Promoting The Kenyan Potato Value Chain: Can Contract Farming Help Build Trust and Reduce Transaction Risks?

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Abstract

African economies are increasingly confronted with changing food and commodity markets, due to globalisation, economic liberalisation and urbanisation. Subsequently, consumer preferences change. This poses new opportunities but also challenges to small-scale producers, traders and processors along agricultural value chains. The value chain is increasingly seen as an important development framework, with contract farming being viewed as an instrument for improving value chain performance by reducing transaction costs and risks and by building trust in vertical cooperation.
This paper uses the case study of the potato value chain in Kenya to examine these assumptions. It is shown that contract farming can be used to reduce transaction costs and risks, and to improve the organisation and governance of value chains by creating stable business relationships. Nevertheless, it is constrained by a number of market and institutional failures.

Keywords: *agricultural value chains, contract farming, potato marketing, Kenya*

1. Introduction: Promoting Value Chains in Agricultural Development Cooperation

1.1 The importance of Value Chains for Agriculture and Rural Development

In recent years, the international debate has refocused some attention to agricultural and rural development, particularly in Africa. There is broad consensus that for instance the Millennium Development goals can only be reached if the rural population is promoted. Rural economic development involves the transformation of agricultural based economies into more urban industrial and service-based economies. This changes the flow of resources and the trade of goods, services, knowledge and information whereby (globally) coordinated and integrated value chains will gain increasing importance (Humphrey, 2005). Despite successful examples of integrating small-scale farmers into global value chains (a prominent one being Kenyan export horticulture producers, see for instance voor den Dag, 2003; Muendo & Tschirley, 2004), the share of developing country smallholder producers in global supply chains is still small. The potential exclusion of especially African producers from global value chains puts them in a disadvantageous position (van der Meer & Kees, 2006).

This tendency of exclusion is partly the reason why many development agencies are re-shaping their approaches in order to promote agricultural growth and productivity in Africa. Value chain development is viewed as an effective way of fostering rural and agricultural development. The importance of a vibrant private sector for rural development is widely acknowledged and is today an integral part of the development agenda. As for German development cooperation, GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit) is gaining experience in working with value chain promotion in a number of agricultural and economic development projects. In Africa, projects in Ghana, Kenya, Burkina Faso, Benin, Nigeria, Zambia, and the Republic of South Africa promote value chains, most of them dealing with food items (see also http://www.gtz.de/en/weltweit/afrika/fachliche-netzwerke.htm for more information about an Africa-wide working group on agricultural economic development, projects and countries involved, and training courses and material offered).

Currently, most African countries apply a twofold approach to rural development: a) a rural livelihoods approach to cater for the set of cross-sectoral and social factors and b) a strong promotion of private sector activities to support production and marketing. Experiences in a number of countries show that a key success factor lies in the re-definition of roles of public and private sector actors along the value chains. At a minimum, the public sector should provide an enabling environment (legal, political, and economic) for the private sector to undertake (agri) business activities; whereas the private sector needs to improve its efficiency and competitiveness. Farmers need to strengthen their technical, organizational and collective action capacities so as to actively and profitably participate in, and influence the governance of value chains and national economic policymaking. The ability, willingness and (incentive) mechanisms of public, private and civil society actors to jointly develop an economically efficient, socially equitable and environmentally sustainable agricultural sector is pivotal .The value chain concept provides one framework for facilitating this public-private-farmer (and others) collaboration or partnership (Merlin, 2005).

1.2. Conceptualising the Value Chain Approach

The Global Value Chain Initiative at the IDS, University of Sussex, describes the value chain as a range of activities that are required to bring a product from its conception, through its design, its sourced raw materials and intermediate inputs, its marketing and its distribution to the final consumer (Humphrey and Schmitz, 2001). It incorporates production, transportation, transformation, processing, marketing, trading, retailing and consumption of a given product or service (Kaplinsky & Morris, 2003). It is thus a valuable tool in economic policy development and implementation and provides an analytical framework for understanding margins of value addition, income distribution and the levers of market power. Additionally, the metaphor of the chain emphasises the fact that most goods are produced by a sequence of interlinked actors and activities. The approach focuses on the analysis of the institutional arrangements that link the various economic players (i.e. trust, contracts, degree of vertical and horizontal coordination and integration). Following the value chain approach engages stakeholders in an action-oriented method that acknowledges the linkages in the chain with a flexible implementation (Merlin, 2005). When engaging in internationally traded products, e.g. fresh fruit and

vegetables, following the value chain is the only feasible way to fully depict the complex chain linkages, flows of resources, knowledge and logistics (Humphrey, 2005).

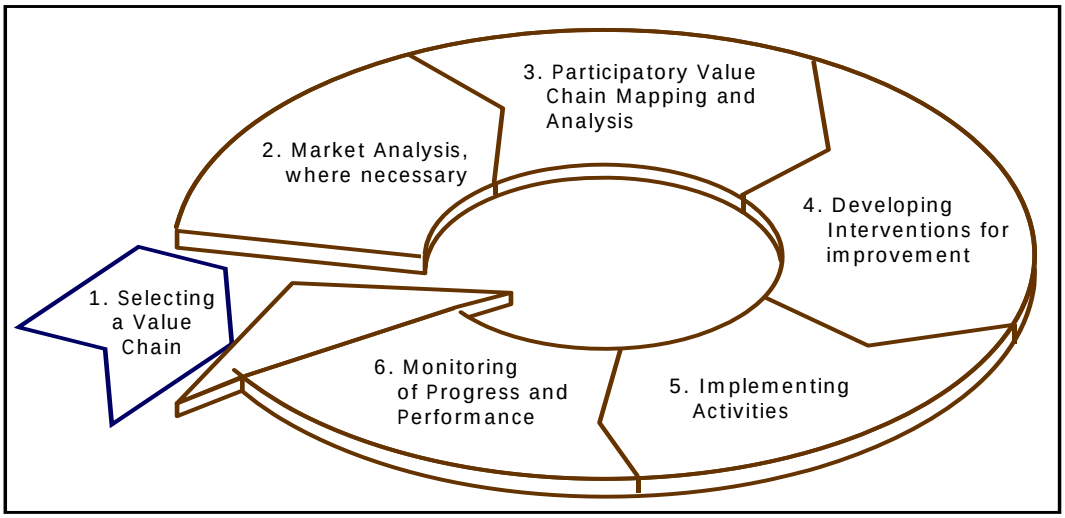

Illustration 1. Promoting Value Chains in Development Cooperation
Source: Own compilation, adapted from Mayoux (2003) and Merlin (2005)

In most cases, the starting point for value chain promotion is a targeted market analysis (illustration 1). The centrepiece of the approach is the participatory chain mapping exercise, in which representatives from all involved processes develop a joint understanding of the respective chain (and at which occasion market analysis can usefully be presented and discussed). These exercises already reveal interesting insights, strengths and weaknesses of the value chain. More than often, such workshops form a starting point for mutual trust-building among key players of the industry. Discussions evolving around input quality, logistic arrangements or product standards often help producers to understand the demand for their (raw-)product. Listening to processors and consumers can be an eye-opener for producers and traders, when it comes to consumers' needs, the right quality, the right quantities at the right time and in the right place. Analysing the chain jointly can demystify a number of negative perceptions (such as "*middlemen exploit us*", or "*farmers always breach the contracts*") and contribute to trust building. Pointing out the weaknesses in the chain can help shaping the roles of public and private institutions to improve chain efficiency and to gain competitiveness.

2. Can Contract Farming Help Build Trust and Reduce Transaction Risks within Value Chains?

2.1 Institutional Failures in African Food Markets

Food value chains in Africa are facing numerous challenges namely: market failures (including monopolies, asymmetric information and inadequate infrastructure), policy failures (including lack of appropriate legal and regulatory frameworks, incentive mechanisms and favourable business environment) and more than often, massive capacity problems (of farmers and farmer organisations, the private and public sector actors) (Ruben et al., 2006). Whilst traditional cash crops in many countries seem to have established fairly organized supply chains, many still suffer from excessive government intervention, (depending on the degree of market liberalisation). Newly emerging export crops on the other hand are often driven by foreign private companies and have managed to develop fairly integrated chain structures that sometimes tend to exclude poorer smallholder farmers (e.g. cut flowers). As for domestic food crops, they are yet to be taken seriously and yet they are projected to constitute the biggest future market for African agricultural producers due to increasing population and urbanisation (Ayieko et al., 2005).

Other problems abound: Markets for farm inputs often fail and the farther a farm is from an urban centre, the less likely is adequate access, availability or affordability of farm inputs; scattered smallholder farms, limited storage facilities and poor infrastructure affect quality and marketable quantities of the produce; the market value of most produce is subject to very limited negotiation, given that many farmers limit themselves to price-takers while selling individually to middlemen at the farm gate; the absence of standards, regulation and competition for some products increases the potential for fraud and results in significant mistrust between farmers and traders; fresh food marketplaces often turn out to be rather chaotic spot markets characterised by terrifying hygienic conditions, which account for significant post-harvest losses.

2.2 The Case of the Kenyan Potato Value Chain

During the past 15 years, population growth and land flight led to high urbanisation in Kenya. Simultaneously, modest (urban) income growth has changed food consumption patterns. Increasing incomes stimulate the demand for higher value food items, such as dairy products, meat, fresh fruit and vegetables (Ayieko et al., 2005). Maize, the number one staple food is gradually substituted by wheat, rice and potatoes (Muyanga et al., 2005). Irish potatoes (*Solanum tuberosum*) are cultivated by approximately 500,000 smallholder farmers. During the past decade, farmers doubled potato production from 500,000 tons to more than 1 million tons annual production. Although potatoes increasingly provide many households with income, the development of this sub-sector is constrained by a number of factors: the quality of the produce is sometimes poor, consumer prices seem to be higher than production costs would suggest and demand often outstrips supply, meaning that the sector is still under-exploited (Ayieko et al., 2005). The potato chain is fragmented, characterized by little cooperation and integration, cartels, high transaction costs, deep mistrust, price inefficiencies and quality losses (Kirumba et

Al., 2004). Weak rural-urban linkages and poor rural infrastructure additionally contribute to the low competitiveness (Hoeffler & Maingi, 2005).

In October 2003, the Ministry of Agriculture and GTZ facilitated the first participatory potato chain mapping workshop, at which input suppliers, potato producers, middlemen, transporters, traders, private companies and relevant public institutions were represented. Participants were facilitated to develop a joint understanding of the areas that needed interventions and to build consensus on the roles, public and private, rural and urban actors needed to play.

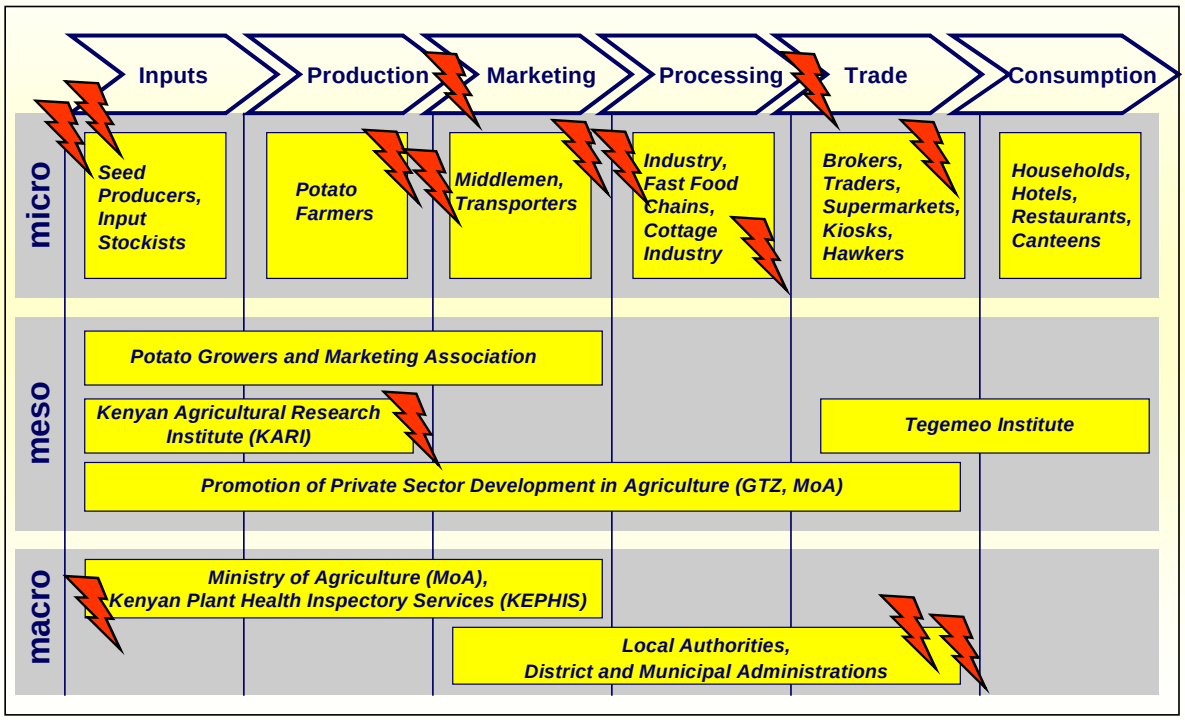

Illustration 2. Weaknesses in the Kenyan Potato Value Chain
Source: Own compilation after Participatory Chain Mapping Exercise

The jointly developed picture of the potato chain (illustration 2) revealed the following:

1. low productivity due to absence of inputs and improved seeds;
2. high transaction costs due to prevailing mistrust between farmers and traders, resulting in low number of repeated transactions;
3. inefficient marketing due to the presence of cartels, lack of market information, and high transaction costs);

4. policy failure reflected for example by un-coordinated collection of cess or levies on roads and product markets (which is additionally prone to bribery and corruption) resulting in over-taxation; and
5. lack of legal and regulatory framework as well as grades and standards.

The workshop concluded with a sequence of resolutions and an action plan. Several task forces were constituted and subsequently formed a national potato growers and marketing association, started lobbying for better production and marketing services, developed and implemented a seed improvement strategy, drafted a legal notice for potato marketing standards and developed ideas how to meet the challenges arising around cess collection, competition and market entry barriers (Hoeffler & Maingi, 2005). However, there were few suggestions and ideas on how to address the risks of transaction due to lack of trust between producers, traders and processors. Contract farming was seen as a possible solution. But can it help in reducing risks and building trust?

2.3 Potential Benefits and Risks of Contract Farming

Contract farming is defined as "*an agreement between farmers and processing and/or marketing firms for the production and supply of agricultural products under forward agreements, frequently at predetermined prices*" (Eaton & Shepherd, 2001). Contract farming occurs in different forms and involves different actors. The only structural commonality in contract farming is the existence of a contract between the smallholder and the 'agribusiness firm', which could be private, public, parastatal or farmer-owned. The content of the contract will vary, but typically, the grower provides land, labour and sometimes tools or equipment, but is supplied with inputs like fertiliser, seeds, insecticides, credit as well as extension, marketing and transportation services by the agribusiness firm. Additionally, prices, quality standards, quantity to be supplied, the technology to be used, the crop to be cultivated and work routines are often predetermined before planting, with the grower's task mainly centred on harrowing, weeding, applying fertiliser and chemicals, harvesting and abiding by the rules of the contract (Watts & Little, 1994).

During the past 15 years, experiences have been gained and research has been conducted in the field of contract farming and its potential to link African farmers to markets, particularly global value chains (with products such as green beans, cut flowers, fish and honey (Eaten & Shepherd, 2001; Ruben et al., 2006)). The degree of formalisation of the contractual arrangement varies according to the nature of the product and the relationship of the business partners. Buyers and producers might cooperate irregularly based only on verbal agreements or might have developed a more formalized system that specifies the transactions and responsibilities of both parties in a written, legally binding document. In the case of smallholder producers, the contractual arrangements might be made with individual farmers or with farmer groups, producer associations or cooperatives (Ochieng, 2005b).

Scholars have been divided on the merits of contract farming. Some view it as a mutually beneficial institutional arrangement that introduces the smallholder to modern technology and managerial skills, high-value crops, lucrative markets, cheap credit and regular cash flow, and

enables the agribusiness firm to access cheap land and labour, and raw materials of acceptable quality and quantity (Ayako et al., 1989). Others view it as an exploitative relationship in which agribusiness firms due to their command of markets, control of input facilitation and lobby power, exercise disproportionate power in bargaining and use this to exploit growers by shifting market risks and the burden of standards to the grower, by encouraging mono-cropping, deforestation, and production practices that create pollution and by substituting cash production for food crop production leading to food shortages and poor nutrition.

However, as Goldsmith (1985) and Ochieng (2005a) have demonstrated, contract farming by itself is neither good nor bad: the extent to which it becomes efficient and equitable depends on the socio-economic and political structures and relationships in which it is embedded. The fundamental characteristic of contract farming, from which it derives its potential advantages and disadvantages, is that it insulates to a certain extent producers from open market forces. Thus, the division of value added and margins between smallholder farmers and agribusiness firms is less based on the interaction between supply and demand, but rather reflects social-economic relationships and bargaining strengths of both contract parties. (Ochieng, 2005a). Consequently, the analysis of prevailing social and institutional arrangements deserves particular attention.

2.4 Contract Farming Arrangements for the Kenyan Potato Chain?

Kenya has one of the most extensive contract farming history in sub-Saharan Africa covering over a million farming households involved in the contract production of tea, sugar, coffee, tobacco, flowers, fruits and vegetables. Coffee, tea and sugar constitute the biggest contract schemes, involving nearly 600,000, 360,000 and 100,000 smallholders respectively. By 2002, contract farming accounted for 60% of tea, 60% of sugar and 80% of tobacco production in Kenya (Ochieng, 2005a).

Despite this extensive contract farming background, there are only few reported contractual arrangements in the Kenyan potato chain. Out of these few, all of them are between crisp and chips processing companies and producer groups. Based on the knowledge of failing potato spot markets and the potential benefits from contract farming, the assumption was that contract arrangements are well placed to overcome some inefficiencies in the potato value chain. Furthermore, it was assumed that given the potential benefits from contract farming producers as well as processors would aim at stable contractual business relations. Additionally, a number of factors usually referred to influence contract farming positively apply to the potato case: the bulky and perishable nature of the product fosters that processors engage in transportation arrangements; the long distance from interior production areas to marketplaces makes contract farming additionally attractive; the rather demanding production techniques and susceptibility of the product to diseases and pests sets a strong incentive for producers to seek involvement of processors in the provision of extension services and specific inputs, which are needed to produce the desired quality; and the low seasonality of supply additionally qualifies for stable contract relationships with the industry.

However, empirical evidence suggests that even though both sides might aim at it, it is apparently very difficult to realise the benefits in real business matters (Strohm & Hoeffler, 2006). Despite the participatory value chain analysis having revealed a number of risks and problems that could potentially be overcome by contractual arrangements (illustration 2), the factual existence and positive experience with contract farming is surprisingly low. The main reason for this is the occasional strong market demand for the product. Farmer groups are too tempted to breach contracts and sell to other traders at times of high prices and consequently put processors at high risk when having invested in forward contracting. The anticipated preference of farmers for stable prices and risk reduction doesn't seem to apply in this relatively competitive market. Enthusiasm for predetermined future prices is surprisingly low. Depending on the accessibility of road and telecommunication networks, farmers seem to have a strong understanding of their bargaining position. The closer to different market outlets, the less likely seems to be a trusting contract relationship. In fact, one processing company engages in contracts only with groups that are far off the roads and not covered by mobile telephone networks, in order to limit the possibilities that another trader or processor would source potatoes from them, which a) illustrates the level of mistrust even in contract relationships and b) demonstrates the importance of relatively imperfect markets –in this case geographically induced monopoly to the sustainability of contract farming). Given the high demand and need for uniform quality of the product, processors value repeated and regular business transactions more than producers. Some farmer groups seem to aim rather at investing more into storage facilities to enable regular supply of the produce and to sequence their supply over time.

Social factors such as ethnic cohesion, educational level and business acumen seem to play additionally strong roles and determine the level of business understanding and trust. Processors report that in some potato growing areas, the educational level of producers and their attitude to farming as a business is too low to understand and qualify for formal contractual arrangements. In turn, farmers state that they find it particularly difficult to trust traders and processors that are from far away towns, belong to a different ethnic group and are not bound by any social relationship to the producers. This is particularly the case if the processing company is owned and/or managed by Asian Kenyans or foreigners (Strohm & Hoeffler, 2006). This suggests a social capital failure.

3. Conclusion: Opportunities and Limitations for Contract Arrangements in Kenyan Food Value Chains

Contract farming has the potential to successfully link actors along a value chain, to build trust (or substitute for it through for instance monopolistic concessions or power) and to reduce risks in business transactions. However, the potential benefits depend on a complex set of factors, ranging from the nature of the product, socio-economic relationships to structure of product demand.

Experiences from promoting the potato value chain in Kenya suggest that if business partners are facilitated to develop a joint understanding of inefficiencies, causes of mistrust, and cost drivers along their value chain, many of the problems can be solved. Facilitating contract arrangements is thereby only one tool amongst others. However, it needs the initiative and

willingness of actors to open up and change the way of doing business; i.e. producers need to explore forward integration by forming formal marketing groups or companies and cooperate more with processors or for traders and processors to enter contractual arrangements with producers (Ochieng, 2005b). In Kenya, potato farmers have realised that producing for marketing chains requires a certain degree of organisation, of mutual trust and reliable two-way information and communication up-stream and down-stream along the value chain in order to respond to market incentives. Again, contractual arrangements are only one instrument to build trustful business relations with the industry. Trainings in organisational development, farm economics and group leadership skills are found to be the most effective support to producers interacting with the industry. Another effective instrument is the facilitation of visits for farmers to processing companies to expose them to the value addition processes and to demonstrate the need for uniform quality of the produce and other processing requirements. Among the food industry, there is willingness to financially engage in such initiatives (Strohm & Hoeffler, 2006).

Analytical work in various other value chains, e.g. fish, export horticulture, dairy or cotton (Schuurhuizen et al., 2006; Global Development Solutions LLC^{TM}, 2004) suggest that similar problems prevail. Field appraisals suggest that moderated value chain promotion could lay the necessary foundation to improve business interactions in many other commodities. However, more research is needed

a) to better understand bargaining behaviour of business partners;
b) to comprehensively analyse real and perceived transaction costs and transaction risks and subsequent potential benefits of contractual arrangements;
c) to develop a better understanding of the value of trust, social capital investments and the benefits of repeated transactions; and
d) to analyse the incentives for and success factors of longer-lasting mutual business relationships.

All this could help identify the necessary public and private support measures to trust building and risk reduction. This will eventually lead to better-targeted business, as well as development approaches – making agricultural value chains more competitive and contributing to rural development in Africa.

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