Contract farming in Africa: Opportunities and Challenges

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Contract farming (definition)

- Agricultural production carried out according to a prior agreement in which the farmer commits to producing a given product in a given manner and the buyer commits to purchasing it.

Variability in contract farming

- Formal (written) vs informal (oral) contracts
- Some provide inputs on credit, others don’t
- Some provide technical assistance & monitoring, others don’t
- Price may be fixed, set by formula, or unspecified
**Why so much interest in contract farming?**

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<th>Constraints on small farmers</th>
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Why so much interest in contract farming?

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<td>Buyer often provides inputs on credit</td>
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<td>Volatile prices discourage commercialization</td>
<td>Buyer sometimes guarantees price before planting</td>
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<td>Poor infrastructure raises cost of inputs and lowers revenue from crop sales</td>
<td>Buyer sometimes delivers inputs and collects harvest</td>
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But there are some concerns:

- Some criticism of contract farming
  - that contract farming exploits small farmers because of unequal relationship between farmers and large agribusiness firm.
  - that additional income from contract farming creates inequality, friction within community, and disputes within household
  - that contract farming excludes small farmers because buyers prefer to work with medium and large farmers
Outline

- Why does contract farming exist?
- When does contract farming make sense?
- What is the experience with contract farming in sub-Saharan Africa?
- What is the impact of contract farming on small farmers?
- What policies and programs promote contract farming while protecting farmer interests?
Why does contract farming exist?

- **Vertical coordination** refers to the matching of supply and demand (with respect to quantity, quality, timing, etc) between different stages of a supply chain e.g. producers, trader, processors, and retailers.

- **Transaction costs** are the costs associated with completing a sale or purchase.
  - Examples: cost of finding a buyer, negotiating price, inspecting product, & risk of being cheated
  - Transaction costs increased by imperfect information, opportunistic behavior, and asset-specific investments
Why does contract farming exist?

### Problems of vertical coordination

<table>
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<tr>
<th>Crop</th>
<th>Description</th>
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<tr>
<td>Tea</td>
<td>Tea factory wants to expand and buy from small farmers, but farmers cannot afford to wait for tea to mature.</td>
</tr>
<tr>
<td>Green beans</td>
<td>Green bean exporter want to expand, but farmers not familiar with production methods, need training &amp; inputs.</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>Sugar mill wants to buy cane from farmers, but need to spread delivery of cane over the season.</td>
</tr>
<tr>
<td>Cotton</td>
<td>Cotton gin wants to ensure sufficient raw material and increase quality</td>
</tr>
<tr>
<td>Coffee</td>
<td>Coffee exporter want to meet European demand for organic coffee, but how to get farmers to avoid chemicals.</td>
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Why does contract farming exist?

If there were no transaction costs:
- Farmers would know what and when to produce
- Credit would be available for inputs
- Farmers and buyers would trust each other

But in real world, processor/buyer has two choices to influence supply to match demand
- Buyer makes agreement with farmer so that buyer provides inputs & technical assistance on credit, while farmer agrees to sell to buyer and repay at harvest
- Buyer purchases or leases farmland and grows on large-scale farm (“estate” or “plantation”)
Why does contract farming exist?

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<th>Types of vertical coordination</th>
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<td>Spot markets</td>
<td>Sale transaction without relationship or prior agreement. Price is only “signal” for coordination.</td>
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<tr>
<td>Contract farming</td>
<td>Sale transaction based on prior agreement with may include technical assistance, inputs on credit, and/or guaranteed price.</td>
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<td>Vertical integration</td>
<td>Two stages of market channel are merged into one company, e.g. sugar mill &amp; cane plantation.</td>
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Why does contract farming exist?

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<th>Types of vertical coordination</th>
<th>Advantages</th>
<th>Disadvantages</th>
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<td>Spot markets</td>
<td>No coordination cost</td>
<td>Difficult to coordinate quantity, quality, and timing of supply &amp; demand</td>
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<tr>
<td>Contract farming</td>
<td>Coordination of supply &amp; demand, efficiency of small farmers</td>
<td>Higher cost than spot markets, looser coordination than vertical integration</td>
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<tr>
<td>Vertical integration</td>
<td>Very tight coordination</td>
<td>Wage labor less motivated &amp; more costly than family labor</td>
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When does contract farming make sense?

- **Characteristics of commodity**
  - High-value crop - easier to justify costs of coordination
  - Large quality variation – need to match quality to demand
  - Perishable – need to coordinate timing of delivery
  - High initial cost or input costs – potential for buyer to assist
  - Crop is difficult to grow or new to farmers

- **Characteristics of buyer**
  - Buyers are much larger than farmers
    - Examples: processor, exporter, or retail chain
    - Gives buyer advantage in access to credit, info, & inputs
    - Easier to cover fixed cost of establishing & enforcing contracts

- **Characteristics of destination market**
  - Willing to pay premium for higher quality, high income
When does contract farming make sense?

- Horticulture for processing or export
- Tea
- Tobacco
- Cotton
- Others: seed, dairy, poultry, rubber, and oil palm
When does contract farming make economic sense? Horticulture

- Contract production mainly for export or processing
- Unstable over time, problem of side-selling
- Examples:
  - Kenya – Vast experience with horticultural exports and contracting, particularly green beans
  - Madagascar – 10,000+ farmers grow vegetables for export to Europe, inputs on credit, close supervision
  - Senegal – contract production of vegetables shifted to exporter-owned estates, estates have larger poverty-reducing impact
When does contract farming make economic sense? Tea

- **Kenya Tea Development Agency**
  - Started as parastatal, but now privatized
  - 562,000 contract growers, one of largest schemes in world
  - KTDA provides inputs and technical assistance
  - Average tea area 0.2 ha/farm

- **Malawi**
  - Smallholder Tea Authority (STA) contracts 5000 small farmers
  - Provides technical assistance & inputs on credit
  - But most tea production on estates
When does contract farming make economic sense? Tobacco

- **Malawi**
  - Traditionally, tobacco grown by estates and marketed through auctions
  - Since liberalization, 300 thousand small farmers grow burley tobacco with significant income effects
  - Auction systems prevents contracting, but now up to 33% can be direct marketed
  - Two companies contract small tobacco growers at pre-arranged price, but few farmers get inputs

- **Uganda**
  - British American Tobacco (BAT) purchases from 65,000 contract growers, provides inputs and close monitoring
When does contract farming make economic sense? Cotton

- **Varied experience** (Tschirley et al, 2009)
  - Mali, Cameroon, Senegal, and Chad retain state-owned cotton marketing company, provides TA and inputs on credit, state-managed contract farming
  - Mozambique, Cote d’Ivoire, Ghana, and Burkina Faso have liberalized cotton markets, but regional monopolies allow input credit to continue
  - Tanzania and Uganda have very competitive cotton sectors with many gins, good prices but no credit

- **Side-selling** is major problem
  - Creates trade-off between a) competition & good prices vs b) regional or national monopoly & input credit
When does contract farming make economic sense? Sugarcane

- **Characteristics of sugarcane**
  - Sugarcane can be grown on large or small scale
  - Sugarcane mills are typically very large, need to spread deliveries over the season to maximize throughput
  - Sugarcane is bulky and perishable

- **Sugarcane grown on estates and by contract farmers**
  - Kenya – Mumias Sugar Company contracts farmers
  - Malawi – One company has two estates & contract farmers, average size 3 hectares
  - Swaziland – Sugar is 60% of ag GDP, small-scale growers have lower production costs, but higher marketing costs, compared to estates
When does contract farming make economic sense? Coffee

Coffee is generally not produced on contract
- Coffee cooperatives in Uganda, Tanzania, Rwanda, & Ethiopia, among others
- But most coffee marketed by traders in spot market

Why not?
- Coffee processing can be done on small scale
- Coffee does not require large quantities of inputs
- After processing, beans are non-perishable
What is impact of contract farming?

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<th>Study</th>
<th>Country</th>
<th>Finding</th>
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<td>Little &amp; Watts (1994)</td>
<td>Several African countries</td>
<td>Highlights social tensions and imbalance of power, but incomes increased for most farmers</td>
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<td>Warning &amp; Key (2002)</td>
<td>Senegal</td>
<td>32,000 contract growers of groundnuts, income 55% higher than other similar farmers</td>
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<td>Bowlig (2007)</td>
<td>Uganda</td>
<td>4000 contract growers of organic coffee have higher income than others</td>
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<td>Minten et al (2009)</td>
<td>Madagascar</td>
<td>10,000 contract growers of vegetables for export, higher &amp; more stable income than similar farmers</td>
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Are small farmers excluded from contract farming?

**Comparison studies**
- Guo et al 2005 – contract farmers in China larger than average, but all were small by international standards
- Key and Rungsten 1999 – tomato processors in Mexico prefer smaller farmers
- Warning & Key 2005 – groundnut contract farmers in Senegal had same level of assets as other farmers
- Simmons et al 2005 – contract seed growers in Indonesia larger than other grain producers, but contract poultry growers smaller than independent poultry growers

**Summary: No clear pattern**
- Small farmers have higher transaction costs but may have lower production costs
When does contract farming NOT make economic sense?

- **Staple grains**
  - Exceptions: seed, for brewery, state-run irrigation schemes

- **Staple roots and tubers**

- **Pulses**
  - Exceptions: for export or for processing

- **Horticulture for local consumption**
Conclusions

- Contract farming usually raises farm income
  - Higher productivity due to access to inputs and TA
  - Higher prices due to quality & access to new markets
- But several challenges
  - Side-selling by farmers
  - Cheating on quality standards by buyers
  - High cost of dealing with many small farmers
- And only suitable in specific situations
  - High-value, perishable crops bought by large buyers
  - Not suitable for mass of staple crop producers
  - Probably less than 5% of farmers have contracts
- But will expand over time
Policy implications

- Contract farming should be promoted
  - Particularly when it works with small-scale farmers

- Role of government in promoting contract farming:
  - Improve investment climate
  - Legalize direct buyer-farmer transactions
  - Promote development of grades and standards
  - Strengthen farmer organizations and other intermediaries
  - Promote PPP in extension services
  - Promote competition
  - Enforce contracts
Thank you.

Questions & comments welcome: n.minot@cgiar.org