Comparative Tree Planting Strategies: Impact and Application in Haiti

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**Case 1: Watershed Management**
International Organization for Migration (IOM)

Program started in 2006. Public funding. Implemented in six regions. Sites evaluated in Petit-Goave (started 2006) and Jacmel (started 2012).

- **Approach**: Integrated response to severe flooding, declining soil fertility, volatile river flows and widespread unemployment.
- **Primary objective**: Macro-environmental
- **Results**: 2.7 million trees, 279,454 meters of stone walls, 107,582 meters of contour canals, 128,000 short-term jobs, 66 nurseries (16 remaining)
- **Evaluation Methodology**: Documentary review, structured observation of field sites, surveys of treatment and control members (n=106)

**Objectives**
50+ year history of environmental programming (range of interventions: top-down -> grassroots)

No consensus on tree planting strategy in Haiti

- **Evaluate two most established approaches**: 1) Watershed Management 2) Agroforestry
- **Criteria**: change in knowledge, attitudes, behavior; environmental impact; cost-efficiency; sustainability
- **Determine what works where**: impact and application of different approaches
- **Disseminate results to other partners engaged in tree planting in Haiti

**Tree Survival Rates by Program**

<table>
<thead>
<tr>
<th>Program</th>
<th>Overall</th>
<th>Forestry</th>
<th>Fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watershed Mgmt - IOM</td>
<td>75%</td>
<td>75%</td>
<td>75%</td>
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<tr>
<td>Agroforestry - MCC</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
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<tr>
<td>Ministry of Environment*</td>
<td>85%</td>
<td>85%</td>
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* Minimum overall survival rate after three years - set by Government of Haiti as part of national reforestation strategy

**Lessons Learned**
1. **Paid Labor**: Necessary to reforest public lands and remote upper catchments, but can undermine ownership.
2. **Voluntary Labor**: Decentralized, community-run nurseries reduce costs and build capacity and buy-in.
3. **Voluntary Labor**: Tree planting as a joint-venture: MCC provides trees (capital), farmers provide labor and land to plant trees.
4. **Motivation**: Farmers prioritize economic over environmental considerations.
5. **Survival rate varies greatly among species**: forestry species accounts for high survival rate of programs.
6. **Common characteristics of species**: drought resistance, tolerance to poor soil conditions and bitter leaves (which discourage livestock predation). Wind resistance proved important on exposed mountaintops.
7. **Time of planting critical to survival**: trees planted during the dry season fared worse, even with hand irrigation.

**Deliverables**
- Program evaluation report (internal) - IOM
- Lessons learned report (external) - IOM & MCC
- Program manual (external) - MCC
- Journal article (external) - select publications

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**Case 2: Agroforestry**
Mennonite Central Committee (MCC)


- **Approach**: Livelihoods approach incorporates tree planting into existing agricultural systems. Trees presented as another cash crop to participants to plant, manage and harvest – as they see fit.
- **Implementation**: Trees provided to smallholder farmers at annual distributions to plant on private property with assistance of technicians.
- **Primary Objective**: Micro-economic
- **Results**: 7.6 million trees, 23 nurseries established (22 remaining)

- **Evaluation Methodology**: Documentary review, structured observation of field sites, semi-structured interviews of key informants

**IOM Survey Results**

- Identify impacts of deforestation
- Demonstrate understanding of roles of trees
- Prioritize environmental interventions
- Claim responsibility for planting/managing trees
- Independently plant trees

Survey results only collected from watershed management sites

*Intervention Control