Frameworks and Mechanisms for New Markets for Biodiversity Products and Services

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1. Increasingly a market oriented approach to biodiversity conservation (1)

- Shifting focus from government regulation (laws/regulation, budget for PAs) to a *market-based approach*

- Different approaches:
  - Payments for ecosystem services
    - Different ES: 1) water; 2) carbon; 3) biodiversity; 4) scenic beauty.
    - One-time payments vs real markets
    - Public (government agencies)
    - Private (individual companies/investors)
  - Focusing on the biodiversity risks & opportunities corporations are exposed to
1. Increasingly a market oriented approach to biodiversity conservation (2)

• Creating demand is crucial
  – Solid business case: focus on the needs of the private sector
  – Develop innovative finance mechanisms (e.g. Eco-Securitization)
  – Target new stakeholders in a new way (e.g. Landscape Auctioning / YourGoodNature)
  – But….the government often has to play a major role in making markets successful
    • Regulation
    • Imposing caps on ecosystem degradation (e.g. cap-and-trade markets / create scarcity)
2. Practical initiatives from the DFND

Overview assets Dutch Fund for Nature Development (DFND)
31-12-2007

- Balance (debit/credit): € 1 billion
- Loans receivables: € 580 million
  - of which ‘fiscal green’ loans: € 179 million
- Project account: € 133 million
- Subsidies paid: € 927 million
- Equity: € 31 million

Financial products with a focus on biodiversity

1. Forest Certificates Fund
2. Fiscal Green Regulation
3. Firm relocation
4. ‘Red-for-Green’

**Critical condition**
Government creates favorable conditions by 1) providing start-up capital and/or 2) set new rules/regulations that triggers private sector interest
1) Forest Certificates Fund

**Motive government**
- Stimulate afforestation at reasonable costs

**Motive seller CO2 credits**
- Land owner: Considerable financial compensation for switching to forestry

**Motive buyer CO2 credits**
- Companies: 1) reputation; 2) corporate responsibility; 3) improve staff morale

**Motive DFND**
- Attractive way to stimulate afforestation in the Netherlands
- Create revolving fund

**Current situation**
- 258 ha of new forests in 2007 (goal: 250 ha/yr)
- 1770 ha of forests in portfolio – 164 afforestation projects
- 1st monitoring underway: measures sequestered CO2
- Independent verifier: SGS
- Focus on ‘voluntary carbon market’
- In the process of developing our product (VERs or ‘futures’)
  - Legal
  - Fiscal
  - Demand from the market
  - Potential value CO2-credits = EUR 11 mil (depending on sale price)
2) Green Fiscal Investments

Goal: Stimulate private investment in biodiversity-friendly projects

Motive investor
- Moderate investment return is about 2% (equal to investment return government bonds)
- Fiscal advantage = 2.5%
- Total investment return = 4.5%
- Stimulate projects that benefit nature conservation

Motive government
- Stimulate investment in nature projects by private investors at low costs (reduction in tax revenue)

Motive bank
- Fee for managing the ‘green investment fund’
- Increase total assets under management
- Increase reputation

Budget
- Total Eur 1.7 billion
- Conservation projects: EUR 60 - 80 million

Types of nature projects
- Landscape restoration
- Bird protection systems
- Fish regulation systems in dams
- City development (housing / nature)
3) Low interest loans for firm relocation

- Government policy: relocation of intensive agricultural firms from vulnerable nature areas (e.g. National Ecological Network) to a ‘farm development area’

- Government: subsidises break-down of farm on old location.

- Farm often needs a new loan to finance its business on the new location

- A commercial bank + DFND (up to a maximum of € 250,000): finance relocation of het farm to a agriculture development area. DFND provides low interest loan.

- Example of firm relocation in the south of the Netherlands

**Motive farmer**
- Possibility to grow in the new location
- Government finances break-down of old farm
- Part of the loan has a low interest

**Motive commercial bank**
- Part of the financial arrangement is covered by DFND (risk sharing)

**Motive government / DFND**
- Stimulate relocation of intensive agricultural firms to relieve stress on nature area
4) ‘Red-for-Green’ (Red = housing / Green = nature)

- Area X - e.g. 425 ha farm land, 400 ha housing, 175 ha nature
- housing construction - e.g. 7500 homes
- Area X - e.g. 1000 ha farm land, housing construction - e.g. 7500 homes

‘Red has to pay for Green’

**Motive farmer**
- Good price for the land

**Motive private partner (e.g. project developer)**
- Increase chances of project development (i.e. access to land)
- Develop new niche market for ‘green living’

**Advantage government**
- Improve quality/quantity of nature conservation (= policy goal)
- Support nature development more quickly
- Increase quality of living
Other interesting financial constructions to think of…..

- Combination of financial arrangements!!!

……..other financial mechanisms or products one can think of

- **Biodiversity offsets** (conservation banking and wetland mitigation banking in the US. Also in Brazil, the Netherlands, Germany, UK …..??)

- **Eco-securities** (sustainable forestry bonds securities that can be offered to the capital market)

- **Landscape funds** (bundling public and private capital in a local fund to use for nature-related projects)
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New York Catskill watershed

- Initiated in 1997

- **Context:** A extensive watershed payment scheme was set-up to *sustain* the water quality for NY

- **Motivation:** It was perceived to be cheaper to reduce non-point source pollution through *forest protection strategies* (US$ 1-1.5 billion over 10 years) than to build *water treatment plants* (US$ 6-8 billion over 10 years)

- **Buyer:** Consumers (residents of NY) are paying through water bills

- **Seller:** Dairy farmers and timber companies are compensated for adopting best-management practices
Nestlé Waters

- **Context**: Payments to farmers are made in order to control the quality of the aquifers, Nestlé is drawing its mineral water from. US$ 9 million invested to buy farm land (giving it back to farmers) + additional payments of US$ 230/ha to manage land sustainably.

- **Motivation**: Reforesting sensitive infiltration zones, financing farmers to build modern facilities, and switching to organic farming practices **cheaper** than building filtration plants.

- **Buyer**: Nestlé Waters (formerly known as Perrier-Vittel)

- **Seller**: Farmers in the Rhine-Meuse watershed
Wetland Mitigation Banking, USA

- **Context**: Wetland being degraded throughout the US for the past decade. The Clean Water act, enabled building a “off-set market” whereby land developers were obliged to offset damage made to wetlands.

- **Motivation**: Cost-effective (economic) solution to enable development while maintaining form of ecological health.

- **Buyer**: Land developers (both public and private)

- **Seller**: Landowners

- **Intermediary**: Wetland mitigation banks (500 active banks), who restore or create new wetlands.

### Market Snapshot

<table>
<thead>
<tr>
<th>Market Volume</th>
<th>US$289,859,866</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction Volume</td>
<td>47 transactions</td>
</tr>
<tr>
<td>Total wetland credits</td>
<td>7,967 credits [$36,357.46/credit]</td>
</tr>
<tr>
<td>Land Area Protected/Restored</td>
<td>9,229 hectares (22,805 acres)</td>
</tr>
</tbody>
</table>

January 1, 2000 to April 30, 2005 | View Source Data/Assumptions
EU Agri-Environmental Payments

- **Buyer and seller:** Farmers are compensated by the EU and member states for:
  - Additional costs of implementing good-farming practices (beyond legal compliance)
  - Any losses of income (due to reduced income)
- **Types of payments:** a.o. measures to reduce the nitrate level, so to increase groundwater quality
- **Motivation:**
  - Laws are not always supported
  - Enforcement is sometimes weak
Shifting consumer preferences / Increased investor expectations / Shareholder value

Liabilities

Disruption of supply chain / Increase in costs of inputs

Increased investor expectations / Shareholder value

Vulnerability of assets to natural disasters

Growing relevance of biodiversity to businesses

Regulatory constraints

Poor staff morale / Reduced productivity

Shifting consumer preferences

Reputation risk

Growing relevance of biodiversity to businesses

Continued loss of global biodiversity

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Continued loss of global biodiversity
Share price Associated British Ports
Old location: Farm was closely situated to National Ecological Network

New location: The farm is able to grow in size at the new location (about 20 km north)