



منظمة الأغذية  
والزراعة  
للأمم المتحدة

联合国  
粮食及  
农业组织

Food  
and  
Agriculture  
Organization  
of  
the  
United  
Nations

Organisation  
des  
Nations  
Unies  
pour  
l'alimentation  
et  
l'agriculture

Продовольственная и  
сельскохозяйственная  
организация  
Объединенных  
Наций

Organización  
de las  
Naciones  
Unidas  
para la  
Agricultura  
y la  
Alimentación

## COMMITTEE ON COMMODITY PROBLEMS

### JOINT MEETING OF THE FOURTH SESSION OF THE SUB-GROUP ON BANANAS AND THE FIFTH SESSION OF THE SUB-GROUP ON TROPICAL FRUITS

Rome, 9 – 11 December 2009

### INSTITUTIONAL ARRANGEMENTS AND COORDINATION IN THE VALUE CHAIN AND THEIR IMPACT ON FAIR AND SUSTAINABLE BENEFITS TO FARMERS

## I. INTRODUCTION

1. Most agricultural commodities have to pass through a sequential process from the farm gate to consumers. This process includes raw material production, various types of transformation through intermediate manufacturing stages, and the delivery of a finished product to the marketplace. Such a process does not only result in changes to the physical and value characteristics but also to the ownership of the commodity as it is passed on. The entire sequential process is termed a “supply chain” – a functionally integrated process of production, marketing, service and delivery.

2. While considerable attention has been given to supply chain management as an approach for improving marketing efficiency primarily from the perspective of retailers, wholesalers, or food manufacturers and their suppliers, little effort has been devoted to explore measures to ensure that farmers' gain an equitable share of income from the supply chain. In a perfectly competitive environment, market agents are remunerated for their economic activity including risk, and changes in cost and price will be fully transmitted through the chain. Unfortunately, there are few competitive markets in the real world. Many factors such as imperfect market structure and asymmetry of information often cause market failure. When markets fail in such instances, agents over the chain can gain and exercise market power, enabling them to suppress other mutually beneficial gains from exchange.

3. With emerging developments associated with globalization and industry supply management, supermarket chains and multinational marketing firms have considerably enhanced their market power over global food systems. While these developments may contribute to a

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significant improvement in supply efficiency, they nevertheless pose challenges to policy-makers; none more so than in ensuring that the millions of smallholders who make up production of a commodity will stand to benefit from these new trends. Indeed, smallholders who lie at the bottom of the chain are exposed to the risk of potentially unfair and anti-competitive treatment by multinational marketing firms and food processors involved in the next stage of the value chain.

4. This document provides a review of the typical institutional arrangements and practices characterizing major supply chains of agricultural commodities in several developing countries. Since transactions at the producer stage have a significant economic impact on smallholders, various efforts have been made by governments, farmer groups and fair-trade firms to ensure that an equitable distribution of income accrues to farmers. A preliminary evaluation and comparison of such initiatives is made in this document, with the view to stimulate further discussion. The cases presented are not restricted to bananas and tropical fruits. Delegates are requested to share their experiences and provide guidance on the future direction of work on this area.

## **II. DIRECT SALE: TOBACCO INDUSTRY IN MALAWI**

5. Direct selling establishes a very simple relationship for transactions between farmers and the next stage of buyers in the supply chain. Both sides are independent entities in terms of the ownership of the commodity and the only linkage between them is the market, which can be organized as an auction, as a private electronic market, as a shopping centre, and as an informal meeting point between two parties. Market prices may be distorted by a seller or sellers with monopoly power, or a buyer with monopsony power. Such price distortions can have an adverse effect on market participants' welfare and reduce the efficiency of that market. The level of organization or negotiation power of buyers markedly affects the functioning of the market, and government regulations and interventions duly affect the market and the price. Consequently, smallholder farmers often cannot be guaranteed to obtain a fair price in the transaction under direct selling.

6. There were 38 000 producer associations registered by the Malawi Tobacco Control Commission in 2008, with a total membership of around 2 million farmers. With an average annual output of around 150 000 tonnes during the period 2004-2008, each association produces less than 4 tonnes (250 kg for each household). All these small growers sell their dry tobacco leaves through auction markets, where sellers and buyers meet to negotiate the prices based on quality. The transaction is completed once both the seller and buyer reach an agreement on price and other conditions including delivery. Unfortunately, these auction markets have never resulted at the arrival of fair market prices for farmers. This is largely due to both historical factors and structure of the market – only a few buyers are granted permission to buy tobacco at the auction market.

7. Indeed, nominal tobacco prices have been dwindling on the auction floor for the past 15 years. Farmers have complained that buyers are organized into a cartel, such that prices have been artificially depressed through buyers' collusion. In Malawi, only six multi-national trading firms were awarded a license to buy tobacco at the auction market, and only three firms control most of the tobacco procurement. These buyers, who in 2006 held a market share of nearly 95 percent, can operate as a cartel through their monopoly on processing, and have maintained their share over time with only minor variations. The conflict of interest and stand-off between tobacco farmers and buyers has yet to be resolved even after the Government intervened by setting a minimum price and registered an additional foreign buyer in 2006. Consequently, there have been frequent buyer-seller stand-offs at the auction markets over the past few years, including the intervention by the President of Malawi in March 2006, when he threatened to expel the largest tobacco buyers if they continued to offer prices lower than the Government's minimum price.

### **III. UNRESTRICTED CONTRACT: AN KANG FOODS IN CHINA**

8. Contract farming can be defined as agricultural production carried out according to an agreement between a buyer and a farmer that establishes conditions for the production and marketing of a commodity. Typically, the farmer agrees to provide established quantities of a specific agricultural product, meeting the quality standards and delivery schedule negotiated with the buyer. In turn, the latter commits to purchase the product, often at a pre-determined price. In some cases the buyer also commits to support production through, for example, the provision of farm inputs and technical advice as well as arranging for the transport of produce to the buyer's premises. If the contract is fully respected by both parties, farmers can have better access to product and input markets at a lower risk and buyers can obtain assured quality and timeliness in the delivery of farmers' products. However, while "side selling" by farmers to competing buyers is a major problem of contract farming, of more concern perhaps is the potential for buyers to take advantage of farmers over the contracted price, since their bargaining power is invariably greater than farmers'.

9. The unrestricted contract developed by An Kang Foods of China adopts most elements of contract farming except that the buyer allows farmers to side sell if the market price is higher than the contract price. An Kang Foods is a privately owned-diversified food processor and marketer in Anhui, China. The firm processes more than 100 hundred types of mushroom products and sells them in China's major cities either through its own retailing chain or through local supermarkets. To ensure the timely supply of raw material (fresh mushrooms) and to avoid large transactions costs in implementing contracts with a large number of small growers, the firm uses a "factory-supply basis and small-holders model". Under this model, the firm establishes its own supply basis by providing technologies, production inputs and extension services to a small number of large-scale growers and will "procure all products and ensure growers a gross revenue Rmb 10 000/per mu (US \$21,400/ha)". The firm has an obligation to procure the quantity of output specified in the contract from farmers at a negotiated price based on prevailing market conditions. Farmers have the freedom to sell to other buyers if they can obtain a higher price.

10. In this way, contractual disputes are generally avoided and farmers receive an equitable price. However, there is no guarantee that farmers are able to obtain their fair share of income over the supply chain because of potential price distortions at the local market. In particular, farmers are unable to capture the value-added from processing and any expansion of the market as farmers are restricted to supplying the chain with just the raw material.

### **IV. CONTRACT FARMING WITH TWO-STEP PAYMENTS: KENYA TEA DEVELOPMENT AGENCY**

11. For contract farming, one of the most difficult problems is to design a contract structure that deters side selling. If the predetermined transaction price is too low compared with the market price after harvesting, farmers may sell their product to competitive buyers; while if the contract price is pre-set too high, the processor faces the risk to lose its competitive edge because of higher raw material costs. For the purposes of establishing a contract price which addresses such risks, a "two-step payment scheme" has been developed and adopted in various supply chains throughout developing countries.

12. All the major parameters of the two-step payment scheme are the same as a regular farming contract except that farmers receive two (or even three) payments for their output. The first payment, which is often lower than the prevailing market price is made when farmers deliver their product to the next stage of the chain. After, say the manufacturer, completes all its processed product sales, farmers then receive a second payment. Then, depending on contract design, the second payment can either be the balance of the contract price, the difference between pre-estimated price and the prevailing market price, or a bonus as part of profit sharing scheme.

13. The Kenya Tea Development Agency (KTDA) underwent privatization in 2000. The agency continues to play a central role in processing and marketing tea on behalf of smallholder tea growers. Through operating a profit scheme, KTDA can realize its commercial objectives alongside supporting smallholders. Contracts are designed whereby a first payment is issued to farmers once it receives their tea. KTDA proceeds to supply tea to the value chain at market prices, including tea for export. At the end of each financial year, it computes its net profit and distributes a share – referred to as “tea bonus” – to farmers.

14. Another example is provided for by the Fiji Sugar Corporation (FSC). One month before the sugarcane sowing season, the FSC announces a “forecast price”, based on the world sugar reference price and a 15 percent “error margin” to account for fluctuations in the exchange rate and the freight rate at the time of harvest. Once the forecast price is determined, a first payment of 60 percent of this price is made to farmers on delivery of the sugarcane. A second payment of 20 percent is issued at the end of crushing by the sugar mill. The third and final payment is made at the end of the marketing year when the FSC concludes its financial report.

15. The main advantage of a multi-step payment is that since prices can be updated throughout the season to reflect current market incentives, risks are shared and contractual disputes between farmers and manufacturers are potentially avoided. However, when a government agency acts as the contractor, the potential for inefficiency could result in large overhead costs that could reduce payments to farmers.

## **V. JOINT OWNERSHIP: CFC CHINA FRUIT AND VEGETABLE CHIPS PROJECT**

16. The Secretariat of the IGG on Banana and Tropical Fruits has been instrumental in the formulation of a Common Fund pilot project in China. The purpose of the project is to establish a “product development and technology dissemination centre” for the processing of fruit and vegetable chips. In the project, the Secretariat piloted an institutional arrangement that ensures participating farmers will receive an equitable share of income from the value chain, and which will allow them to further benefit from prospective business growth.

17. Under the proposal’s wider arrangement, value chain participants retain a share of the ownership and management of the processing factory based on the size of the initial investment they made towards its establishment. In the case of the farmers, their provision of contracted land to supply produce to the factory will be translated into such stakeholderhood of the enterprise. In addition, the CFC will transfer their stake to the farmers from the funds used in setting up the factory.

18. It is further proposed that stakeholders will form a board of directors, which will oversee business development of the enterprise, including strategy and decision-making. Accordingly, the farmers – whose interests will be represented by a cooperative – will assume a seat at the board. Furthermore, all stakeholders will be allocated certain responsibilities, based on their role in the value chain. Farmers, for instance, are required to ensure that both the necessary quantity and quality of fruits and vegetables will be delivered when called upon. With assistance from the local government, the farmers’ cooperative will provide technical support and training to members as well as agricultural inputs such as seeds and fertilizers. Contracts will govern farmer-processor coordination in the value chain, stipulating the quantity, quality, time, and terms of payment term plus the measures necessary for enforcement.

19. By allowing farmers to part-own and part-manage the processing factory, the potential for profit sharing provides an additional incentive for them to deliver on contracts and to invest themselves in their own farming enterprises. The project has been, in principle, approved by the CFC and is scheduled for implementation in 2010. The Secretariat will report on progress at the next IGG meeting.

## VI. CONCLUDING REMARKS

20. Rising globalization and the presence of multinational firms in global food systems can contribute to a significant improvement in supply efficiency, but they nevertheless pose considerable challenges to policy makers; none more so than in ensuring that the millions of smallholders who tend to make up production of tropical commodities do not stand to lose out in their participation of value chains.

21. This document reviewed an array of institutional arrangements that typically govern the coordination of major supply chains of agricultural commodities in developing countries. Since transactions at the producer stage have a significant economic impact on smallholders, various efforts have been made to ensure that an equitable distribution of income accrues to farmers. Generally, the greater the participation by farmers, the greater is the potential for economic benefit to arise to them. Value-addition typically occurs at any given stage of the supply chain and so it is very important for policy makers to create a suitable economic and institutional environment that will facilitate farmers' participation. Indeed, those value chain models that mitigate risks to participants, promote mutually beneficial gains from exchange and attract investment in the particular sector should be encouraged by policy makers.