Co-creation of business models for smallholder forest farmers’ organizations: Lessons learned from rural Ethiopia and Tanzania

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Introduction

Value chain of wood products in Eastern Africa

Production
Smallholder forest farmers
Higher profit margin
Lower value-added distribution

Marketing
Local traders
Lower profit margin
Higher value-added distribution
Local markets

Proposition
Forest farmers’ organizations (FFOs)* formation to upgrade the value chain

*FFOs = democratically-controlled organizations of/for non-industrial private tree growers, e.g. forestry cooperatives, tree growers associations

(Ntiyamagwa 2018; Temu 2021; Munuyee 2018; Tolera 2021)
Markets for wood / farm products

(Forest) Farmers' Organizations

Smallholders

Fees, labor, ...

Training, inputs, shared benefits

Business model?

(value-added) products

Revenues

Introduction

(Hintz et al 2021; Trigkas et al 2020)
Research objective

To co-create FFO business models in order to assess the business models in the context of the regulatory framework and the value chain upgrading theory

#1: How can the envisioned business models be understood based on the regulatory framework and the organizational governance?

#2: How can the envisioned business models foster wood value chain upgrading?
Theoretical framework: Value chain upgrading through collective action

Value chain upgrading: an enterprise improves its performance or position in the chain, thereby increasing gains and minimizing exposure to threats

Value chain upgrading trajectories:
- **Process** upgrading: increase efficiency of the production system or adopt a new technology
- **Product** upgrading: increase its unit value of production
- **Functional** upgrading: engage in a different mix of activities, increase the value addition
- **Inter-chain** upgrading: firms of clusters move into new activities

A success factor in horizontal coordination in the value chain = “Use pre-established groups if possible” (Mitchell and Coles 2011: 150)

(Humphrey and Schmitz 2002; Kaplinsky et al. 2002; Coles and Mitchell 2011)
Analytical framework

Fig. 1 The Input-Output scheme (Auch et al. 2014) integrated with elements of the Business Model Canvas (Osterwalder and Pigneur 2010), in the context of the value chain upgrading theory (Humphrey and Schmitz 2002; Kaplinsky et al. 2002; Coles and Mitchell 2011)
Methodology: Study sites

Research design:
- Multiple case study
- Multistage purposive sampling
  (Yin 2018)

Fig. 2 Map of the study sites in Ethiopia and Tanzania (ICPAC 2017; NBS 2012; OCHA 2012; Open Africa 2016)
Data acquisition & analysis

- 25 Key Informant Interviews
- 2 participatory workshops with farmers’ organizations
- 10 Focus Group Discussions, participant observation

Co-creation approach:
- Thematic analysis
- Triangulation

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# Description of case studies

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>in Chefasine <em>Kebele</em>, Ethiopia</th>
<th>in Igowole Ward, Tanzania</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case Studies</strong></td>
<td>I: Farmers’ group</td>
<td>II: Beekeeping association</td>
</tr>
<tr>
<td><strong>Formality</strong></td>
<td>Informal</td>
<td>Formal</td>
</tr>
<tr>
<td><strong>Establishment</strong></td>
<td>May 2019</td>
<td>2018</td>
</tr>
<tr>
<td><strong>Group size</strong></td>
<td>21 (Male) + 40 (Male) outside study site</td>
<td>25 (10 Male: 15 Female)</td>
</tr>
<tr>
<td><strong>Current activities</strong></td>
<td>Seasonal crops</td>
<td>Honey, internal credit provision</td>
</tr>
</tbody>
</table>

Sources: Fieldwork 2019, 2021
Results & Discussion:

#1: How can the envisioned business models be understood based on the regulatory framework and the organizational governance?

#2: How can the envisioned business models foster wood value chain upgrading?
Case Study 1: Farmers' group to 'Tree Marketing Cooperative'

- Democratic decision-making
- Conflict resolution mechanism

Input:
- Natural resources from non- & members
- Gender imbalance

Process:
A land plot in Hawassa New Market can be discontinued any time (KII 10)

Output:
- High demand products
- Low value addition

Cost structure:
- Cost-driven (Osterwalder and Pigneur 2010)
  - Need financial literacy (KII 6-7)

Revenue streams:

Microcredit institution, local government, transporters, harvesters

An alternative to the middlemen channel, producer-driven (Vorley et al 2008)
Case Study 2: Beekeeping association to ‘Tree Growers Association’

- Improvement of members’ farm production
- Gender inclusive

 Process
 Selling to timber yards

Output
 Wood: value addition;
 Non-wood: no value addition (KII 13, 14, 20)

Cost structure

Revenue streams

- Cost-driven, towards value-driven (Osterwalder and Pigneur 2010)
- Opportunity from ‘Tanzania Forest Fund’ scheme (KII 15)

Tanzania Forest Fund, Participatory Private Forest Programme, Union, local government, transporters

Between producer- and intermediary-driven (Vorley et al 2008)

- Democratic decision-making
- Conflict resolution mechanism
- Not linked to judicial system (KII 15, 21)

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Implications to theory

- Transformation from a farmers’ organization to a forest farmers’ organization permits **horizontal coordination** (among fellow forest farmers) and **vertical coordination** (partnerships with transporters, harvesters).

- Transformation to FFOs enables **product and process upgrading** of the wood value chains, but not yet functional upgrading.

- Transformation implies a shift in Pestoff (1992) Triangle
  - Case Study 1: From informal and nonprofit to formal and for-profit
  - Case Study 2: From formal and nonprofit to formal and for-profit

Fig. 4 Pestoff triangle (1992: 25)
Recommendations

For decision-makers

• Absence of regulatory support: Integration of silvicultural know-how into the agricultural extension system
• Presence of regulatory support: Encouragement to FFOs in balancing own grassroots ideas and external guidance
• Encourage FFOs to diversify wood and non-wood products
• Local government plays a crucial role to link farmers’ organizations to external support institutions

For future research

• Deacademizing the nine-element Business Model Canvas into the Input-Output framework eased communication in the participatory workshops
• To study functional upgrading options: Multi-stakeholder workshops, e.g. Participative Innovation Platform (Auch and Pretzsch 2020) or Participatory Scenario Development (Bizikova et al. 2014)
• Empirical work to substantiate the theoretical assertion (e.g. Hintz et al. 2022)
References


NTIYAMAGWA P. P., 2018, ed., A comparative study of VC analysis of smallholder and large-scale tree growers in Mufindi District, Tanzania [Master thesis], Morogoro: Sokoine University of Agriculture, Department of Forest and Environmental Economics.


TEMU B. J., 2021, ed., Exploration of the Tanzanian forest sector contribution to national economy: Micro, meso and macro level analysis [Doctoral thesis], Morogoro: Sokoine University of Agriculture, Department of Forest and Environmental Economics.


Thank you

Asanteni sana

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WoodCluster project “National Bio-Economies based on Farm-Wood-Production: Narrowing the East African Wood Supply Gap” (Project ID 57350930)
## List of Key Informant Interviews

<table>
<thead>
<tr>
<th>Interview No.</th>
<th>Sector</th>
<th>Date of interview</th>
<th>Interview No.</th>
<th>Sector</th>
<th>Date of interview</th>
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<tbody>
<tr>
<td><strong>Case Study I in Ethiopia</strong></td>
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<td><strong>Case Study II in Tanzania</strong></td>
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<td>1</td>
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<td>13/04/2021</td>
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<td>8</td>
<td>Cooperative Union honey in Amhara Region</td>
<td>16/10/2019</td>
<td>20</td>
<td>Private sector / Tree Growers’ Association in Nundwe village</td>
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## List of Focus Group Discussions

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<th>Sub-village strata</th>
<th>FGD No.</th>
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<td>Argata</td>
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<td>Hankamo</td>
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<td>17</td>
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<tr>
<td>Butelo</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>II: in Tanzania</strong></td>
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