Contract Farming: agricultural producers at the crossroad of contemporary agri-food systems

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Introduction

Contract farming, also known as agricultural production through 'outgrower schemes', is generally understood as an institutional arrangement in agriculture whereby buyers and processors contract farmers to provide agricultural goods under certain specifications, as opposed to procuring these in open spot markets. More broadly, the vast literature on contract farming engages with key questions in agrarian studies, namely: the conditions under which rural producers and workers reproduce themselves in land-based activities; the prospects of smallholder farming within contemporary global agro-food systems; the institutional changes necessary to make 'markets work'; the penetration of global value chains in contemporary agriculture; the implications for farming of trends toward vertical integration and the expansion of buyer-driven chains; and, more recently, the connections between large-scale land deals and contract farming 'solutions' (Vicol 2017; Li 2011). Contract farming is a contested field and different questions and analytical frameworks have been deployed to make sense of it, as this chapter will show. However, mainstream agricultural economics seems to dominate the literature both in terms of the volume of publications and of the empirical evidence collected.

Agricultural economics treats contract farming as an institutional arrangement designed to address market failures by smoothing out the uncertainties and shocks characteristic of agricultural production, which are often amplified by market dynamics (Masakure and Henson 2005; Eaton and Shepherd 2001; Minot 2007)). In low-income countries, contract farming is presented as an arrangement that allows for commodity production to take place in settings characterized by 'missing markets', that is, contexts with underdeveloped financial services, poor access to remunerative markets, deficient input distribution systems or poorly specified property rights.

In orthodox accounts, power relations and historical change, the two central concerns of critical agrarian studies, are conspicuously missing. However, as the critical agrarian literature has shown, at stake is an arrangement that attracts producers by guaranteeing a market outlet and access to inputs on credit in exchange for giving buyers/processors the ability to exert more control over production than they could in open markets, without the need to engage in risky land acquisition and direct production. Contract farming is thus an arrangement characterized by i) a reduction of marketing-related uncertainty for buyers and producers; ii) increased vertical integration (more intervention of the buyers in productive decision-making) and iii) a shifting of production costs and risks onto direct producers, compared with estate (plantation) production. Contract farming is a different form of incorporation into capitalist relations of production whereby labour and land are exploited through an indirect contractual arrangement that seemingly preserves the property rights of smallholders and thus avoids direct dispossession.

The degree of buyers' control and their ability to push risk and costs onto producers is an empirical question that depends on the power relations and bargaining between (different classes of) producers and buyers in specific periods and specific regions. The market outlet guarantee that attracts producers to contract farming comes at the expense of a loss of control and greater exposure to production risks, as another form of 'adverse incorporation' (McCarthy 2010; Hickey and du Toit, 2013; Martiniello 2015; Vicol 2017). But it is the combination of greater control and the shedding of risks that lies at the basis of the profitability of this business model for buyers and processors. In fact, contract farming provides an outlet for a tension that is characteristic of the process of the capitalist penetration of the countryside: as demand increases, so does the pressure on the factors of production such as land and labour that in many instances have not been fully commodified, i.e. cannot be always procured in the market. In contrast with the estate and plantation model, non-equity production arrangements such as contract farming allow capital (agribusiness, buyers, processors) to set in motion the production process without requiring their ownership of the means of production or their direct hiring of labour by contracting with direct producers (UNCTAD, 2009; Vrousalis, 2018). Hence, different currents of critical agrarian studies concur that both in regions fully integrated into global commodity markets as well as in agrarian frontiers, the specific character of contract farming arrangements is indicative of the balance of forces between direct producers on one hand and agribusiness, processors and traders on the other; of the ways in which direct producers resist buyers' attempts to appropriate surplus value and of the ways in which capital attempts to erode such resistance.

This chapter aims to provide a selective overview of basic questions about contract farming: What is it? Why did it emerge? Does it matter for critical agrarian studies? What are the main debates and questions? How have different approaches debated contract farming? What is the empirical evidence on key issues such as the scale of this arrangement in contemporary agriculture, its effects on producers, and the power dynamics in contract farming relations? The chapter is therefore organized as follows. After having defined the core attributes of contract farming in this introduction, the next section addresses the question of the rise of it in contemporary agriculture, with a focus on developing countries, and the drivers of this trend. Second, we explore the variety of contract farming arrangements and what this means for relations between buyers/processors and agricultural producers and broader market dynamics. Third, we critically examine the main contributions and questions in mainstream agricultural economics approaches and in critical agrarian studies, including agrarian political economy, emphasising the different research questions asked and the unevenness of empirical evidence provided in these camps.

Contemporary dynamics in contract farming

The expansion in the literature on contract farming does not only indicate a rising interest in this form of organization of production and marketing but also reflects dynamics of change in agricultural production on a global scale. Particularly significant is the fact that the rise of contract farming is a reflection of the growing importance of global value chains in trade, a phenomenon that affects most sectors. As a form of production and marketing, contract farming has been expanding globally in connection to three significant dynamics. First is the continuous growth in global agricultural trade and the share of global value chains in the trade of agricultural commodities (Maertens and Swinnen, 2014; World Bank, 2020). This has been particularly facilitated by dramatic improvements in the logistics for agricultural trade, and especially the container revolution. Second, the processes of market liberalization and deregulation and the growing demise of parastatal marketing boards in developing countries since the 1980s left a vacuum in access to export output as well as domestic input markets that could be (partly) filled by new institutional arrangements such as contract farming (Oya, 2012). There is thus some evidence to suggest that it has been rapidly expanding in the era of agricultural liberalization both geographically and as a share of total output (Prowse, 2012; Sautier et al., 2006). In this context, the rise of contract farming can be seen as analogous to the expansion in services and manufacturing of forms of outsourcing where ‘owner-operators’ mobilize the factors of production (in the case of agriculture, their land and their labour) and alone absorb risks and costs of the process of production, while using intermediaries to reach final consumers.

The challenge is to know the real extent of participation of producers in formal contract farming schemes and how sustained or contingent it is, depending on the context. Global data on contract farming is fragmentary and the variety of contract farming arrangements is daunting (see below) making quantitative assessments of scale almost impossible. Contract farming is present in all farming geographies of the world, although its share of the total volume and value of production, of agricultural trade, employment and acreage may vary considerably in different value chains, and is extremely difficult to determine. A recent systematic review suggests that the rapid expansion of the midstream and downstream actors in output value chains (e.g. processors, traders and cooperatives), which buy crops and livestock products from smallholders, *without* formal contracts, has made these types of informal relations more widespread than conventional forms of contract farming (Liverpool-Tasie et al., 2020).

Given the dearth of systematic panel and cross-country data on contract farming, evaluations and case studies, often focused on particular commodities and specific locations, play an important role in the analysis and theorization of contract farming (Oya, 2012; Bellemare and Bloem, 2018). From this literature it is hard to ascertain the true scale of these arrangements globally and within countries. Therefore, it is also difficult to assess the real contribution that these schemes have made to the processes of structural transformation and agrarian change, at least with any quantitative precision. The task is also made harder by the fact that similar forms of contractualization have existed in the past, linking agricultural producers to both private and state agencies, as in the cotton and opium contracts in Calcutta (Banaji 2016), and the parastatal marketing boards in many African countries in the 1960s and 1970s (Oya 2012). So, while the conventional contract farming scheme linking private buyers with smallholder producers may have grown rapidly since the 1980s, the overall incidence of any kind of contract farming arrangement (including through state marketing boards) may not have changed that much.

A variety of contract farming arrangements

Evidence on the scale and effects of contract farming arrangements in both developed and developing countries is clouded by the existence of multiple varieties of contract farming. The precise characteristics of a contract farming arrangement do have substantial implications for production conditions, risk, prices, market access and labour relations. Generally, the variety of conditions tends to be related to the relative degree of vertical integration, i.e., how much direct control the buyer or processor has over production conditions and farmers’ decisions. In turn, the relative flexibility or rigidity of contracts is associated with a range of factors, from crop characteristics, property rights, to the prevailing institutional frameworks governing specific markets. For example, it has been argued that contract farming, as one of the forms in which capital can control production, or alternatively, as a tool of vertical integration in agriculture, would be more prevalent in the case of crops that are more labour intensive or that demand more coordination, for example in the production of highly perishable produce or high value crops with a quality premium (Bijman, 2008; Kirsten and Sartorius, 2002; Minot, 2007). However, the sheer variety of crops and productive practices that are observed in contract farming schemes prevents the formulation of sweeping generalizations (Bellemare and Lim, 2018; Otsuka et al., 2014; Smalley, 2013; Ton et al, 2018). For purposes of simple illustration, a contract farmer may just agree to deliver a given volume of output at the end of the season, without particular specifications and at a verbally agreed price; or may be subject to strict requirements in terms of volume, quality, timeliness and agronomic practices, all stipulated in a contract, that may involve the provision of inputs, seasonal credit, extension services and access to more secure and remunerative markets by buyers. There are many variations along a continuum between these two examples.

The drivers of contract farming expansion are particularly difficult to account for using a single set of criteria and definitions. This is the case because contract farming encompasses a considerable variety of practices, types of producers and examples of arrangements. A large range of agricultural and livestock commodities are produced in contract farming agreements; contract farming may also involve considerable state participation, although it has become predominantly private-led[1]; contract farming is used in highly integrated agro-industrial production as well as in farms with low levels of labour productivity, and may involve rich capitalist farmers and resource-poor and land-scarce smallholders, depending on the crop, location and buyer (Oya, 2012).

The relation between processors/buyers and producers/contracted farmers can take many forms: a simple distinction is that between buyers that are themselves producers and buyers that are not directly engaged in production. The prevalent model in the first case is that of the ‘nucleus estate’ model in which buyers contract with outgrowers to increase or smooth out supply. This is in contrast with the ‘centralized’ model, which characterizes schemes where buyers procure all output from contracted farmers operating in large numbers in a given area. Instances in which producers are not involved in production, typically in the contract farming outgrower model with a core estate, may be best understood as forms of land lease where the

[1] With some important exceptions e.g. China and Zimbabwe. (Could be included in the text)

land rental fee is a function of the farm output. This is most prominently the case in sugarcane farming in Southern Africa, where contract farmers (i.e. the owners of the land) do not necessarily take part in production either as coordinators or workers (Dubb et al., 2017). Both in the ‘nucleus estate’ model and in the ‘centralized’ model, buyers could be primary and secondary processors of the commodities contracted and these sourcing schemes may have been created as a mechanism to source the necessary throughput that utilizes processing capacity optimally. In both of these models large buyers/processors engage directly with contract farmers and the corresponding contracts tend to be formal. A different model, often called ‘informal’, is less centralized and is prevalent in regions where small traders and small processors contract production with farmers. These schemes typically involve a larger number of buyers and characterized by more informal contracts and less vertical integration, as described in Liverpool-Tasie (2020). Lastly, an ‘intermediary’ model lies somewhere between the ‘centralized’ and ‘informal’ models of contract farming and describes schemes in which large-scale buyers or processors outsource the management of the contracts to intermediary and smaller traders. However useful this schema of four models of contract farming (‘nucleus estate’, ‘centralized’, ‘informal’ and ‘intermediary’) may be (Bellemare and Lim, 2018; Eaton and Shepherd, 2001), it has been criticized because the boundaries between these four models are in practice frequently blurred, with contract farming schemes that do not neatly fit any of the categories or that display characteristics from across different models. One way of avoiding conflation is to distinguish varieties of contract farming from other forms of buyer-producer relations by defining contract farming varieties only for arrangements that include some service-providing clauses (for material or financial services), which denote an ‘intervention’ of buyers in the production process (Ton et al., 2018). Variation can also be found in terms of the nature and specificities of each contract. Whereas contract farming production typologies (as described above) focus on the character of the contracting parties, the contract typologies largely describe differences in the roles and obligations of the parties as stipulated by the contract (Bellemare and Lim 2018). For instance, ‘market specification’ contracts include agreements about the deliverables of the contract (quantity, quality, timing) but leave the producers to manage the production process. In contrast, ‘production management’ contracts allow buyers to stipulate specific methods of production, to make critical productive decisions - including on highly sensitive issues such as the use of inputs or machinery and the timing of irrigation or harvesting - and frequently involve them more closely in monitoring the production process. Lastly, there are ‘resource providing’ contracts that although may include elements of the other two types, are distinctive in that they bind producers to use inputs provided by buyers as part of the contract, usually on credit (Bijman, 2008; Kirsten and Sartorius, 2002). The degree of vertical integration can therefore be evaluated from the perspective of these contract typologies. Contract variations are also linked to the length of the contract (only seasonal or several years) and the degree of formality in the arrangements (from verbal agreements to notarized contracts). Contracts make provisions with substantial effects on the profitability of the arrangement for both parties and are therefore frequently contested. This includes the terms and timing of price setting and purchasing, which can be a key driver of profits or losses for producers. In some contract farming schemes prices are set in reference to open market prices, whereas in other cases the prices are fixed. These variations may be related to a host of factors, including the type of commodity, nature of buyer, location, alternative market options, credit availability, technology among other issues. Classifications of contract farming arrangements are however only relevant if other questions are addressed at the same time, namely: what effects does contract farming have on farmers' welfare? What determines participation and exit? What are the main power dynamics in contract farming relations? Does contract farming effectively solve market failures? At whose expense? The answer to these questions (in fact, even their formulation) depends on the conceptual framework and methodological preferences of researchers studying contract farming. The next two sections draw a contrast between two traditions offering very different analysis of contract farming.

Mainstream approaches to contract farming

By and large, mainstream agricultural economics' analysis of contract farming is theoretically grounded in New Institutional Economics. Contract farming is understood as an institutional arrangement that helps redress market failures and asymmetrical information. Market failure arises for instance in the absence of factor markets; where productive assets and inputs like farmland or irrigation services cannot simply be acquired in the market, where banks are reluctant to provide finance because of the high transaction costs of engaging with small credits and the limitations that prevent the use of land deeds as collateral (Barret et al., 2012). In contexts where barriers to output markets are substantial, due to quality, phytosanitary or scale requirements, contract farming may provide a route to overcome those obstacles by letting buyers/processors take some control over the production process in exchange for guaranteed supplies of product with the required specifications.

The intermediation of supply and demand by the contract may contribute to ease the coordination of the productive process: producers know in advance the volume and quality requirements demanded by buyers instead of taking their product to spot markets, hoping to find buyers. Conversely, buyers ensure that the output they need to source is available on time and in their preferred conditions. The gist of the argument is that contractual arrangements contribute to lowering the transaction costs in the system: a win-win solution (Bijman, 2008; Wang et al., 2014).

Agricultural economics has also devoted considerable attention to the conceptual construction of typologies and the empirical association of different contract farming schemes to diverse groups, using the terms of the contract as the key parameters for the construction of contract farming varieties, in order to analyze farmers' and buyers' preferences for different types of arrangements (Minot, 2007; Bellemare and Lim 2018).

Similarly, in the fields of business studies, management and commodity studies, contract farming is characterized as a form of vertical integration where buyers or lead firms use production contracts to secure the supply of commodities (Bellemare and Lim, 2018; Minot, 2007). Specifically, contract farming would be a case of backward integration or 'vertical coordination' whereby commodity buyers can modulate supply and thus lower transaction costs (Swinnen, 2007). Unlike primary vertical integration, in contract farming lead firms do not acquire the commodity producing firms they source from, but contract them. Both cases result in lead firms exerting more control over the referred segments of the supply chain. Institutionalist and value chain analyses are concerned with similar problems, but whereas the former looks horizontally at transaction costs; the latter focuses on vertical linkages along commodity chains.

It is not surprising that contract farming, seen here as a solution to market imperfections, as a risk management mechanism, and as a form of vertical coordination has been enthusiastically endorsed by development practitioners. It has been promoted in agricultural-based, low-income countries as an avenue for farmers, especially smallholder farmers, to be able to participate in the production of high-value added agricultural commodities and to overcome the credit, technological, coordination, inputs and marketing barriers that often exclude small-scale producers from remunerative value chains (Maertens and Swinnen, 2014). Contract farming has also been extolled as a kind of capacity incubator in which agricultural sectors in low-income countries can learn to produce commodities that require tighter coordination and with higher quality demands (Eaton and Shepherd, 2001).

A large share of the mainstream empirical research on contract farming is devoted to answering two main empirical questions: what are the drivers of participation and what is the income effect of participating in contract farming schemes (Barret et al., 2012; Bellemare, 2012; Bellemare and Bloem, 2018; Minot, 2007; Otsuka et al., 2014; Ton et al., 2018). The majority of empirical studies tend to reveal a positive effect on farmers' incomes but also find evidence of selection bias in participation, with richer producers (also among smallholders) generally being over-represented among outgrowers. Bellemare (2018) also qualifies the effect on farm income with evidence on trade-offs and loss of other income sources (wage and off-farm activities). Much of this empirical literature on welfare effects suffers from a combination of internal and external validity problems (Bellemare and Bloem, 2018) and a recent systematic review also suggested potential publication and survival biases, meaning that the finding that contract farming has a positive effect on farmers' incomes may be misleading (Ton et al., 2018). Given the multiple observed and unobserved effects of a contract farming intervention, it is hard to attribute causality to mere participation in a contract farming scheme.

Apart from these methodological challenges, acknowledged by some agricultural economists, positive accounts of the social and economic impact of contract farming have been criticized from other angles. Contract farming involves a purchasing promise that bypasses spot markets, but by suppressing the market mechanism it can prevent producers from profiting from competition among buyers. Conversely, for buyers to profit is it critical to stamp out side-selling: the possibility that producers renege on their contract to sell to a third party offering a better price (Kirsten and Sartorius, 2002). Despite the potential agency of contract farmers in the form of side-selling (Thiers 2017), there are different ways in which buyers press for contract enforcement, for instance by providing inputs on credit as a condition of the contract and locking producers into debt or by setting up schemes that operate as monopsonies or oligopsonies, curtailing the very availability of alternative outlets. This, compounded with price setting mechanisms in which producers frequently have limited or insignificant bargaining power, means that contract farming - far from the beneficial encounter between buyers and producers - can instead be characterized by highly skewed distribution of benefits and costs and provide the conditions for the 'adverse incorporation' of direct producers into commodity markets. As price takers who bear most of the risk, producers cease to be able to benefit from price spikes, and on the contrary end up absorbing the cost of harvest failures and other productive shocks. Regulating oligopsonistic rents, price-setting collusion between buyers and the dumping of risk and costs onto producers would all require strong regulation by the state, but in many cases states are unwilling or unable to intervene in the regulation of contracts (Oya, 2012). Many of these issues are under-researched in mainstream approaches that are driven by methodological individualism and a tendency to focus only on mathematically and statistically tractable problems. Still, there is wealth of accumulated evidence for the narrow set of questions addressed by mainstream agricultural economics.

Contract farming in Critical Agrarian Studies

Critical agrarian studies is an umbrella term for a heterogeneous collection of disciplinary and theoretical perspectives broadly grounded in critical social sciences. Authors in critical agrarian studies share an interest in revealing and problematizing the uneven power relations among different groups of participants in contract farming. Such 'baseline' power relations are either altogether ignored or translated into the rather more restrictive rubrics of 'bargaining power differentials' or 'information asymmetries' in mainstream analysis of contract farming. Agrarian studies are interested in the social, economic and political context in which contract farming takes place and not merely in the individual income effect of farmers' participation in contract farming schemes. A different set of questions emerge in the critical literature: How do contract farming schemes interact with the prevailing dynamics of production and property in the regions where it is in operation? What do the terms of the contract, its negotiation and regulation say about the power relations between producers and buyers? What is the role of the state or other authorities in the regulation of this form of production and marketing? How does contract farming shape and influence processes of agrarian change (Dubb, 2018; Hall et al., 2017; Kuzilwa et al., 2017; Little and Watts, 1994; Martiniello, 2020; Thiers, 2017 Zhang, 2012)? Finally, common to most approaches in CAS is a square rejection of methodological individualism. Contract farming operates in a field of social relations and cannot be accounted for in terms of the relation between individual buyers and individual producers alone. Not only does this conceal the social relations of power, production and property at village, region and global scales, but obscures the class, gendered and generational conflicts and tensions that characterize commodity production whether through contract farming or other forms of incorporation into capitalist markets (Carney, 1988; Clapp, 1988; Li, 2011; Pérez Niño, 2016; Raynolds, 2002).

While the dynamics of contract farming provide an insight into some of the most pressing questions in contemporary agrarian change, the study of contract farming also reveals key fault lines within critical agrarian studies. Crucially, one condition of production taking place under contract arrangements is that direct producers, regardless of their scale of production or the character of their involvement, retain access to, or property over, the land under cultivation.[2] In this way, the very prevalence of contract farming interrogates the idea in agrarian studies that the expansion of capitalist relations of production occurs mainly as a result of processes of ‘accumulation by dispossession’, a premise that gave way to the so-called ‘land grab’ literature rush of the 2010s. The diverse interpretation of this core feature of contract farming, lends itself to debate within critical agrarian studies: those analytically invested in ‘accumulation by dispossession’ as the core rubric of agrarian analysis tend to ascribe the retention of access to the means of production in contract farming as spurious, contending that contract farming implies ultimately a loss in control and autonomy over the production process that is functionally akin to outright dispossession; whereas those interested in the diverse historical trajectories of capital-labour relations focus on the transformation of property relations and the labour process brought about by contract farming and the extent to which it results in deepening the processes of commodification (including of labour) and socioeconomic differentiation, with different consequences for outgrowers and their workers depending on the arrangement. In this view, contract farming has the potential to raise agricultural productivity and surplus appropriation thus opening new frontiers of accumulation and dismantling old forms of production. Contract farming ultimately forges more complex sets of (class) contradictions and interests in the countryside (Oya, 2012). While in the first case, contract farming is seen as yet another manifestation of the onslaught of peasants and direct producers by corporate, and frequently transnational capital; in the second case, contract farming may be seen as catalyst for class differentiation and capitalist development in agriculture with considerable implications for local and global struggles (Watts, 1994; Bernstein, 2010). Many of these questions require a leap forward in terms of a more systematic observation of the scale and trends of the phenomenon, as well as more external validity to ascertain the real impact on capitalist development and social differentiation over time. Thus, these questions remain largely unanswered because critical agrarian studies research on contract farming is not always based on rigorous field-based quantitative and mixed-methods studies and is comparatively more limited in volume than research in mainstream agricultural economics.

Conclusion

[2] This land can be collectively or individually owned. There are examples of contract farming schemes operating on communal land, land under customary rights, state-owned and freehold land.

This chapter has explored the meaning, dynamics and implications of contract farming in contemporary capitalism while contrasting mainstream and critical approaches to this institutional arrangement. The chapter has shown why focusing on the formal organization of contract farming and narrowly on the interaction between buyers and producers as parties to a discretionary agreement, misses some fundamental relations that are transformed by contract farming, besides marginal quantitative effects on incomes and food security. Notably, while mainstream approaches miss key aspects of contract farming, critical agrarian approaches to contract farming (can) focus instead on a range of different questions, namely: the tapestry of tenure relations that alternatively give and deny access to land and land tenure changes over time; the actual labour process that enables commodity production and that frequently entails the mobilization of household labour or hired workers and the attendant tensions of such mobilization; the barriers of entry into contract farming and its effect as an accelerator of capital accumulation; how contract farming modulates socio-economic differentiation and reshapes social relations with consequences for structural transformation; the role of contract farming in opening up frontier regions or uncaptured parts of the economy to processes of surplus appropriation; problems of ownership and state intervention that frustrate the promises of upgrading and structural transformation - the very grounds for agricultural economics' enthusiastic support for the adoption of contract farming in developing countries to begin with. The challenge for critical agrarian studies is to significantly expand and improve the evidence base to address all these important questions.

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