Public-Private partnerships for sustainable agriculture and business development: *Allanblackia* species as a case study

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Contents

• Background
• Agroforestry and tree products
• Public-private partnerships
• Allanblackia case study
• Lessons learnt/ Conclusions
Background

- Africa population is set to increase to 2 billion by 2050
- Crop yield in Sub-Saharan Africa is the world’s lowest
- Only 27% of potential yield, according to the FAO
- Bringing diversity of species into wider cultivation provides opportunities to increase productivity, combat malnutrition, adapt to climate change and improve livelihoods
Background

• There is a need for innovative approaches to address food, nutrition, environmental and livelihood challenges. Such approaches should include:
  • Agroforestry
  • Tree domestication and diversification
  • Public and private partnerships
Agroforestry Products

- Fruits and nuts (Allanblackia)
- Fodder (Calliandra)
- Timber, fuelwood (Tectona grandis)
- Fertilizer
- Medicinal, gums, etc
- Soil health & food security
- Combating diseases, industrial produce
- Income, Livelihood, Envt services
- Nutrition and health

Varieties of fruits (Prunus africana), Shade, energy (Faidherbia albida), Livestock, Nutrition and health

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## Global exports value for some tree commodities (Edible)
### 2001-2008 (US$ ‘000)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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</thead>
<tbody>
<tr>
<td>Coffee</td>
<td>8,661,842</td>
<td>8,462,349</td>
<td>9,769,085</td>
<td>11,810,867</td>
<td>15,637,891</td>
<td>18,256,575</td>
<td>22,061,510</td>
<td>26,800,406</td>
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<td>Palm oil</td>
<td>4,916,280</td>
<td>7,479,292</td>
<td>9,841,363</td>
<td>11,842,625</td>
<td>11,638,148</td>
<td>13,962,578</td>
<td>21,346,063</td>
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<td>Citrus</td>
<td>7,709,475</td>
<td>8,598,655</td>
<td>10,217,484</td>
<td>10,924,690</td>
<td>11,597,821</td>
<td>12,661,180</td>
<td>15,869,789</td>
<td>17,689,609</td>
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<tr>
<td>Apples</td>
<td>3,410,183</td>
<td>3,852,300</td>
<td>4,675,737</td>
<td>5,354,522</td>
<td>5,622,449</td>
<td>6,410,561</td>
<td>8,398,383</td>
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<tr>
<td>Olives</td>
<td>2,761,684</td>
<td>3,085,092</td>
<td>3,996,924</td>
<td>5,989,857</td>
<td>6,716,176</td>
<td>8,049,248</td>
<td>7,289,693</td>
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<td>Cocoa</td>
<td>2,208,064</td>
<td>3,219,631</td>
<td>4,200,355</td>
<td>4,836,469</td>
<td>4,954,083</td>
<td>4,790,227</td>
<td>5,708,236</td>
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<tr>
<td>Almonds</td>
<td>917,197</td>
<td>1,176,724</td>
<td>1,461,219</td>
<td>1,840,873</td>
<td>2,650,190</td>
<td>2,571,436</td>
<td>2,637,102</td>
<td>2,652,035</td>
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<tr>
<td>Cashew nuts</td>
<td>947,931</td>
<td>1,066,627</td>
<td>1,461,219</td>
<td>1,840,873</td>
<td>2,650,190</td>
<td>2,571,436</td>
<td>2,637,102</td>
<td>2,652,035</td>
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<tr>
<td>Coconuts</td>
<td>895,982</td>
<td>1,066,627</td>
<td>1,461,219</td>
<td>1,840,873</td>
<td>2,650,190</td>
<td>2,571,436</td>
<td>2,637,102</td>
<td>2,652,035</td>
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<tr>
<td>Pears</td>
<td>1,150,508</td>
<td>1,236,579</td>
<td>1,757,346</td>
<td>2,025,783</td>
<td>2,735,722</td>
<td>1,996,767</td>
<td>2,895,301</td>
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<tr>
<td>Peaches, nectarines</td>
<td>944,861</td>
<td>966,836</td>
<td>1,291,024</td>
<td>1,147,052</td>
<td>1,297,850</td>
<td>1,566,048</td>
<td>1,702,527</td>
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<tr>
<td>Kiwi fruit</td>
<td>291,474</td>
<td>331,417</td>
<td>390,074</td>
<td>464,738</td>
<td>491,066</td>
<td>514,222</td>
<td>541,578</td>
<td>763,834</td>
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<tr>
<td>Pistachios</td>
<td>509,846</td>
<td>631,885</td>
<td>709,624</td>
<td>751,423</td>
<td>842,534</td>
<td>951,051</td>
<td>1,079,191</td>
<td>1,184,595</td>
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<tr>
<td>Plums &amp; sloes</td>
<td>558,066</td>
<td>577,380</td>
<td>673,286</td>
<td>809,938</td>
<td>895,637</td>
<td>915,796</td>
<td>954,722</td>
<td>1,285,479</td>
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<tr>
<td>Raisins</td>
<td>424,313</td>
<td>462,340</td>
<td>535,894</td>
<td>685,925</td>
<td>830,099</td>
<td>1,010,112</td>
<td>1,171,124</td>
<td>1,270,622</td>
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<tr>
<td>Walnuts</td>
<td>428,299</td>
<td>401,188</td>
<td>578,874</td>
<td>585,438</td>
<td>646,821</td>
<td>778,814</td>
<td>918,524</td>
<td>1,001,681</td>
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<tr>
<td>Mango</td>
<td>291,164</td>
<td>331,417</td>
<td>390,074</td>
<td>464,738</td>
<td>491,066</td>
<td>514,222</td>
<td>541,578</td>
<td>763,834</td>
</tr>
<tr>
<td>Apricots</td>
<td>124,014</td>
<td>130,550</td>
<td>161,481</td>
<td>201,833</td>
<td>185,248</td>
<td>182,419</td>
<td>186,153</td>
<td>188,050</td>
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<tr>
<td>Papayas</td>
<td>51,840</td>
<td>57,901</td>
<td>70,975</td>
<td>109,783</td>
<td>163,617</td>
<td>129,307</td>
<td>154,651</td>
<td>159,584</td>
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<tr>
<td>Brazil nuts</td>
<td>10,452</td>
<td>12,376</td>
<td>22,807</td>
<td>8,938</td>
<td>7,167</td>
<td>18,835</td>
<td>30,399</td>
<td>42,410</td>
</tr>
<tr>
<td>Sheanuts</td>
<td>6,628</td>
<td>9,646</td>
<td>11,656</td>
<td>7,761</td>
<td>8,311</td>
<td>5,656</td>
<td>6,747</td>
<td>6,513</td>
</tr>
<tr>
<td>Gums natural</td>
<td>6,932</td>
<td>1,808</td>
<td>1,668</td>
<td>5,241</td>
<td>477</td>
<td>600</td>
<td>1,916</td>
<td>1,904</td>
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<tr>
<td>Total value (US$)</td>
<td>38,466,348</td>
<td>44,396,109</td>
<td>54,734,826</td>
<td>64,881,375</td>
<td>73,099,654</td>
<td>82,507,849</td>
<td>100,932,445</td>
<td>126,284,602</td>
</tr>
</tbody>
</table>

Global exports value for some tree commodities (Edible) 2001-2008 (US$ ‘000) 
Source: FAOSTAT, 2011

$126,282,549,680 industry
Role of Agroforestry on tree diversity and productivity

Science-based solutions to problems faced by farmers

Farmers and Production systems

- Improved on-farm productivity
- Building assets
- Generating income
- Livelihood options

Benefits and rewards

Environment, Biodiversity

- Reduced pressure on natural habitats
- Landscape connectivity
- Habitat restoration
- Ecosystem resilience

Leveraging Benefits

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Decentralization/ partnerships

Outputs

Centralized
- Govt / NARS

Decentralized/ PPP
- NARS
- Investor
- NGO
- Farmer
- Govt
Public-private partnerships (PPP)

- Public private partnership (PPPs) can broadly be defined as collaborations between public sector and private entities who share costs, risks and benefits in order to jointly plan and implement activities towards common objectives.

- The 2002 World Summit on Sustainable Development highlighted the importance of PPPs in achieving global goals of sustainable and equitable development.
Why PPP?

- Binging together stakeholders with different interests and organisational capacities,
- Sharing of resources for increasing cost-efficiency,
- Avoid duplications,
- Build capacities for business development
- Directly responding to consumers’ needs
- Enhances adoption and impacts of research/innovation
Why PPP?

- Potential to raise productivity,
- Catalyst for broader rural development – creating jobs outside of farming in both service and production sectors
- Increases the level of private sector investment
- Sustainability of initiative
ICRAF’s Experience with PPP

- Novella Partnership: Domestication of *Allanblackia* species in Africa
- Mars: Improving the utilization of cocoa companion trees, while mitigating the negative impacts of cocoa cultivation on forest cover
- Evergreen agriculture
- Naturally African – an expanded trade promotion platform of African natural products from a diversity of cultivated tree species
- Development of business models to link smallholder farmers to bio-energy markets
Case study with *Allanblackia* spp.
The *Allanblackia* tree and fruits
Allanblackia case study

• shows how governments,
• private sector,
• donors and
• farmer organizations are working together to increase investment, productivity and sustainability in African agriculture.
Allanblackia species in Africa as compiled by Bamps (1969) from collections

Each colour resembles a distinct species distribution, there are overlap of species in the central Africa

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Importance

Uses: multipurpose
• Timber
• Shade
• Medicine

Production levels
• 120 fruits /tree
• 40 kg of seeds/tree
• 12 kg oil/tree
Allanblackia oil

• Mostly used for margarine production, soap and ointments manufacturing
• Huge market for *Allanblackia* oil >100,000 tons/yr
• Only about 200 tons/yr obtained
• Wild harvesting is unsustainable
• Need for domestication
Skepticism of farmers

- Perception that they are abundant in the forests
- Lack of high quality planting materials,
- Lack of knowledge on propagation, nursery and tree husbandry,
- Earlier initiatives to grow sunflower, citronella etc failed
Skepticism

• uncertain markets and low price,
• unknown nutritional values
• Limitation in post harvest storage and processing
• Financial limitations
• Unfavorable policies
Novella partnership

- The Novella partnership is a corporate multi-country PPP with strong development, extension and conservation components.
- Established in 2002
- Its main aim is to develop domestication techniques, tree management practices, conservation strategies and supply chain for *Allanblackia* species in Africa
Main components of AB domestication

- Sensitization and encouragement of farmers to participate in Allanblackia domestication
- Range-wide germplasm collection, development of propagation methods and gene conservation
- Studies on ecology, abundance and sustainable harvesting
- Integration of Allanblackia in agroforestry farming systems
- Facilitation and development of marketing networks and supply chain
- Development of poverty alleviation options in the rural areas through promotion of Allanblackia
Current members of the partnership

- **Unilever**: Funding, product development & marketing
- **ICRAF**: Domestication (selection, propagation & germplasm conservation), Rural Resource Centres (RRC)
- **Novel International**: Supply chain, marketing, multiplication and distribution
- **IUCN**: sustainable harvesting & biodiversity conservation
- **Farmers**: Smallholder agroforestry systems
- **FORM**: Pilot plantation - Ghana
- **RSSDA**: Pilot plantation - Nigeria
- **UEBT**: Certification of organic and fair trade standards
- **NARS, Universities, ANR etc.**
Sensitization of farmers

Workshops, radio & TV programmes to increase national and regional awareness
Participatory tree domestication

Research nursery

Field planting

Satellite nursery

RRC
Development of propagation techniques
RRC - Seed and seedling distribution

Goal is to ensure proper exchange and delivery of germplasm to farmers.

Farmer’s fields

Local commercial nursery

satellite nursery

satellite nursery

satellite nursery

satellite nursery

satellite nursery

satellite nursery

satellite nursery

satellite nursery
## Conservation plots

<table>
<thead>
<tr>
<th>Country</th>
<th>Genebank</th>
<th>Demo plot</th>
<th>Mother block</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>121 accessions</td>
<td>Cuttings, grafts, seedlings</td>
<td>grafts</td>
</tr>
<tr>
<td>Tanzania</td>
<td>20 accessions</td>
<td>Cuttings, grafts, seedlings</td>
<td>Cuttings, grafts</td>
</tr>
<tr>
<td>Cameroon</td>
<td>50 accessions</td>
<td>Cuttings, grafts seedlings</td>
<td>Grafts, cuttings, marcotts</td>
</tr>
</tbody>
</table>
## Pilot plantations

<table>
<thead>
<tr>
<th>Country</th>
<th>Activity</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>65 ha AB pilot plantation at Oyimso</td>
<td>FORM</td>
</tr>
<tr>
<td>Tanzania</td>
<td>AB in 8 ha tea plantation</td>
<td>Tanzania Tea Estate/Novel Tz</td>
</tr>
<tr>
<td>Nigeria</td>
<td>50 ha AB</td>
<td>RSSDA (Nigeria govt)</td>
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</tbody>
</table>
Smallholder farmers

<table>
<thead>
<tr>
<th>Country</th>
<th>Farmers planting AB</th>
<th>Seedlings planted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzania</td>
<td>&gt;500</td>
<td>&gt;100,000</td>
</tr>
<tr>
<td>Ghana</td>
<td>&gt;200</td>
<td>&gt;18,000</td>
</tr>
<tr>
<td>Cameroon</td>
<td>&gt;100</td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>Farmer registration in progress</td>
<td>Target of 200,000</td>
</tr>
</tbody>
</table>

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Marketing

Supply chain and market development
• Can pay school fees from Allanblackia
• Can buy school uniform from Allanblackia
More opportunities = more interest in Planting

Allanblackia contributes a lot in the revenues of several household (whisky, soap, jam, juice, oil, butter)
Lessons learned/ conclusions

• Improve linkages between research, actors in the value chain and end-users,
• Need for better engagement with markets,
• Accelerate technology transfer and foster application by the private sector,
• Develop research projects in close partnerships with the private sector/end users,
• Need for government policy support.
Thank you for your attention