

Contract farming in developing countries: a literature review

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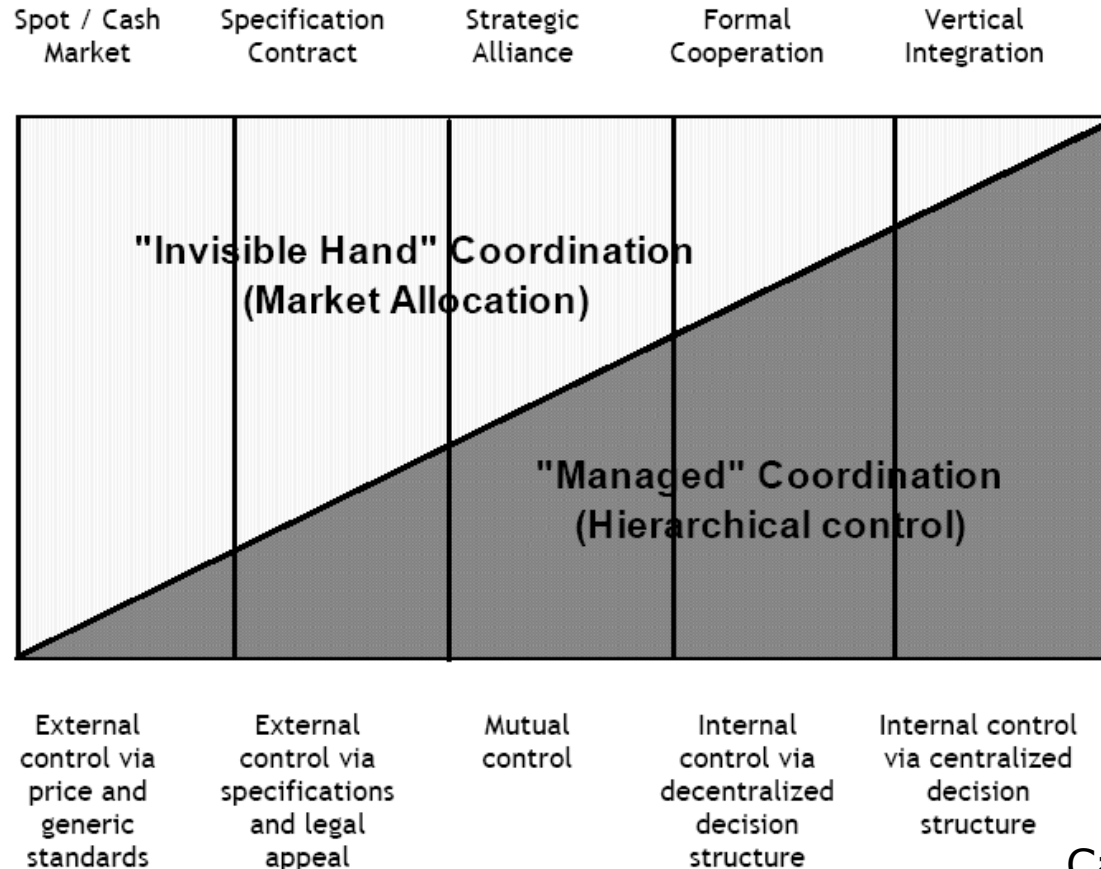
- What is contract farming (CF)?
- Why has CF become so widespread?
- Why is CF important for poverty reduction?
- Approach to this review
- Comparison of 'successful' vs. 'failed' cases
- What can contracts tells us?
- How can threats to successful CF be overcome?

Three key messages

- There are good reasons to think contract farming will continue to expand
- Smallholders can benefit from contract farming with large firms in most agrarian contexts (including fragile and conflict-affected states) for both high-value and conventional food and export crops
- There is a wide range of contractual, technological, institutional and legal innovation to foster 'successful' schemes and limit hold ups and disagreements

What is contract farming?

Strategic options for vertical coordination



Respective primary coordinating mechanisms

Catelo and Costales (2001)

What is contract farming?

Market-specification contracts (guarantee a farmer a marketing outlet, a time of sale, and possibly a price structure, if some degree of quality is met)

Resource-providing contracts (where a firm provides inputs in exchange for exclusive purchasing rights)

Production-management contracts (where the firm stipulates and enforces conditions of production and/or farm-based processing)

Why has contract farming become so widespread?

Demand

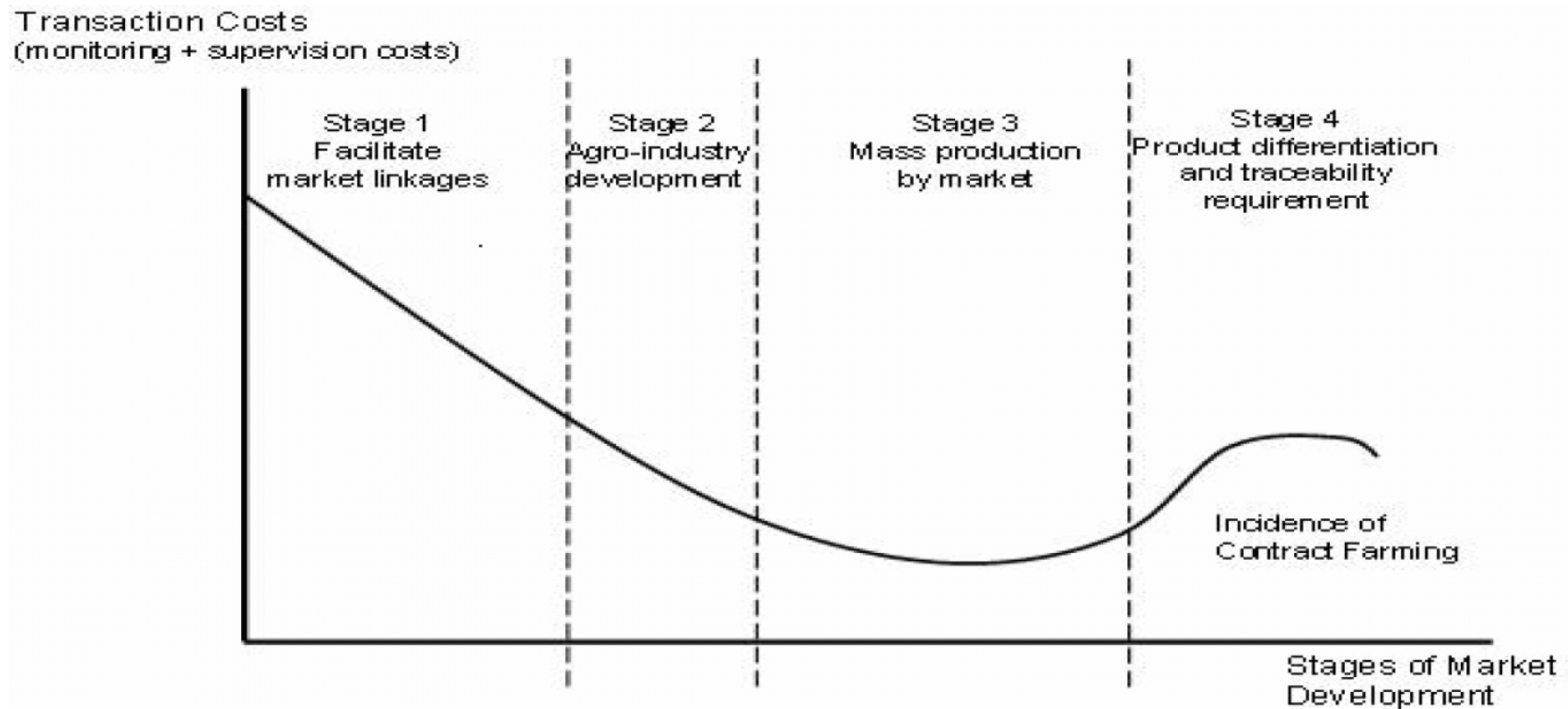
- Larger populations (9.2 billion by 2050)
- Greater urbanisation (69% by 2050)
- Higher incomes (both before and after the financial crisis)
- Changing food preferences (towards more protein and higher-quality produce)
- Increased need for 'traceability' (due to health and credence concerns)

Why has contract farming become so widespread?

Supply

- Liberalisation of national and international markets
- Greater role of public and private standards
- Greater concentration within supply chains
- Changes in transport and logistics
- Improvements in ICT and biotechnology

Life-cycle theory



Source: Setboonsarng, 2008

Transaction cost approaches

Markets are constituted by actors who:

- Have bounded rationality (they suffer from information deficiencies, and can't process all available information)
- Are opportunistic (that they seek self interest with guile)

Thus, market transactions can entail considerable losses

Transaction cost approaches

Attempts by a firm to reduce or minimise potential losses are transaction costs.

Ex ante costs (finding a trading partner, negotiating terms, drafting, safeguarding and monitoring an agreement)

Ex post costs (settling a dispute)

Transaction cost approaches

Uncertainty - incomplete information on current and future conditions, and the probability the other party will engage in opportunistic behaviour

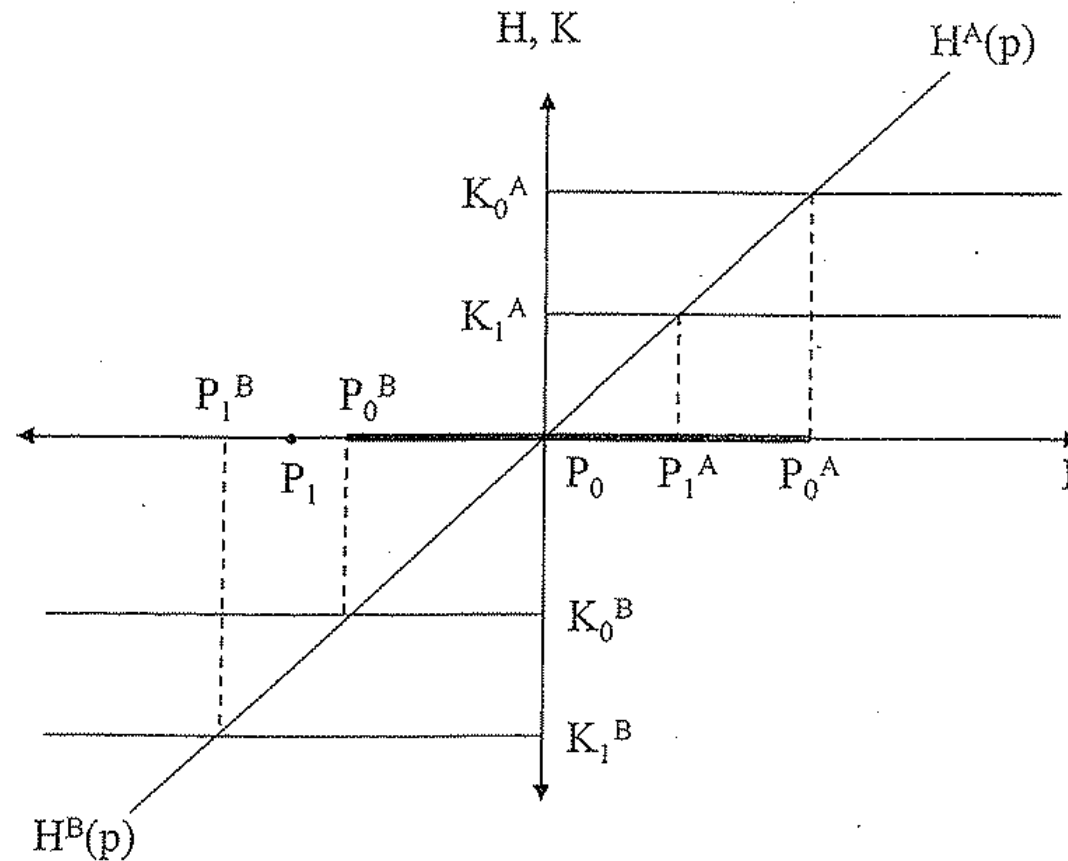
Asset specificity - the extent to which the firm's investments have a sole or limited range of practical and economically-useful applications

Frequency of exchange - the frequency of trade

See Minot, 2007

Conceptual and theoretical perspectives on CF

Contract enforcement



Source: Gow and Swinnen (2000)

Conceptual and theoretical perspectives on CF

Value chain governance

Type of Codification		Legal Codification	Internationally Agreed	Regionally Specific	Firm Specific
Type of standard	Product	<ul style="list-style-type: none"> Food hygiene standards 	<ul style="list-style-type: none"> Codex Alimentarius Grades of wheat Moisture level for coffee beans 	<ul style="list-style-type: none"> EU MRLs EU GMO limits 	Chiquita residue and size standards
	Process	<ul style="list-style-type: none"> Workplace health and safety standards 	<ul style="list-style-type: none"> ISO9000 (quality) SA8000 (labor) Fair Trade 	<ul style="list-style-type: none"> BRC ASEAN-GAP 	Starbucks sourcing practices

Source: Giovanucci and Purcell (2008), based on Kaplinsky and Morris (2001)

Why is CF important for poverty reduction?

Smallholders are frequently the most efficient producers, but suffer from capital constraints and an inability to adopt technology

Contract farming can overcome these problems and deliver the benefits associated with large-farm production systems (economies of scale, market and technical knowledge, product traceability and quality)

Small farms are generally owned and operated by the poor, often use locally-hired labour, and often spend income within nearby locales, creating multipliers

Approach to this review

What types of contract farming arrangements can produce optimal outcomes for both small farmers and firms?

Review covered 100 papers the majority of which were published in or since 2007

Papers contained 44 cases that could be compared

Papers were graded according to whether they addressed selection bias and attribution issues

Review also assessed nineteen contracts from FAO database

Comparison of 'successful' and 'failed' cases

The review used a series of hypotheses to assess the recent empirical literature on contract farming

(A) That smallholders tend to be excluded from CF in dualistic agrarian economies, but enjoy greater participation rates where land inequality is low

- Recent evidence adds some weight to this hypothesis: 80% of successful cases (28) involved small farms, but only two cases where land inequality was very high (Kenya and Colombia)

Comparison of 'successful' and 'failed' cases

- (B) That contract participants show significantly higher incomes than non participants
- 35 'successful' cases, 5 'mixed' cases, and 4 'failed' schemes appear to lend weight to support this hypothesis
 - However, there's no discussion of scheme-level selection bias
 - In other words, if CF schemes hadn't raised incomes they would have collapsed

Comparison of 'successful' and 'failed' cases

- (C) That crops which exhibit a high degree of quality variation, perish easily, are hard to grow, or command a greater price per kg are more likely to be grown through contract farming
- Yes, but plenty of evidence to suggest that conventional and staple crops can also be grown successfully (potatoes, rice, tea, coffee, cotton, palm oil, rubber, apples, onions)

Comparison of 'successful' and 'failed' cases

- (D) Contract farming schemes are usually conducted by large firms
- 80% of 'successful' cases were private firms
 - 89% were large firms
 - Thus, the review adds some weight to support this fourth hypothesis
 - However, we should also be cautious regarding the possibility of selection bias at the scheme level

Comparison of 'successful' and 'failed' cases

(E) That contract farming schemes are most likely to supply export markets and domestic supermarkets

Of the thirty five 'successful' schemes, nineteen engaged in export markets, nine in local urban markets

Seven of the thirty five cases met certain credence factors: five met organic standards, and two fair-trade standards

Offers some weight to support this hypothesis, especially as this difference is also reflected in quality standards

Comparison of 'successful' and 'failed' cases

The comparison of 'successful' and 'failed' cases also highlighted wider findings:

- Majority of 'successful' schemes with s/holders involved producer organisations
- Many 'successful' schemes take place in conflict-affected countries, fragile states and Least Developed Countries
- Majority of 'failed' cases offered the full package of seed, agrochemicals, credit and extension
- Extension was included in most 'successful' cases

Firms frequently fail to include basic details in contracts:

- That farmers relinquish their rights over the crop
- That farmers are required to hold tenure over the land on which the crop is grown
- And that farmers implicitly carry production risk on their and their families' shoulders (especially regarding 'acts of god')

There are numerous ways in which contracts can be designed to reduce hold ups or moral hazard, including:

- Group lending
- Split-pricing schedules
- Involve third-party institutions to provide credit
- Arbitration and dispute-resolution mechanisms
- Stipulating a third party to measure quality
- Regulating the ability of firms to alter the terms of payment *ex post*

What can contracts tells us?

- Where appropriate, offer separate payments to wives for their contribution to the contracted crop
- That products be delivered in specified containers (to increase efficiency)
- That producers of new germplasm contribute to a mutual insurance fund
- Offer different price regimes, to allow producers to reveal their risk preference

How can threats to successful CF arrangements be overcome?

Technological innovations

Using a neutral technology to measure quality at delivery enables firms to pay a greater proportion of income earlier when a split-price schedule is utilised

The use of mobile phones to improve efficiency (in the delivery of inputs, collection of production, and farmer training)

National or regional clearinghouse to link producer organisations and firms (through a web-based matching service)

How can threats to successful CF arrangements be overcome?

Financial innovations

Farms receive, or are encouraged to invest in, (preferential) shares as part payment for their produce

That firms and producer organisations create trust fund accounts which holds capital for a fixed time period

How can threats to successful CF arrangements be overcome?

Institutional innovations

Use intermediary organisations who can:

- Play an active role in brokering the contract
- Check the pricing structure and input delivery schedules at the start of the season
- Advise farmers on crop development and harvesting through the season
- Review the quality of produce delivered to firms and payment to farmers

How can threats to successful CF arrangements be overcome?

Political and legal forms of innovation

Clear direction on food safety and certification standards

Provide direct start-up subsidies to smallholders

Increase the likelihood of smallholder participation by limiting the establishment or expansion of estate agriculture

Promote corporate social responsibility

Three key messages

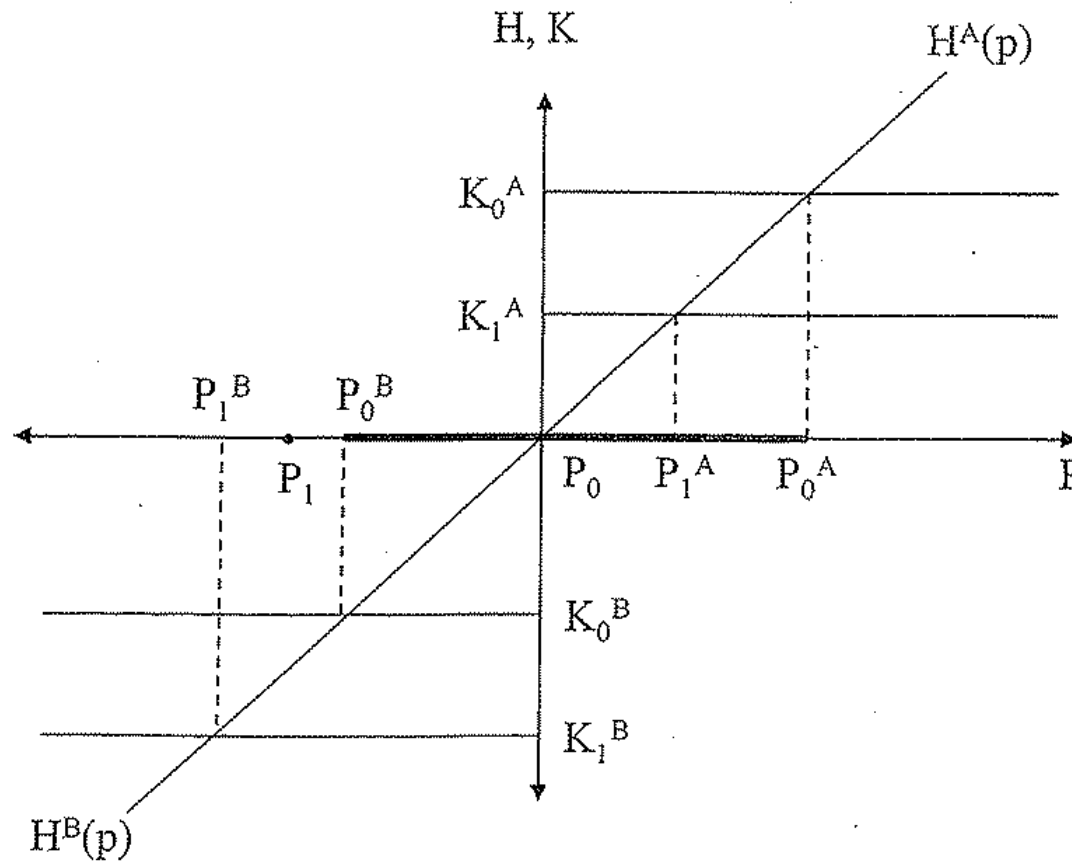
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