Reflecting on water stewardship collective action within the context of broader water governance

Setting the Scene

Stockholm World Water Week Seminar: *Improving the Impacts and Effectiveness of Corporate Water Stewardship Initiatives*  
2 September 2014
Watersheds are everywhere… and important to everyone

Source: The Nature Conservancy
## Business depends on (and impacts) watershed services

<table>
<thead>
<tr>
<th>Provision of freshwater</th>
<th>Flow regulation and filtration</th>
<th>Supporting services</th>
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</thead>
<tbody>
<tr>
<td>– Consumptive uses</td>
<td>– Stores water in soils, wetlands and floodplains which can buffer flood flows and drought</td>
<td>– Maintains natural flow and disturbance regimes as drivers of ecosystem processes</td>
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<tr>
<td>• Drinking</td>
<td>– Controls erosion and sedimentation</td>
<td>– Supports cultural and heritage values (e.g., aesthetic qualities) that support</td>
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<tr>
<td>• Domestic</td>
<td>– Maintains river mouths and channels, wetlands, riparian habitats, fisheries, and other</td>
<td>tourism and recreational uses and ways of life</td>
</tr>
<tr>
<td>• Agricultural</td>
<td>wildlife habitat</td>
<td></td>
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<tr>
<td>• Industrial</td>
<td>– Maintains mangroves, estuaries, reefs and coastal zone processes</td>
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<tr>
<td>– Non-consumptive uses</td>
<td>– Controls the level of water tables</td>
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<tr>
<td>• Hydropower generation</td>
<td>– Maintains water quality: nutrients and organic matter, pathogens, persistent organic</td>
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<tr>
<td>• Cooling water</td>
<td>pollutants, salinity, heavy metals, changes in thermal regime</td>
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<tr>
<td>• Navigation</td>
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Global mega-forces already impact the health of the world’s watersheds

- Climate Change
- Energy & Fuel
- Material Resource Scarcity
- Water Scarcity
- Population Growth
- Wealth
- Urbanization
- Food Security
- Ecosystem Decline
- Deforestation

Source: KPMG, 2012
### Watershed challenges: Competing demands

<table>
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<tr>
<th>Cities and surrounding regions where the population concentrates</th>
<th>Rural agriculture which needs water to grow food</th>
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<tbody>
<tr>
<td><strong>Utilities which require water to operate power plants</strong></td>
<td><strong>Ecosystems which can help sustain and replenish water sources if protected</strong></td>
</tr>
</tbody>
</table>

- How to decide who gets how much?
- Potential approaches include
  - water markets
  - water funds
  - emission permit trading
  - payments for ecosystems
  - certification
  - green public procurement, taxes and fiscal incentives

Source: Ernst & Young, 2010
Watershed degradation:
Causes lead to impacts

- **Land use changes, e.g. urban encroachment, deforestation**
  - Increased run-off, increased sedimentation, soil erosion, habitat loss, ecosystem impacts, flash flooding, reduced infiltration to groundwater, water quality deterioration and pollution

- **Unsustainable farming practices**
  - Depletion of ground and surface water, ecosystem impacts, reduction in vegetation cover, soil compaction, reduced water infiltration rates, increase run-off, acceleration of soil erosion, pollution from fertilizers

- **Construction, e.g. roads, dams, levees**
  - Alteration of natural hydrology, increased run-off, flash flooding, sedimentation

- **Invasive species**
  - Changes to soil and water conditions, unstable soil conditions, increased evapotranspiration, loss of ecosystems

- **Changing climate, increasing temperature**
  - Exacerbation of droughts, severe weather events, loss of species due to rising temperatures
“Yes, there is scarcity in certain areas, but our findings show that the problem overall is a failure to make efficient and fair use of the water available in these river basins. This is ultimately a political challenge, not a resource concern.”
- Alain Vidal, CPWF

“The basin perspective is critical in order to assess the upstream and downstream impacts of water allocation policies, and to determine opportunities for optimizing the sum of benefits across many residents.”
- Dennis Wichelns, IWMI
An example in collaboration

**Pothireddypalli**
- Groundwater is an important source for agriculture and domestic use
- Economy relies on water-intensive crops
- Silting of cheruvus impedes natural recharge

PepsiCo India engaged Alternative Development Initiatives to establish a sustainable water development model

The SWRDM approach combines community interventions for water resource development with livelihood enhancement, so it is inherently community-focused
Initiatives and achievements

**Water recharge and conservation**
Rehabilitating cheruvus

**Community engagement**

*Capacity building*
- On-field water management
- Multi-cropping

*Livelihood enhancement*
- Reduce dependence on single annual crop
- Diversified farm package: horticulture, vegetable gardening, …

*Community & gender empowerment*
- Women’s self-help groups leading to micro-capital, mobile banking
- Formation of local institutions including Water Users’ Association, Joint Farmer’s Club