 2.0 model (Activity 2.1 & 7.1 from SEAM: 50% female representation, metered billing).

Regional Action: Establish a Caribbean WEF Resilience Standard for infrastructure loans (CDB, CAF, IDB).

# Regional Opportunity #3 – Financing the "Pre-TA" Approach

- **The Barrier:** Lack of bankable data.
- **The Solution (from AFCIAA & EDA):** Use "Pre-Technical Assistance" (Pre-TA) to de-risk regional scaling.
- Belize Example: The GAMMA S.A. study (coastal erosion modeling) de-risked the \$1.46M beach stabilization component.
- **Regional Collaboration:**
- **Shared Data Platforms:** IHCantabria (Spain) & UCL (UK) to model WEF stress across the Moskitia / Gulf of Honduras.
- **Joint TNAs:** Coordinated Technology Needs Assessments for Cross-border Watersheds (e.g. Belize / Guatemala / Mexico).
- Use the CTCN to fund these preparatory studies for regional WEF corridors.



# The Role of the NDE – From Focal Point to System Broker

Traditional Role: Submit requests, monitor projects.

## System Broker Role (New):

1. **Map the Matrix:** Identify where WEF overlaps exist in your country (e.g., "Are our irrigation subsidies causing energy waste?").
2. **"Nexus" Diplomacy:** Force conversations between Agriculture, Water, and Energy Ministries.
3. **Regional Pitch:** Act as the messenger to bring back these solutions to the region.

Quote from Agenda (Day 3 – Guiding Questions): "Which key institutions need to be involved to implement this?" – Answer: All of them, simultaneously.





# Call to Action – The "Belize Communique" on WEF Scaling

## Proposal for the Forum:

**Knowledge Hub:** Create a Living Library of "WEF Nexus Contracts" (like the PACT/Adaptation Fund Agreements) to reduce legal procurement time.

**Regional TA Cluster:** Submit a regional CTCN request to replicate the Solar-Hybrid + Mangrove Restoration model (Belize) to the Gulf of Honduras (Honduras/Guatemala).

**Gender Mandate:** Enforce the SEAM Gender Action Plan (50% Water Board representation) as a regional KPI for funding eligibility.



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# THANK YOU!

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