South Africa and Costa Rica, Applying PES for Healthy Watershed Ecosystems
Outline…

Water Scarcity

Watershed Services in SA

A Water-based PES South-South Learning Exchange

The way forward
Quick Facts…

• Only 1% of earth’s water is currently available for drinking (1,5-2% frozen)

• More than 1 billion people lack reliable access to clean drinking water and 2.5 billion lack adequate sanitation.

• **Scarcity** predominantly affects **developing countries**

• If present consumption patterns continue, two-thirds of the world’s population (4,3 bn people) will live in water-stressed conditions by the year 2025.
Figure 20: Water Withdrawals by Use

Km³ per year

Source: IWMI Water Assessment Report.
Note: Figures for 2010 represent forecasts.
Three kinds of water in South Africa..

- “Too much;
- Too little;
- Too dirty”...

--Peter Ashton, CSIR
Water in South Africa…

• Average rainfall in SA is 500mm well below global average of 860mm
• About 43% of SA’s rain falls on 13% of the land and only 9% reaches rivers.
• Scarce underground water resources (13%)
• Climate change impacts
Stressed infrastructure...

- 95% of SA’s Water is allocated
- 73% of water is caught in 7 major dams
- 4% loss of storage space due to sedimentation
- Urban demand increasing 100% every year
- In Feb 2011, SA’s demand for water had outstripped its supply (forcing abstraction of the “ecological reserve”)
Augmented by challenges of a two-tiered economy...

- Service delivery
- Failure to enforce pollution control
- Institutional capacity
- Tariffs have increased 70% in 5 years
And the impacts of climate change...

~ 2050

Upper 75%

Median

Lower 25%
Watershed Services from SA Ecosystems

Flows
- Flood/high flows
- Low Flows
- Yield from water infrastructure
- Ecological Reserve

Sediments
- Siltation of dams

Water quality
- Purification
- Waterweed management
Degradation affecting water…

Desertification

Bush Encroachment & Invasives
And From this!!
Impacts of Invasive Alien Trees on Stream Flow

**TODAY:**
- Run-off in river: 472 mm
- (Taken to be 100% here)
- Cost to clear: R 100 / hectare

**10-20 YEARS:**
- Run-off in river: 303 mm
- (36% reduction)
- Cost to clear: R 1 000 / hectare

**20-40 YEARS:**
- Run-off in river: 123 mm
- (74% reduction)
- Cost to clear: R 4 000 / hectare
PES Philosophy

Ecosystems are in people’s hands
- Protecting areas with local people in private, communal + traditional lands
- Conserving it has a cost

People will not conserve unless:
- It is beneficial to them
- They have the tools to make it happen

PES is about making conservation-based land management attractive
- Concrete and poverty alleviation benefits in exchange for effective and measurable conservation/sustainable use commitments
Enabling conditions for PES in SA

• Good science
• Good policy framework
• New fiscal measures in early policy development phase
• Existing “Working for…” projects have sound science and valuations
• Strong civil society
• Existing markets
Particularly compelling...
Hectares Invaded = 20 million
Condensed Hectares = 3.7 million
Collaboration with Costa Rica…

- Initiated during World Bank visit by Costa Rica Former Minister, Carlos Manuel in 2009
- Freshwater as critical ecosystem service with significant PES potential with political support in both countries
A catalytic learning exchange...

- Dept of Water and Environmental Affairs
- Dept of Rural Dev’t and Land Reform
- Natural Resource Management Programme (Working for…)
- SANBI
- Eastern Cape Parks and Tourism Authority
- CI Freshwater and CCG
- Climate Action Partnership
- Conservation SA
Objectives

• To provide an in depth look at a national model, especially PES institutional structures and implementation details

• To build a network of PES Champions for ongoing sharing of lessons and technical expertise

• To apply the learning to the development of a national PES programme workplan for South Africa.
Programme

- 5 days
- Presentations and discussions with experts
- State visit and dialogue
- Field visits
- Action planning workshop
Costa Rica PES Model

Funds from 3.5% fuel tax
Water Canon, Projects, Agreements.

Resources to fund the PSA contracts

Fonofifo assures:
- Transparency.
- Financial Security.
- Monitoring.

Annual Payments $

Small and medium Forest owners

Provide environmental services
- Water Protection
- Scenic beauty
- Biodiversity
- GG Mitigation

- Hedgehog protection
- Scenic beauty
- Biodiversity
- GG Mitigation
ARRANGEMENTS OF PAYMENT FOR ENVIRONMENTAL SERVICES

**Forest Protection**
- $320/ha distributed in 5 years
- $64/ha/año
- 2 ha min - 300 ha max
- 5 years contracts

**Protection of the water**
- $400/ha distributed in 5 years
- $80/ha/year
- 2 ha min - 300 ha max
- 5 years contracts

**Forest Protection Conservation Gaps**
- $375/ha distributed in 5 years
- $75/ha/year
- 2 ha min - 300 ha max
- 5 years contracts
<table>
<thead>
<tr>
<th>Environmental Service</th>
<th>Payment Details</th>
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</thead>
<tbody>
<tr>
<td><strong>Natural Regeneration</strong></td>
<td>$205/ha distributed in 5 years</td>
</tr>
<tr>
<td></td>
<td>$41/ha/year</td>
</tr>
<tr>
<td></td>
<td>2 ha min - 300 ha max</td>
</tr>
<tr>
<td></td>
<td>5 years contracts</td>
</tr>
<tr>
<td><strong>Reforestation</strong></td>
<td>$980/ha distributed in 5 years</td>
</tr>
<tr>
<td></td>
<td>1-50%, 2 -20%, 3 -15%, 4 -10%, 5 -5%</td>
</tr>
<tr>
<td></td>
<td>1 ha min - 300 ha max</td>
</tr>
<tr>
<td></td>
<td>15 years contracts</td>
</tr>
<tr>
<td><strong>Agroforestry systems</strong></td>
<td>$1.3 /árbol distributed in 3 years</td>
</tr>
<tr>
<td></td>
<td>1- 65%, 2- 20%, 3-15%</td>
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<tr>
<td></td>
<td>350 trees min - 3500 trees max</td>
</tr>
<tr>
<td></td>
<td>5 years contracts</td>
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</tbody>
</table>
10 millones de dólares en el año siete

DEPARTAMENTO DE AGUAS: 50%
FONAFIFO: 25%
SINAC: 25%
SA PES Programme Draft Goal—a multi-benefit strategy…

- A national PES Programme contributes to the Green Economy Strategy and specific national objectives of:
  - Sustainable rural development
  - Water security
  - Biodiversity conservation
  - Appropriate response to climate change

Through addressing institutional and market shortcomings by:

--Making payments (monetary and non-monetary)
--To maintain intact ecosystems, restore degraded ecosystems, and enable sustainable land use
--In scientifically prioritised biomes and poverty nodes
<table>
<thead>
<tr>
<th>MTEF Allocations 2012</th>
<th>Number of Full Time Jobs</th>
<th>Income to people</th>
<th>Total budget requirement</th>
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<tbody>
<tr>
<td>Working for Water</td>
<td>15,416</td>
<td>433</td>
<td>1,238</td>
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<tr>
<td>Working for Land</td>
<td>3,485</td>
<td>98</td>
<td>281</td>
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<tr>
<td>Working for Wetland restoration</td>
<td>1,266</td>
<td>42</td>
<td>119</td>
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<tr>
<td>Working for Wetland prevention</td>
<td>509</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>Working on Fire</td>
<td>3,239</td>
<td>77</td>
<td>220</td>
</tr>
<tr>
<td>Total</td>
<td>23,915</td>
<td>663</td>
<td>1,882</td>
</tr>
</tbody>
</table>

USD $269 million
<table>
<thead>
<tr>
<th>Service</th>
<th>Number of Full Time Jobs</th>
<th>Income to people</th>
<th>Total budget requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated size of Market 2025</td>
<td>#</td>
<td>R'mil</td>
<td>R'mill</td>
</tr>
<tr>
<td>Working for Water</td>
<td>111,632</td>
<td>8,403</td>
<td>24,010</td>
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<tr>
<td>Working for Land</td>
<td>38,480</td>
<td>3,650</td>
<td>14,713</td>
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<tr>
<td>Working for Wetland restoration</td>
<td>63,749</td>
<td>5,276</td>
<td>15,073</td>
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<tr>
<td>Working for Wetland prevention</td>
<td>6,945</td>
<td>624</td>
<td>1,782</td>
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<tr>
<td>Working on Fire</td>
<td>2,976</td>
<td>197</td>
<td>395</td>
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<tr>
<td>Total</td>
<td>223,782</td>
<td>18,150</td>
<td>55,972</td>
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</table>
PES as a vehicle to move from Green Jobs to Custodianship!!
Focusing on municipalities with both services and markets...
A Multi-benefit example...

1,000,000 Kilolitres per annum would require a R5M investment over 20 years (includes a 6% inflation rate; at present value the annual contribution never exceeds R360K), and will clear 400 hectares of invasives, create 15,000 employment days and 77,000 beneficiary days per annum.
National policy reflections

National fund (similar model to Drylands fund. Possibility that this could be the Drylands Fund)

Need to set the key principles (policy, criteria) so that not driven off track by specific investors

Monitoring, Auditing and Facilitating: could be done by one agent and number of agents
Auditing – conducted by organisations outside of the fund. Auditors can also be facilitators. Could be NGO,
Monitoring – inside or outside dependent on resources. Could be a national agency or NGO. SANBI will be involved

Whose programme is this?
Collective programme with ultimate responsibility resting with the Minister of Environment and Water. But partnerships are critical. Dept of Rural Development and Land Reform, NRM, NGO’s, fund managing agency, SANBI, provincial authorities (define role?)
Funding: Dept or Rural Dev and Land Reform (fund on land tenure and redistribution – policy and this fund still to be developed), Water Pricing, GEF, carbon tax
Way Forward

June 13-20\textsuperscript{th}

- Implementation Programme Lead Workshop (CSA)
- PES Trading Platform Workshop (SANBI)
- Degradation Fund Steering Committee (DBSA)
- Ministerial and Presidency Mtgs

- December COP—Ministerial Exchange Contact
- January 2012—Ministerial Exchange
Thank you!!!