



WWF Central America and Defensores de la Naturaleza



When Money Flows
Upstream: Payment for
Watershed Services in
Guatemala.

Freshwater

WWF Global and Freshwater Conservation Priorities in Central America



SIERRA DE LAS MINAS BIOSPHERE RESERVE & Landscape scale conservation

- 240,000 Hectares (largest continuous cloud forest block in CA)
- Sea level to > 3,000 meters
- 70% of all birds, mammals, reptiles in Guatemala
- 63 permanent rivers – important national water reservoir
- Driest region in Central America (500mm)
- Threats mitigation to the Mesoamerican Reef

The Challenge: Addressing Threats and Roots Causes to unsustainable freshwater resource use and biodiversity loss

- Inadequate land use changes (forest fires, overgrazing and illegal logging).
- Point and non-point source pollution.
- Ecosystem alteration (canal dredging, introduction of exotic species, hydro-electric plant construction).
- Opportunity costs for forest owners are high & policy incentives are lacking.
- Users do not pay for environmental services provided by the Sierra de las Minas cloud forest and core zone.

IMPORTANCE: WATER SOURCE



Water from the Reserve is used for:

- Domestic Consumption
- Irrigation & agro-export industry
- Industry (bottling, paper & hydropower companies)

The Project Concept



CREATING
FINANCIAL
LINK



WATERSHED
MANAGEMENT &
CLEANER
PRODUCTION

Basic Research:

Supply (How much is there?)

Demand (How much is used?)

Water Valuation (How much is the water worth?)

Fund Design (How will we receive and channel resources?)

Community and User Involvement (environmental awareness raising for project buy-in)

Protected Area Management (protection and biodiversity loss threat abatement)

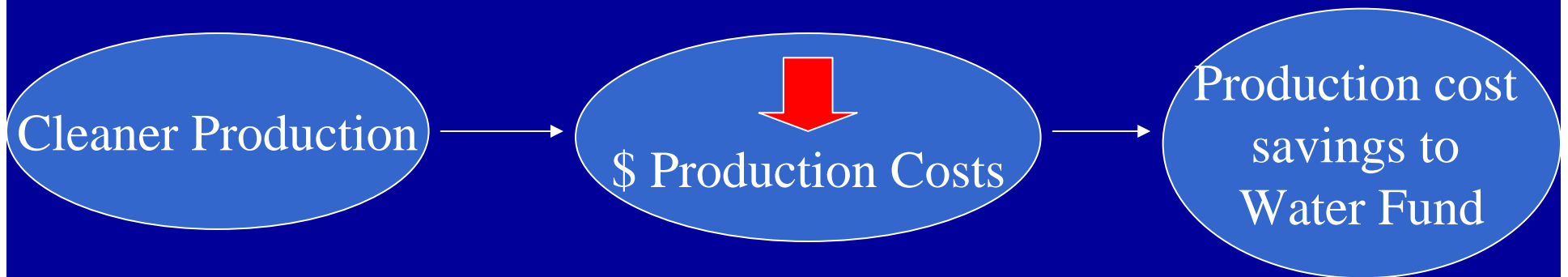
Forest Landscape Restoration, Reforestation & Natural Regeneration

Forest owner compensation program

Integrated River Basin Mgt, Governance & greater water use efficiency

The Strategy

START WITH MORE WILLING AND FINANCIALLY ABLE WATER USERS & IMPLEMENT CLEANER PRODUCTION.

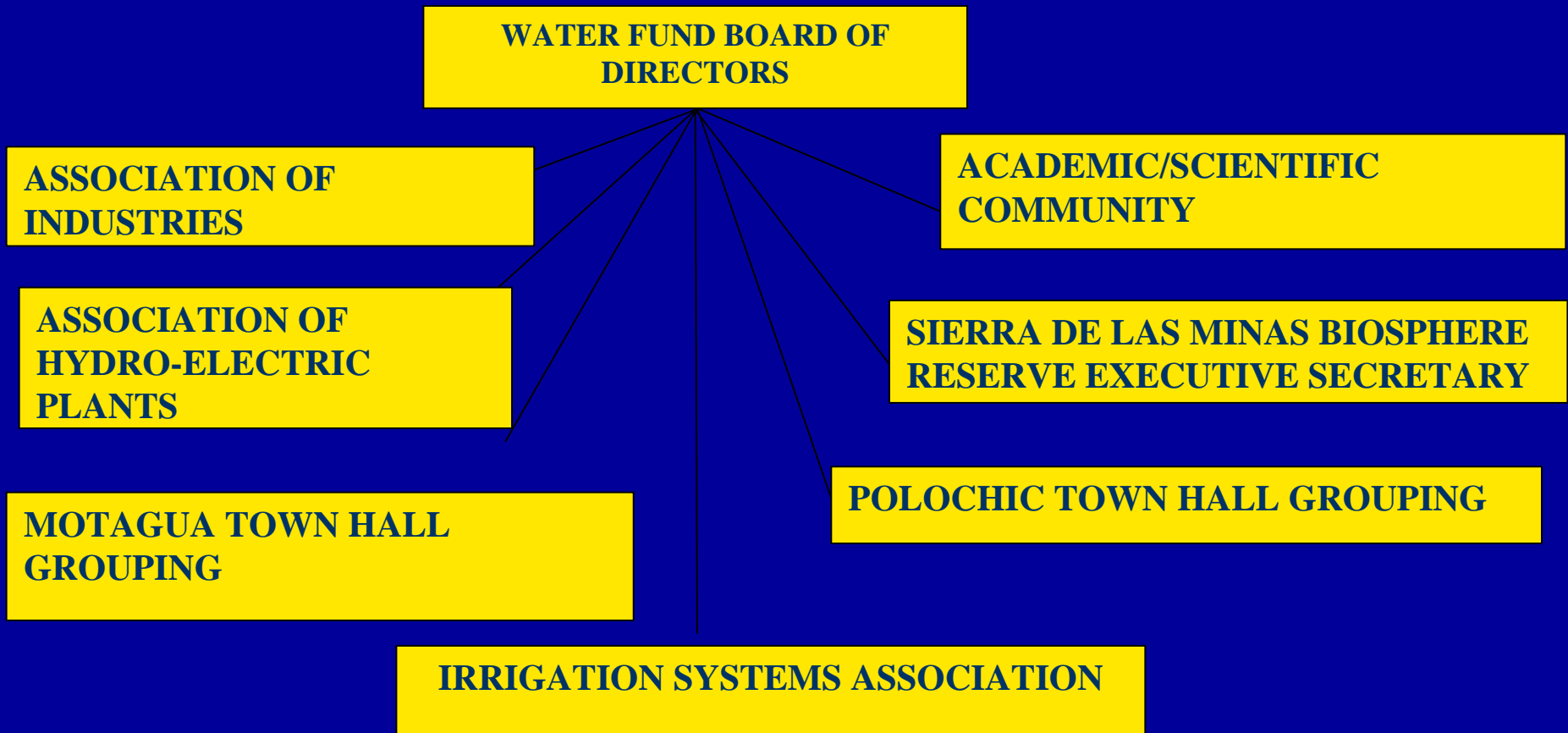


INDUSTRY

- Abasa (Coca-Cola)
- Cabcorp (Rio Beer)
- Lizasa (Zacapeña Rum)
 - Hydro-electric plants
- Painsa (paper manufacturers)

Component Progress to Date

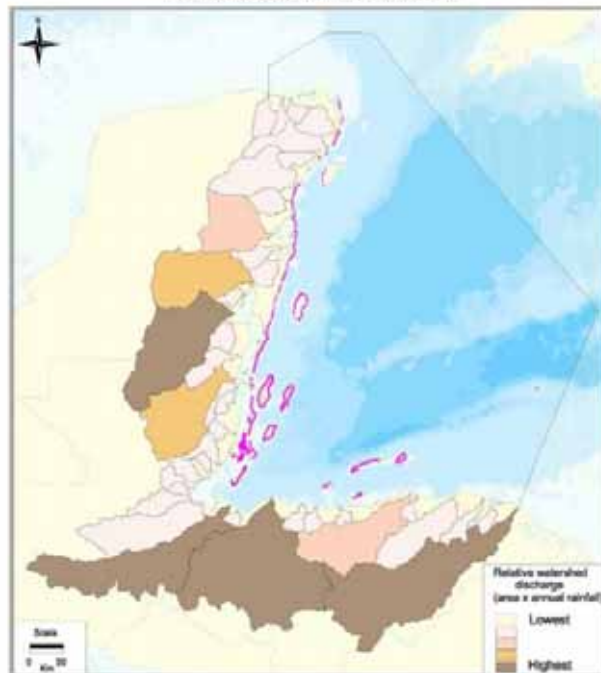
Water Fund Design



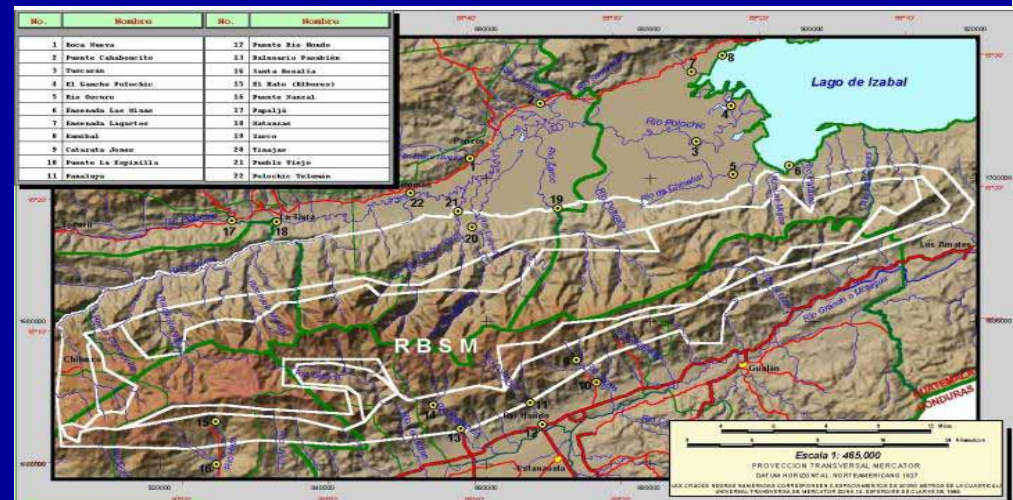
Advisory Committee

Hydrological Data Gathering & Analysis

Watersheds of the MACR



- Data Gap Analysis
- Soil and Water Assessment Tool
- Cartographic development



Water Valuation Studies

Watershed	Pasabien	Lato	Colorado
User group	Industry (bottling industries)	Domestic consumers	Irrigation units
Methodology	-Subsidiary markets -Production costs -Benefits maximization	-Contingency Evaluation ("Willingness to Pay")	-Cost-Benefit Analysis (agricultural production and protection costs)
Preliminary Water cost findings	US\$ 200,000 – 1,000,000/year (based on total water consumption volumes)	US\$ 0.0016- 0.005/m ³ /year (in-kind contributions)	TBD

Local Constituency Building

- Selection and initial contact with industries
- Corporate information gathering and research
- Formal agreement with the Guatemalan Chamber of Industry (GCI) and Clean Production Center
- EPS & Clean Production training program
- EPS peer visit to Costa Rica
- Incentives Program for Industry
- Corporate Breakfast at the GCI



Communications and Fundraising

- Central American
Journalist Training
Workshop

- Matching Funds
- Project
communications
material & improved
profile

Take Home Messages and Challenges

- Industry recognizes water as strategic however still considers it an open-access resource.
- Industry is more interested in Cleaner Production than in PES and upper watershed conservation.
- Conservation is still seen as a Public Relations activity rather than a risk mitigation investment.
- Insufficient available hydrological data sources and limited information sharing on the part of industry for water valuation studies.
- Local communities concerned about water privatization.
- Adequate water management norms and policies are lacking in Guatemala.