Demystifying the Role of Grain Assemblers in the Rural Maize Markets of Eastern and Southern Africa

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Working Paper No. 84

June 2014

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ACKNOWLEDGEMENTS

The views expressed or remaining errors and omissions are solely the responsibility of the authors and do not necessarily reflect the opinions of IAPRI or any other organization.

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EXECUTIVE SUMMARY

Two decades after initiating sweeping market reforms in their agricultural sectors, governments across Sub-Saharan Africa continue to maintain an active role in staple food markets. At the heart of this highly interventionist approach to food market development is a persistent and widespread distrust of private sector actors' participation in food markets. Of all the private sector actors involved in African cereal markets, none has been more maligned or misunderstood than the private traders who assemble grain at the village-level or *assembly traders* as we refer to them in this paper.

Unfortunately, academic literature on the role of assembly traders in rural African staple food markets is scant and has provided policy-makers in the region with little empirical evidence with which to better understand grain assembly in their countries and its effects on rural market performance for grain producers. In the absence of clear analysis of assembly traders' role in staple food markets in the region, the political rhetoric on their behavior frequently describes them as *exploitative* or *parasitic*. This rhetoric provides political justification for expanding the scope and scale of state-led marketing boards, such as the Food Reserve Agency (FRA) in Zambia, Malawi's Agricultural Development and Marketing Cooperation (ADMARC) and Kenya's National Crop and Produce Board (NCPB).

This article seeks to shed empirical light on the ways in which assembly traders affect the performance of rural cereal markets. It does this in four interrelated ways. Using survey data from 205 village focus group discussions and 2,703 individual farm-level maize transactions in Kenya, Malawi, Zambia, and Mozambique, the article examines:

1) What market channels are available to farmers in rural regions and what percent of transactions pass through each of these channels?
2) What are the market margins between farm-gate and wholesale/retail maize prices in nearby markets for the various available market channels?
3) How many assembly traders come into rural villages, and how does this vary in terms of standard market access indicators such as distance to urban market or distance to a paved road? and
4) What is the effect of assembly trading on the distance travelled to the initial point of sale by farmers?

Key Findings:

1. *Assembly Traders are the Most Frequently Used Market Channel by Small-Scale Farmers in the Region*: In three out of the four countries included in our study, grain assemblers were the most important market channel utilized by farmers, regardless of their relative degree of market access. Zambian farmers exhibited some variation in marketing behaviors relative to those in other countries. In Zambia, assembly traders where the most frequently utilized market channel for farmers in more remote villages and the second most important channel for those in more accessible villages.

2. *Market Access Conditions Do Not Affect Market Channel Choice by Small-Scale Farmers:* Variations in geographic market access conditions do not play a determinative role in the market channel utilized by smallholders. Contrary to the popular rhetoric of farmers in isolated rural regions having limited marketing options, thereby making them reliant on so-called exploitative assembly traders, the

distribution of market channels utilized in all four countries suggests that reliance on assembly traders is a deliberate marketing strategy deployed by farmers.

3. *Economic and Social Logic for Using Assembly Traders:* Farmers choose to use assembly traders rather than other market channel options for a variety of reasons: First, assembly traders buy maize directly in villages, thereby obviating the need for farmers to incur transport costs when selling. This is particularly important for farmers who are unable to achieve sufficient economies of scale in production to lower the unit cost of transport to a point where transporting their surplus to markets outside of the village becomes profitable. Second, assembly traders pay farmers cash at the time of sale, unlike parastatal marketing boards, and to a lesser extent processing firms, which often issue checks to farmers. Finally, grain assemblers enter rural markets soon after the harvest to acquire grain, unlike processors and marketing boards, which delay entering into the market until the moisture content of grain supplies dips below 13.5%. This is important for many farmers, who have often gone months without any income at all and have numerous pressing financial needs at harvest time.

4. *Nominal Price Discounting by Assembly Traders Relative to Other Market Channels:* On average, assembly traders offer the lowest price of the available channels. This is unsurprising given that assembly traders are operating in often remote rural villages, assembling grain from numerous small-scale farmers, and will frequently assume the cost of transporting the grain for onward sale. Moreover, assembly traders often begin buying maize early in the marketing season, when prices are normally at their lowest. Although assembly traders prices are lower than other market channel options the price spread between market channels is small. For example, in Zambia, Malawi, and Mozambique the price spread between assembly traders and wholesalers in district towns is only US$ .02/kg, while in Kenya there is no difference in price.

5. *Nominal Price Discounting by Assembly Traders Relative to Nearby Urban Markets:* In all regions where data are available assembly traders are shown to offer prices that are approximately 80% of the retail or wholesale prices. The low margins between farm-gate and nearby urban market prices suggest a greater degree of competitiveness and market integration at the village level than is normally assumed.

6. *High Number of Assembly Traders in Accessible and Remote Villages:* Across the four countries 82% of villages deemed accessible to markets were visited by 10 or more traders buying grain from farmers. When disaggregated by country we find the highest concentration of village grain traders in Kenya, with 96% of accessible villages serviced by 10 or more traders, while Mozambique had the fewest at 72%. But what about villages that are more remote from market infrastructure, where standard proxies of market access would suggest greater market access challenges? The findings show that, contrary to conventional wisdom, the assembly trading sector is vibrant in more remote regions as well. Across the region 72% of isolated villagers reported being serviced by 10 or more grain traders during the marketing season. Again, Kenya had the highest concentration of traders, with 94% of isolated villages receiving 10 or more grain traders, while Malawi had the lowest number, with 50% of isolated villages.

7. *Effect of Vibrant Assembly Trading Sector on Distance Travelled to Point of Sale by Farmers:* For smallholders, one of the most important services provided by grain

assemblers is that they routinely buy grain directly at the farm gate. Our findings show that assembly traders eliminate the arduous and costly task of transporting grain from field to market for many farmers. Table 8 shows the distance travelled by farmers to their initial point of sale. Across the region over 70% of the 2703 transactions recoded in this study occurred within 5 kilometers of the farmers' home.

8. *Reason for the Persistent Complaints about Assembly Traders by Farmers:* Our analysis points to three possible explanations: 1) elevated price expectations resulting from government grain procurement activities; 2) significant intra-village farm-gate prices variations, and; 3) the use of unreliable and/or manipulated instruments used when buying grain from farmers.

Policy Implications:

State Interventions in Staple Food Markets Undermine Assembly Traders in Two Ways: First, uncertainty over the imposition of trade bans, tariff rate changes on food commodities and releasing of subsidized grain stocks on the market create information asymmetries that are detrimental to market development. In particular, grain processors and wholesalers without any particular knowledge of government's intentions are frequently unwilling to take substantive positions in grain markets and to invest in robust procurement and distribution networks, because unforeseen government actions can cause massive price movements and trading loses. The market channels available for assembly traders are therefore limited by this uncertainty. Second, direct procurement of grain by governments through food reserve agencies and marketing boards can undermine the development of the assembly trading sector. By offering above market prices, government market boards are able to absorb large quantities of available surplus from the market, making it extremely challenging for assembly traders to generate sufficient trade volumes to remain in the market.

Need to Redirect State Investments: Rather than thinking in terms of creating institutions to overcome perceived issues of market access and private sector exploitation, donors and governments need to think about how to help farmers to better engage with existing market channels and how to facilitate greater competition within the trading sector. This boils down to a combination of investments in market skills training for farmers, infrastructure to better link rural villages to urban markets, and investments to improve farm productivity, which will allow more farmers to engage with markets in the first place. Above all, governments must commit to ensuring that the policy environment is favorable to private sector investment in grain trading and processing. Designing and adhering to a set of rules to govern how, when, and to what extent governments will intervene in grain markets will encourage greater investment in the agricultural sector. By so doing governments can capitalize on the gains that have been made since the initiation of market reforms in ways that are directly beneficial small-scale farmers.

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LIST OF ACRONYMS

ADMARC   Agricultural Development and Marketing Cooperation
AISS   Agricultural Inputs Support Survey
FRA   Food Reserve Agency
GISAMA   Guiding Investments in Sustainable Agricultural Markets in Africa
IHS-2   Integrated Household Survey-2
NCPB   National Crop and Produce Board
SSA   Sub-Saharan Africa

"But right now, the maize market situation is chaotic in the district because farmers are not benefiting anything. They are being exploited by the briefcase dealers who are buying their produce at very low prices." Kalomo District Commissioner Justin Phiri, May 13th, 2010. (Nicholas Mwale as quoted in the *Zambia Post Newspaper*).

1. INTRODUCTION

Despite a rhetorical commitment to the liberalization of cereal markets, many governments in Sub-Saharan Africa (SSA) continue to intervene directly in the acquisition and distribution of staple food grains, and the regulation of grain traders' activities. These regulations and interventions tend to be carried out in an *ad hoc* way, as governments attempt to cope with the competing demands of food producers and consumers that underpin the classic food price dilemma. The market unpredictability created by *ad hoc* state activity is identified as one of the primary obstacles limiting the improved performance of African cereal markets (Abbink, Jayne, and Moller 2011; Jayne, Mather, and Mghenyi 2010; Govereh, Chapoto, and Jayne 2010). At the heart of this highly interventionist approach to food market development is a persistent and widespread distrust of private sector actors' participation in food markets. Of all the private sector actors involved in African cereal markets, none has been more maligned or misunderstood than the private traders who assemble grain at the village-level[1].

Frequently referred to as *exploitative briefcase businessmen*, *parasites*, or *the black market*, assembly traders provide a useful antagonist for governments seeking to justify continued state regulation of agricultural output markets. More specifically, assembly traders are at the heart of two interrelated discourses on food market performance in the region that have come to frame how and why governments continue to spend their scare treasury resources procuring grain from farmers. The first of these discourses is that market liberalization and the resultant scaled-back role of marketing board activities has cut-off farmers, particularly in more remote regions, from reliable access to markets for their produce. This, in turn, has spawned a second dominant discourse: due to a lack of reliable market access, farmers are forced to sell their produce to village-level grain assemblers who exploit farmers' lack of formal markets by offering prices that are below the cost of production.

Unfortunately, academic literature on grain assembly in rural Africa is scant and has provided policy–makers in the region with little empirical evidence with which to better understand grain assembly in their countries and its effects on rural market performance for grain producers. As will be discussed in greater detail in Section 2, the bulk of the academic literature has not directly explored assembly trading in rural production regions. Rather, the literature has tended to approach questions of grain assembly in more indirect ways, through studies of transaction costs in cereal markets and spatial price transmission analyses (For example Meyers and Jayne 2012; Rashid and Minot 2010). The few explicit studies of grain assembly that exist have been preoccupied with understanding why the sector expanded so rapidly, relative to other parts of cereal market chains, in the wake of the agricultural market reforms of the late 1980s and early 1990s (For example Barrett 1997; Santorum and Tibaijuka 1992; Coulter and Golob 1992).

In the absence of clear analyses of the effects of assembly traders on marketing margins and producers' marketing behaviors, policy-makers in SSA have tended to pursue output market

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[1] In this paper we will refer to this type of grain traders as *assembly traders* because they tend to buy small quantities of grain from multiple farmers and assemble these transactions into quantities with sufficient economies of scale for onward sale.

policies that limit the capacity of private sector traders, including assembly traders, from participating in output markets (Jayne et al. 2010). This has mainly taken the form of renewed public spending on parastatal marketing boards, which procure grains from farmers, frequently at above-market, pan-territorial prices (Mason and Meyers 2011). In Zambia, for example, the government routinely spends 25% of its budget for rural poverty reduction buying maize from farmers at above market prices (Mason, Jayne, and Myers 2011). Similar trends are seen with Malawi's Agricultural Development and Marketing Cooperation (ADMARC) and Kenya's National Crop and Produce Board (NCPB) (Jayne et al. 2009; Kirimi et al. 2011).

Because so many of the current public policy approaches to agricultural output markets reflect a tacit belief in the need to overcome perceived market failures in village-level cereal markets, the limited literature on village grain assembly is surprising. In the absence of a strong state presence in cereal markets, are farmers in rural Africa coerced into selling their grain to oligopolistic assembly traders? Are farmers in isolated regions cut off from output markets for staple cereal grains? This article seeks to shed empirical light on the ways in which assembly traders affect the performance of rural cereal markets. It does this in four interrelated ways. Using survey data from 205 village focus group discussions and 2,703 individual farm-level maize transactions in Kenya, Malawi, Zambia, and Mozambique, the article examines:

1) What market channels are available to farmers in rural regions and what percent of transactions pass through each of these channels?
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Through this multi-dimensional analysis of rural grain market performance, we argue against the dominant narratives of rural farmers being cut off from competitive output markets for cereal crops and of assembly traders as rent seeking. Moreover, we argue that by directing public spending in ways that undermines the capacity of assembly traders to participate in output market, governments in the region are limiting poor farmers, with limited surplus to sell, from effectively engaging in markets.

The paper is organized as follows. The next section reviews the debates and data gaps in the existing literature on grain assembly in Sub-Saharan Africa. The third section describes the data sources and research methods used in this article. The fourth section presents the main findings of the analysis. The final section offers some concluding remarks on the investment and policy implications of the findings.

2. PARADOXES AND CONVENTIONAL WISDOM: THE LITERATURE ON ASSEMBLY TRADING

In spite of numerous discussions and debates about smallholder market participation and market failures in rural SSA, there have been few empirical studies on grain assembly in the region (See Barrett 2008 for a review). Indeed, the bulk of the existing literature on the assembly sector came in response to the market reforms that dominated agricultural policy discussions in the 1990s. These studies overwhelming found that agricultural market reforms, which in many countries included the legalization of private grain trade and the lifting of restrictions on inter-district transport of grains (Jayne et al. 2010), contributed directly to a significant increase in the number of small-scale, private grain traders (Dercon 1993; Barrett 1997; Coulter and Golob 1992). The expansion of private grain trading, particularly at the assembly level, is linked in the literature to the low entry barriers, in terms of fixed and sunk costs, which allowed individuals without significant capital or assets to easily enter into grain trading (Barrett 1997; Coulter and Golob 1992). The expansion of off-farm income earning possibilities created by the freeing up of private grain trading is seen by some as a positive development for rural poverty reduction. As Dorward and Morrision (2000) argue, due to low barriers to entry, grain assembly offers strong poverty reduction potential for myriad rural folks without the necessary land and capital to achieve surplus production levels of cereal grains (Also see Dorward et al. 2004 and Barrett 1997).

In addition to exploring the effects of market liberalization on private sector market participation, much of the academic literature on cereal market performance has focused on market efficiency, measured in terms of spatial market integration. Using various methodological approaches, the literature on spatial market integration explores the speed and extent to which price changes in one market effect price changes in other markets, as well as the speed of adjustment towards long-run price relationships (Rashid and Minot 2010). The consensus of these studies has shown that cereal markets in eastern and Southern Africa have become significantly more efficient and co-integrated than they were prior to market reforms (Moser, Barrett, and Minten 2009; Tostão and Brorsen 2005; Myers and Jayne 2012; Goletti and Babu 1994). The implication of these studies is that private sector grain traders respond to price incentives in markets throughout the region, they do so relatively quickly, and this has had a beneficial impact on cereal markets, particularly in helping markets quickly return to a long-run price equilibrium following a price shock.

Yet despite clear evidence of an expansion in private grain trading since market reforms were initiated and the beneficial effects this has on market integration and efficiency, claims of rent seeking behavior by private grain traders persist. In this regard, Dorward et al. (2004) aptly summarize the conventional wisdom on post-liberalization agricultural market development in Sub-Saharan Africa, stating that there has been a notable lack of success in the development of "the critical functions needed to kick-start cereal-based intensive growth in poorer rural areas." (p. 78). In particular, "the private sector has not moved in to provide farmers with input, output, or financial markets that are attractively priced, timely, and reliable" (*ibid*). In attempting to explain the seeming paradox between the evident expansion of grain trading in rural areas coupled with persistent complaints of uncompetitive market behaviors among grain traders, analysts have focused their attention on transaction costs within the sector. In particular, research suggests that there is significant spatial market segmentation and high marketing costs in grain trading that results from substantial fixed or sunk costs associated with grain wholesaling and transport (Barrett 1997). The minimum efficiency scales necessary to participate in grain wholesaling and transport lead to natural oligopolies or monopsonies in grain arbitrage (Moser, Barrett, and Minten 2009; Dorosh and

Bernier 1994; Barrett 1997). Thus, while there may be an expansion in the number of traders, the costs associated with moving grain from production to consumption areas may limit price competition among traders (Dorosh and Bernier 1994; Mabaya 2003). Moreover, the high cost of entry into grain wholesaling and transport places boundaries on the downstream market opportunities for grain assemblers, thereby stifling price competition in seemingly competitive village-level assembly markets (Barrett 1997). Thus, market participation and incentives to increase productivity among smallholders, particularly in more remote areas, is limited by the high transaction costs associated with gaining access to output markets, poor spatial price transmission between rural and urban markets, and limited competition between traders (Barrett 2008: 314). As Osborne (2005) notes in her study of grain trading in Ethiopia, imperfect competition among grain traders is a distinctly spatial phenomenon; her results show imperfect price competition among traders in a more remote market, but finds no evidence of imperfect competition in a larger, more accessible market. This evidence broadly supports the common assertion that output markets in more remote regions have failed to effectively develop, because "traders have limited incentive to incur large fixed costs to reach such households and regions, reinforcing households' inclination towards semi-subsistence production" (Barrett 2008).

However, data limitations have restricted the capacity of researchers to thoroughly interrogate the claim of rent seeking behavior among grain traders in rural Sub-Saharan Africa. Thus, while there appears to be a reasonable theoretical explanation for the persistent claim that farmers are getting a raw deal at the expense of private grain traders, there is virtually no empirical evidence to support this assertion. Using a unique set of data on actual maize transaction in four countries, coupled with qualitative data collected through focus groups and key informant interviews with farmers and traders, this article departs from standard analyses of the effects of grain trading on cereal market performance. Rather than focusing on market integration and transaction costs, this article takes the marketing behaviors and perceptions of farmers as its point of entry into understanding the effects of assembly traders on the performance of maize markets in eastern and Southern Africa.

3. METHODS

The regional focus of this study is eastern and southern Africa, particularly Zambia, Kenya, Malawi, and Mozambique. In this region, maize is the staple grain for the majority of the population, and is therefore the focus of this investigation. This study draws on four different data sources in its analysis: 1) Semi-structured interviews with maize assemblers, wholesalers, and processors in Kenya, Malawi, and Zambia; 2) Farmer focus group discussions with surplus maize producers and individual interviews with focus group participants in various regions of Kenya, Malawi, Zambia, and Northern Mozambique; 3) Panel data from rural household surveys in Kenya, Malawi, and Zambia; and 4) Retail and wholesale maize prices from national market price information systems.

Interviews for data sources one and two were carried out between May 2009 and April 2010. Table 1 details the sample sizes and geographic locations of the interviews. Structured survey instruments were prepared prior to this fieldwork, based on a previous maize value chain study conducted in Malawi in October 2008 (following Jayne et al. 2009). Separate instruments were prepared for the various key actors in the maize value chain including farmers, primary assemblers, medium-scale wholesalers, and large-scale traders and millers. These survey instruments were designed to explore, in a rigorous way, the structure, conduct, and performance of national and regional maize market. Yet, structured survey instruments often fail to capture the diversity and market flexibility exhibited by many market actors. Thus, structured survey instruments were combined with semi-structured interviews questions, which sought to explore in detail the specificity of an individual's experiences and business operations.

Table 1. Description of Rural Districts and Sample Sizes of Interviewed Marketing Agents

Countries	Kenya	Zambia	Malawi	Mozambique	Total
Districts/Provinces	Bomet, Bungoma, Kisii, Nakuru, Trans Nzoia, Siaya, Gem, Machakos	Chipata, Choma, Mpongwe, Isoka	Blantyre, Mulange, Mzimba, Rumphi	Niassa, Nampula, Tete, Zambezia	
Farmer Focus Group Discussions					
Accessible	26	48	17	26	117
Remote	15	44	12	17	88
Total	41	92	29	43	205
Individual Farmer Interviews					
Accessible	329	701	292	333	1,655
Remote	205	404	186	253	1,048
Total	534	1,105	478	586	2,703
Assembly Traders	46	44	23		113
Wholesalers	36	8	9		53
Small-Scale Processors	6	9	5		20
Large-Scale Processors/Traders	4	9	5		18

Source: Authors.

3.1. Sampling of Farmers and Data Collection Methods

Within each region of analysis, villages were purposively sampled and focus group discussions were conducted with farmers. To select villages, advice was sought from local extension officers. Two criteria were used in village selection: 1) maize production was a common agricultural activity. This ensured an adequate number of potential respondents for focus group discussions; and 2) villages were selected in both remote and accessible regions. This market accessibility stratification allows for an analysis of the extent to which standard metrics of market access, such as distance from urban towns or distance to paved road, influence the marketing behaviors of farmers and traders.

Given variations across the four countries in terms of population densities and the condition of rural feeder roads, it was impossible to use a standard definition of remote versus accessible villages across all four countries. Instead, villages were classified as accessible or isolated based on a checklist of criteria, including passablity of the road connecting the village in the rainy season, and travel duration in motor vehicle to an established market and tarmac road. Villages were classified as isolated if they met two of three criteria: 1) the road became impassable in the rainy season; 2) it was located more than three hours driving from an established market; and 3) it was located more than two hours driving from a tarmac road. The average distances from an established market and paved road for accessible and isolated villages is presented in Table 2. In total 117 villages were classified as accessible and 88 as remote.

Table 2. Mean Distance to an Established Market and Tarmac Road by Market Accessibility and by Country

Country		# of villages	Mean distance to tarmac (km)	Mean distance to established market/urban center (km)
Kenya				
	Accessible villages	26	6.94	12.67
	Isolated villages	15	18.13	20.8
Zambia				
	Accessible villages	48	8.5	17.8
	Isolated villages	44	30.3	56.3
Malawi				
	Accessible villages	17	18.2	22.5
	Isolated villages	12	28.3	39.6
Mozambique				
	Accessible Villages	26	17.4	44.9
	Isolated Villages	17	78.4	51.1

Source: GISAMA 2009-2010.

Within each village, 10-15 farmers were selected to participate in the focus group discussion. These farmers were selected because they were self-identified as maize farmers who sold maize during the previous marketing season. Farmer surveys were conducted in two parts. The first section involved focus group discussions. This section sought to explore the conduct and behavior of maize farmers in that village region. In the second section of the farmer survey, focus group participants were surveyed individually in order to collect specific maize marketing data. In this section, data were collected about individual farmer's maize sales, the timing of these sales, the buyer type, the distance traveled to the sales point, and the mode of transport used when applicable.

3.2. Sampling Strategies for Primary Sssemblers and Data Collection Methods

The primary assemblers interviewed for this research were identified in two ways. First, during the course of the farmer focus group discussions farmers were asked to identify by name five or six primary assemblers who regularly service their village. Often times these assemblers were local residents, while in other cases the assemblers lived outside of the community. Second, assemblers were sampled randomly at rural and peri-urban market areas or along the side of the road where they were buying maize.

A semi-structured survey instrument was used to collect marketing data from primary assemblers. This instrument explored the buying and selling practices of primary assemblers, their relationships with other actors in the value chain, the constraints they face in developing and expanding their business, and the risks they perceive in the marketing system. In total, 113 primary assemblers were interviewed for this research across three countries[2].

3.3. Sampling Strategies for Large-scale Grain Processing and Trading Firms and Data Collection Methods

Large-scale market actors were identified based on our knowledge of the national maize markets and by other actors in the value chain. There are generally about 5-10 of these large-scale trading companies and processing firms operating in each country, and, in the case of the trading firms, several of them are common to each of the countries. Data were collected from these sources using semi-structured interview strategies. Interviews were conducted with either the chief executive officer or the chief financial officer of the company. In total,18 large-scale grain processing and trading firms were interviewed for this report.

3.4. Household Survey Data

In Malawi nationally representative household survey data is provided by the National Statistics Office, which implemented the 2004 Integrated Household Survey-2 (IHS-2) and the 2007 Agricultural Inputs Support Survey (AISS). The IHS-2 survey covers the 2002/03 crop season for about half of the sample, and the 2003/04 crop growing season for the other half. These two crop seasons correspond to the 2003/04 and 2004/05 marketing years. Over 10,000 smallholder households were included in this IHS-2 survey. A sub-set of 2,591 households was re-interviewed in the AISS survey, which was conducted in June 2007. Therefore, the household survey data reported in this study covers a balanced panel of 2,591 households surveyed in both 2004 and in 2007.

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[2] Assembler and wholesaler interviews were not conducted in Mozambique.

In Kenya, a 10-year balanced panel of 1,275 rural farm households surveyed by the Tegemeo Institute in 24 districts in 1997, 2000, 2004, and 2007 provides data on the economic and cropping characteristics of small-scale farmers.

In Zambia, a panel of around 7,000 rural farm households surveyed by Food Security Research Project in 2001, 2004, and 2008 provides nationally representative data on economic and cropping characteristics of small-scale farmers.

In Mozambique, 5,000-6,000 farm households were surveyed by the Ministry of Agriculture, in 2002, 2003, 2005, 2006, 2007, and 2008. These surveys provide nationally representative data on farm households. Of these, 2002 and 2005 provide two waves of panel data from 4,095 households. The remaining surveys provide independent cross sectional data.

3.5. Price Data

In Kenya price data comes from price information from the Market Information Bureau of the Ministry of Agriculture. In Malawi price data comes from the Ministry of Agriculture and Irrigation. In Zambia, wholesale and retail maize prices are collected by the Agricultural Market Information Centre under the Ministry of Agriculture and Cooperatives. In Mozambique wholesale and retail price data comes from the Sistema de Informacao de Mercados Agricolas.

4. FINDINGS

4.1. The Importance of Grain Assembly in Farmers' Marketing Behaviors

Market liberalization policies in eastern and southern Africa created space in the maize marketing system for the proliferation of a diversity of private sector market actors to participate, often alongside grain marketing boards (Jayne et al. 2010; Barrett 1997). This includes the grain assemblers who are the subject of this article, as well as processing companies and indigenous and multinational grain wholesalers. Quantifying the share of total smallholder maize sales that pass through the available market channels, and how this varies between countries and between villages with different degrees of market access, is a critical first step in understanding the effects of grain assembly on the performance of local cereal markets.

The results of our findings are summarized in Table 3. In three out of the four countries included in our study, grain assemblers were the most important market channel utilized by farmers, regardless of their relative degree of market access. Zambian farmers exhibited some variation in marketing behaviors relative to those in other countries. In Zambia, assembly traders where the most frequently utilized market channel for farmers in more remote villages and the second most important channel for those in more accessible villages.

Several important conclusions emerge from the data presented in Table 3. The first is that variations in market access do not play a determinative role in the market channel utilized by smallholders. Indeed, contrary to the popular rhetoric of farmers in isolated rural regions having limited marketing options, thereby making them reliant on so-called exploitative assembly traders, the distribution of market channels utilized in all four countries suggests that reliance on assembly traders is a deliberate marketing strategy deployed by farmers. Focus group discussions with farmers suggest a variety of reasons why farmers choose to utilize grain assemblers rather than other marketing channels. First, assembly traders buy maize directly in villages, thereby obviating the need for farmers to incur transport costs when selling. This is particularly important for farmers who are unable to achieve sufficient economies of scale in production to lower the unit cost of transport to a point where transporting their surplus to markets outside of the village becomes profitable. Second, assembly traders pay farmers cash at the time of sale, unlike parastatal marketing boards, and to a lesser extent processing firms, which often issue checks to farmers. Finally, grain assemblers enter rural markets soon after the harvest to acquire grain, unlike processors and marketing boards, which delay entering into the market until the moisture content of grain supplies dips below 13.5%. This is important for many farmers, who have often gone months without any income at all and have numerous pressing financial needs at harvest time. Thus, assembly traders offer an important marketing channel to capital constrained farmers with limited surpluses to sell.

The second important conclusion from Table 3 is that smallholders in Zambia display a broader range of marketing behaviors, and appear to have more market channels available to them, than farmers in other countries. Why would this be the case? Our analysis of the structure of maize markets in each country suggests that of all the four countries in our analysis Zambia has the largest and most competitive commercial grain processing sector. This is the result of several factors. First, Zambia is and has historically been a highly urbanized country relative to most of Sub-Saharan Africa. Urbanization in Zambia, and to a lesser extent Kenya, was historically supported by food policies that sought to ensure a stable supply of cheap, commercially refined maize meal to urban consumers (Pletcher 2000; Sitko

2008). These policies may have entrenched a preference for highly refined commercial maize meal in those countries, relative to countries such as Malawi where there are virtually no large-scale commercial maize processors. Consumer demand for highly refined commercial maize meal in Zambia has led to significant investment in large-scale maize processing over the last decade. The highly competitive maize processing sector in Zambia not only creates opportunities for farmers to sell grain directly to these mills, it also spawns investment in grain wholesaling, which further expands the marketing options for smallholders.

Another important factor contributing to the difference in marketing behaviors in Zambia relative to other countries is the scope and scale of government activity in maize markets. In Zambia, the government routinely spends 30% or more of its total agricultural budget on the Food Reserve Agency (FRA), which buys maize from farmers at pan-territorial prices that frequently exceed prevailing market prices. The expansive role of government marketing institutions in maize markets severely hampers the capacity of private traders to participate. In the 2009/10 marketing season, the FRA acquired 32.4% of the total smallholder maize sold in Zambia (Mason, Jayne, and Myers 2011). Interviews with assembly traders and wholesalers suggest that as a result of the large role played by the government in the maize market, many found it unprofitable to maintain an active presence in the market. Rather than compete with the high government price, many shifted into trading in other commodities soon after the FRA entered the market. Thus, despite offering elevated price to farmers, there is real concern that by squeezing village-level assemblers out of the market, the significant public expenditure on the FRA may have a detrimental effect on market participation for very small-scale farmers with limited surpluses to sell.

Table 3. Percent of Smallholder Maize Sales by Market Channel and Country

Market Channel	Kenya		Zambia		Malawi		Mozambique	
	Accessible (%)	Remote (%)	Accessible (%)	Remote (%)	Accessible (%)	Remote (%)	Accessible (%)	Remote (%)
Assembly trader	55	58	21	36	52	66	57	59
Wholesaler	22	24	39	27	23	18	28	23
Grain processor*	1	5	18	14	0	0	0	1
Household in the village**	11	7	4	6	11	11	9	8
Household in another village**	0	0	2	0	1	2	5	8
Marketing board	0	3	14	15	12	3	0	0
Cooperatives	0	1	1	0	0	0	0	1
School	11	3	1	0	1	0	0	0
Total	100	100	100	100	100	100	100	100

Source: GISAMA 2009-2010.
Note: *Processors include maize mills, stockfeeders, and breweries. **purchases for consumption purposes.

4.2. Marketing Margins by Market Channel

By providing liquidity to village markets, particularly early in the marketing season, and eliminating search and transport costs for farmers, assembly traders offer a valuable marketing service to myriad smallholders. Yet, as the quote in the beginning of this article suggests, there is a persistent belief that assembly traders prey on farmers, particularly those in more remote regions, by offering prices that are well below prevailing market prices. Assessing the validity of these claims is essential for evaluating the effects of assembly trading on overall grain market performance in the region.

Table 4 presents the mean farm-gate price in nominal US dollar terms for a kilogram of maize by market channel across the four countries. On average assembly traders offer the lowest price of the available channels. This is unsurprising given that assembly traders are operating in often remote rural villages, assembling grain from numerous small-scale farmers, and will frequently assume the cost of transporting the grain for onward sale. Moreover, assembly traders often begin buying maize early in the marketing season, when prices are normally at their lowest. What is surprising is the price spread between market channels. For example, in Zambia, Malawi, and Mozambique the price spread between assembly traders and wholesalers in district towns is only US$ .02/kg, while in Kenya there is no difference in price. As farmers move further down the maize marketing chain prices tend to increase. For example, farmers in Zambia who are able to sell their maize directly to grain processors receive an average of $US.08/kg more than those that sell to assembly traders in the village. Yet selling to grain processors is not a viable marketing option for many small-scale farmers, the majority of whom are unable to achieve the surplus production levels to off-set the unit cost of transporting to these markets. Given the constraints that small-scale farmers operate under, the existence of an assembly trading sector offering what appear to be competitive prices to farmers in their villages is an extremely important and underappreciated aspect of post-liberalization maize markets in the region.

Table 4. Mean Farm-Gate Price per Kilogram by Maize Market Channel (Nominal $US/kg)

Market Channel	Kenya ($US/kg)	Zambia ($US/kg)	Malawi ($US/kg)	Mozambique ($US/kg)
Assembly Trader	0.28	0.2	0.19	0.19
Wholesaler	0.28	0.23	0.2	0.21
Grain processor*	0.31	0.28	n/a	0.21
Household in the village**	0.35	0.25	0.21	0.22
Household in another village**	0.32	0.24	0.22	0.23
Marketing board	0.26	0.3	0.29	0

Source: GISAMA 2009-2010.
Note: *Processors include maize mills, stockfeeders, and breweries. **purchases for consumption purposes

Table 5. Share of Wholesale/Retail Prices Obtained by Farmers Selling to Assembly Traders by Country

Zambia		Malawi		Kenya		Mozambique	
Location	Avg. Margin	Location	Avg. Margin	Location	Avg. Margin	Location	Avg. Margin
Mpongwe/Ndola	0.8741	Blantyre	0.8008	Nakuru	0.7416	Cuamba	0.8272
Choma	0.6802	Rumphi	0.7738			Alto Molocue	0.7912
Chipata	0.8833	Milanje	0.8640			Milange	0.9390
Mean	0.8125		0.8129		0.7416		0.8645

Source: GISAMA 2009-10.

Examining mean farm-gate prices across market channels is useful for understanding the relative price competitiveness of the assembly sector compared to other market channels. However, it does not provide a full picture of the relationship between prices received by farmers in their villages relative to those available in nearby markets. To explore this we took the mean monthly farm-gate prices obtained by farmers from assembly traders in districts where monthly retail or wholesale prices are available[3]. The average margin between the prices farmers received and the price obtaining in the nearby market is then calculated. These results are presented in Table 5 and show that in all the regions where data are available assembly traders offer prices that are approximately 80% of the retail or wholesale prices. The low margins between farm-gate and nearby urban market prices suggest a greater degree of competitiveness and market integration at the village level than is normally assumed. These figures also closely mirror a similar study by Yamano and Arai (2010), which found that the share of the wholesale price captured at the farm-gate in Kenya and Uganda were 85% and 67% respectively.

Finally, we examined the price difference between remote and accessible regions to understand the extent to which market accessibility affects farm-gate prices. This was done in order to determine if relative market isolation creates conditions for rent seeking among assembly traders. Our findings show that, contrary to popular perception, relative market isolation has little bearing on the farm-gate prices offered by assembly traders. Table 6 presents the ratio between the mean farm-gate prices in isolated villages and accessible village by country. This shows that farmers in isolated villages receive on average between 83-96% of the farm gate prices in more market accessible regions. These ratios suggest that there is a nominal price discounting as distance from urban markets increases.

Table 6. Mean Farm-Gate Price Ratios between Isolated and Accessible Villages (Remote/Accessible)

Kenya	.96
Zambia	.83
Malawi	.96
Mozambique	.93

Source: GISAMA 2009-2010.

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[3] Note that is Malawi and Mozambique only retail prices are consistently available, while in Kenya and Zambia only wholesale prices are consistently available.

Again, these findings mirror the work done by Yamano and Arai (2010), which found that farm-gate to wholesale maize price spreads in Kenya and Uganda only increased by 2% for every hour of additional drive time from the wholesale market.

Taken together the evidence presented here suggests that far from exploiting farmers, assembly trading appears to offer a significant benefit to farmers, even in more isolated regions. These data suggest that assembly traders offer farmers access to markets at their doorstep, which in many cases are better than what the farmer would receive if she paid to transport her maize to the nearest wholesale or retail market. Moreover, even in remote villages farmers are able to access markets at prices that are competitively discounted relative to those in more accessible villages.

4.3. Trader Numbers: Reconsidering the Term *Market Access*

Throughout this article we have followed a conventional understanding of market access, which focuses on transaction costs and takes geographic attributes, such as distance or time travelled to market as proxies for market access conditions (See Chamberlin and Jayne 2012 for a review). However, recent analyses of market access in Africa suggest the need to take a more holistic, multidimensional view of the term (Chapoto and Jayne 2011; Chamberlin and Jayne 2012). As these studies show, distance and travel time to markets do little to explain the numbers of maize traders operating in villages in Kenya and Zambia.

To determine if a similar pattern held in all the countries included in this study we asked farmers in 205 villages how many potential maize buyers come directly into their villages during the maize marketing season? These focus group responses show a clear pattern: in all four countries there is a high level of assembly trader activity in village grain markets, even in isolated regions.

Our findings on trader numbers are summarized in Table 7. Across the four countries 82% of villages deemed accessible to markets were visited by ten or more traders buying grain from farmers. When disaggregated by country we find the highest concentration of village grain traders in Kenya, with 96% of accessible villages serviced by ten or more traders, while Mozambique had the fewest at 72%. But what about villages that are more remote from market infrastructure, where standard proxies of market access would suggest greater market access challenges? The findings show that, contrary to conventional wisdom, the assembly trading sector is vibrant in more remote regions as well. Across the region 72% of isolated villagers reported being serviced by ten or more grain traders during the marketing season. Again, Kenya had the highest concentration of traders, with 94% of isolated villages receiving ten or more grain traders, while Malawi had the lowest number, with 50% of isolated villages.

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Table 7. Percent of Focus Group Villages Visited by Various Numbers of Assembly Trader, Disaggregated by Market Accessibility and Country

	Village Market Access	Assembly Trader Numbers					
		0	1 to 5	6 to 10	11 to 15	16 to 20	More than 20
		% of Sampled Villages					
Kenya	Accessible	0	0	4	4	0	92
	Isolated	7	0	0	0	27	67
Malawi	Accessible	0	0	24	6	6	65
	Isolated	8	8	33	8	17	25
Zambia	Accessible	0	10	8	6	15	60
	Isolated	0	9	7	2	9	73
Mozambique	Accessible	8	12	8	15	19	38
	Isolated	18	0	24	0	18	41
Region	Accessible	2	7	9	8	11	63
	Isolated	6	6	13	2	15	59

Source: GISAMA 2009-10.

It is important to note that during the time that focus group discussions were being carried out in Malawi, the government had instituted a price band on private sector maize trading, which mandated that grain traders purchase grain at MK 45/kg and sell at MK 52/kg[4]. The imposition of this price band, along with other restrictions placed on private maize trading at the time, limited the spatial arbitrage opportunities for private sector grain traders. Setting limits on the purchase price and the selling price within a narrow band prevented many maize buyers from profitably penetrating deep into more remote regions, thereby depriving farmers of a more competitive trading market. Moreover, restrictions on grain trading forced many grain wholesalers to curtail their involvement in maize markets, thereby denying assembly traders an important market and source of financing. In the absence of this price band levels of private trading would likely have been higher in isolated parts of rural Malawi.

Despite relatively lower trader densities in Malawi the fact remains that private grain trading in isolated villages in the region remains high. Across the entire region only seven of the 205 villages reported having zero locally available buyers during the maize marketing season, with the majority of these located in Mozambique. Of these exceptional cases, the vast majority had a small market where they could sell their maize within just a few kilometers of the village. In one case in Malawi, the absence of maize buyers was the result of the local chief banning private maize trade in the area out of fear that grain traders were exploiting farmers.

Based on these focus group findings a similar question on the number of maize traders visiting rural areas was incorporated into Zambia's 2009/10 nationally representative Crop Forecast Survey of 14,000 small to medium scale farmers. Results from this survey corroborate the findings from the focus group discussions. Smallholder farmers who sold

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[4] For more details on this event see Jayne et al. 2009.

maize indicated that the mean number of traders buying maize directly in their villages during the 2009/10 season was 9.0 (Chapoto and Jayne 2011).

The high number of traders in rural villages limits the opportunities for rent seeking among assembly traders, as traders are forced to compete with one another in terms of price to attract farmers' sales. The high number of assembly traders may help to explain the competitive market margins presented in the previous section, both between farm-gate and wholesale/retail markets, as well as between isolated and accessible villages.

4.4. The Effects of Grain Assembly on Distance Travelled by Farmers to the Point of Sale

Throughout eastern and southern Africa market participation data exhibit a recurrent pattern: 50% of the marketed surplus of maize is sold by 3-5% of smallholders, while 20 to 30% of smallholders account for the remaining 50% (Jayne, Mather, and Mghenyi 2010). As this suggests, the majority of smallholders who are capable of producing a surplus have very small quantities to sell. As a result, few farmers enjoy the economies of scale needed to profitably transport their surplus to urban markets. Under these conditions the role of grain assemblers is critical.

Village-level grain assemblers preform the difficult and necessary task of acquiring small quantities of grain from myriad smallholders and amassing them into lots that can be economically transported to downstream buyers. By so doing they provide a ready market and reliable capital source to farmers who would otherwise struggle to engage with the market. Moreover, large numbers of assembly traders operating in rural villages substantially lower the search costs of finding a buyer for farmers and can eliminate transportation costs.

For smallholders, one of the most important services provided by grain assemblers is that they routinely buy grain directly at the farm gate. Our findings show that assembly traders eliminate the arduous and costly task of transporting grain from field to market for many farmers. Table 8 shows the distance travelled by farmers to their initial point of sale. Across the region over 70% of the 2703 transactions recoded in this study occurred within five kilometers of the farmers' home.

Table 8. Percent of Farm-gate Transactions by Distance Travelled to the Initial Point of Sale, by Country

	Kenya	Malawi	Zambia	Mozambique	Region
Km		% of Total Transactions			
0	73	47	24	33	40
>0-5	23	40	27	39	31
>5-10	1	9	13	14	10
>10-15	1	2	6	6	4
>15-20	1	3	6	4	4
>20	1	0	24	3	10
Total	100	100	100	100	100

Source: GISAMA 2009-10.

This finding is reinforced by two national-level household survey. In Zambia results from the 2010 Crop Forecast Survey show that over 60% of maize sales occurred at the farm gate, while an additional 20% occurred within three kilometers of the home (Chapoto and Jayne 2011). Only 10% of farmers in Zambia transported maize over 30 kilometers. The vast majority of these were farmers with larger lots of grain who were selling directly to processors or the FRA (Chapoto and Jayne 2011). Thus, long distance travel to markets appears to be a deliberate strategy of farmers with sufficient economies of scale who are seeking out more remunerative markets; it appears not to be an act of desperation caused by a lack of local markets. Similarly, in Kenya a 2010 nationally representative rural household survey showed that the average distance travelled by farmers to the initial point of maize sale was 1.8 km (Chamberlin and Jayne 2012). Moreover, over 75% of households that sold maize did so directly at the farm-gate, with little variation between villages defined as remote or accessible by standard market access measures (*ibid*).
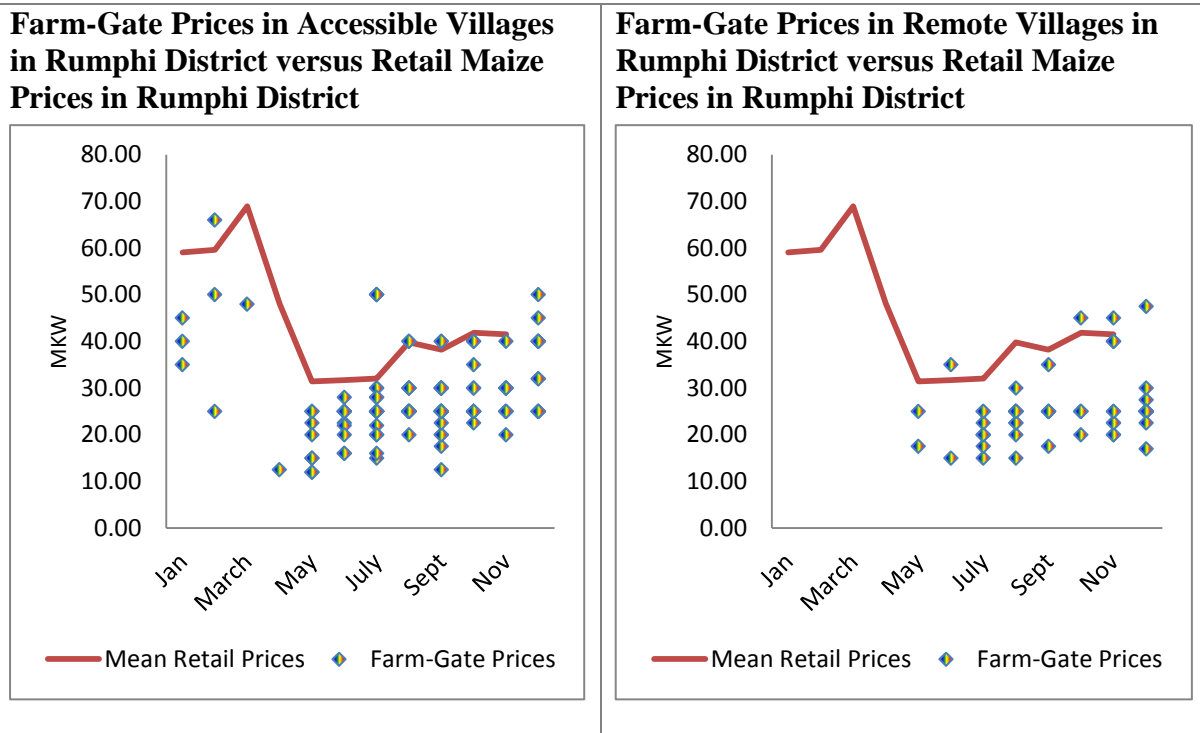
4.5. What Explains the Persistent Complaints about Assembly Traders?

If the evidence is clear that assembly traders offer useful and price competitive services to farmers, what explains the persistent complaints by farmers about these traders? Our analysis points to three possible explanations: 1) elevated price expectations resulting from government grain procurement activities; 2) significant intra-village farm-gate prices variations, and; 3) the use of unreliable and/or manipulated instruments used when buying grain from farmers.

Throughout the region persistent government involvement in grain procurement has elevated farmers' price expectations and entrenched a very particular understanding of what constitutes a *market* for their produce. In all countries where marketing boards continue to operate, their prices are normally significantly higher than what the private sector can profitably offer (Mason and Myers 2011; Jayne, Myers, and Nyoro 2008). The elevated prices offered by marketing boards has an important psychological effect on farmers' expectations; for many farmers any price below what is offered by the government is considered exploitative. Moreover, after decades of experience with government marketing boards many farmers only consider a government buying point to be a *true market*. This was a recurrent theme during focus group discussions. When farmers were asked about whether or not a market existed for their maize, farmers would frequently say they had *no market* if there was no government depot nearby, even if there were 30 maize buyers in their village. This was also true in Mozambique, where the government does not buy grain from farmers. During focus group discussion farmers would consistently speak about their lack of market in terms of a lack of a national grain marketing board. This deeply entrenched conceptualization of grain markets as being the purview of the state and of private sector prices being exploitative goes some way toward explaining the paradox between what seems to be a competitive and effective grain assembly sector and its widespread vilification.

Significant intra-village variation in market knowledge and capacity to negotiate with private sector buyers may also play a role in shaping negative perceptions of assembly traders. These variations are reflected in the farm-gate prices obtained by farmers in similar villages. Across the region our analysis shows there is significant variation in the prices farmers receive in any given month. To examine intra-village price variation we plotted individual farm-gate transactions alongside the wholesale or retail maize price in the nearest market. Figure 1 provides an indicative example from accessible and isolated villages in Rumphi District in northern Malawi.

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Figure 1. Individual Farm-gate Transactions Relative to Retail Maize Prices Rumphi District, Malawi

Farm-Gate Prices in Accessible Villages in Rumphi District versus Retail Maize Prices in Rumphi District	**Farm-Gate Prices in Remote Villages in Rumphi District versus Retail Maize Prices in Rumphi District**

Source: GISAMA 2009-10.

Figure 1 clearly shows that within the same village in the same month farmers obtain a wide range of prices from the private sector. Some are able to negotiate 100% of the retail maize price and others only a fraction. This is a common theme throughout the region and is indicative of significant variations in farmers' knowledge of prevailing market prices and capacity to negotiate remunerative terms for their sales. For many of the farmers interviewed for this study, the fact that assembly traders will offer widely varying prices, as opposed to the pan-territorial prices offered by grain marketing boards, is considered exploitative. From a practical standpoint, this high level of price variation suggest that farmer incomes could be significantly improved through market skills training to help them better navigate the markets they have at their disposal.

Finally, a consistent compliant of focus group respondents in all four countries was that assembly traders tend to manipulate the scales and buckets they use to buy grain from farmers. By so doing they acquire more grain from farmers than they actually pay for. This is a difficult thing to verify. The vast majority of assembly traders interviewed for this study were unwilling to allow us to test their scales or buckets for accuracy.

However, in Kenya we found two traders who were willing to allow us to measure the maize in the *gorogoro* (plastic bucket used to buy and sell maize) they were using to buy maize from farmers. G*orogoro* are assumed to contain 2.25 kg of maize. Therefore, when buying from farmers, traders will use 40 *gorogoro* as their standard measure for a 90 kg bag of maize. Using our own scale we weighed the two *gorogoro* used by these traders and found that both held 3 kg of maize. Thus, instead of 40 *gorogoro* equaling 90 kg the actual amount sold is closer to 120 kg. This suggests that in some cases profit margins generated by assembly traders may be higher than our price analysis suggests.

The challenge of unreliable buying instruments is not an insurmountable. Given the level of competition in village-level assembly trade it is easy to imagine how reliability and trust could be turned into a comparative advantage for traders (Fafchamps 2004). What is required, however, is that farmers are given the tools to effectively negotiate with traders. This includes accessing market information. But more importantly, as this research suggests, it is critical that farmers know exactly how much grain they are selling. Government has a role to play here. For example, local extension officers could be allocated weighing scales for farmers to use to measure their surpluses. Conversely, extension officers could be tasked with spot checking traders' scales and other buying instruments to ensure validity. This is a potentially useful public services, which could serve to inject much needed trust into grain marketing systems.

4.6. The Effects of Government Policy on Grain Assembly

Governments in the eastern and southern African region routinely attempt to influence food prices through direct interventions in cereal markets. These interventions include trade bans, tariff manipulations, price controls, direct procurement through government marketing boards, and releasing food stocks on the market at below cost prices. These interventions can have profoundly negative consequences on food market performance, particularly given the *ad hoc* manner in which they are frequently implemented (Chapoto and Jayne 2009).

Ad hoc state intervention in staple grain markets directly hampers the development and effectiveness of the assembly trading sector in two important ways. First, uncertainty over the imposition of trade bans, tariff rate changes on food commodities and releasing of subsidized grain stocks on the market create information asymmetries that are detrimental to market development. In particular, grain processors and wholesalers without any particular knowledge of government's intentions are frequently unwilling to take substantive positions in grain markets and to invest in robust procurement and distribution networks, because unforeseen government actions can cause massive price movements and trading loses. The market channels available for assembly traders are, therefore, limited by this uncertainty. This situation is exemplified in Malawi, where Asian-owned wholesalers frequently complain that they are denied import and export licenses, while politically connected indigenous firms, such as Mulli Brothers, receive licenses when needed. This preferential treatment pushes Asian firms out of the market, thus limiting potential market outlets and credit sources for assembly traders.

Second, direct procurement of grain by governments through food reserve agencies and marketing boards can undermine the development of the assembly trading sector. By offering above market prices, government market boards are able to absorb large quantities of available surplus from the market, making it extremely challenging for assembly traders to generate sufficient trade volumes to remain in the market. Additionally, the fact that payments from marketing boards are frequently delayed prevents many assembly traders from using this market channel, because delayed payments tie-up scarce capital, making it impossible to continue to buy until they receive payment.

The effect of marketing boards on assembly traders was particularly evident during Zambia's bumper maize harvests of 2010 and 2011. In response to record production levels the government of Zambia mandated its FRA to buy the majority of the nation's surplus at above export parity prices. This made it virtually impossible for most wholesaling firms to remain in the market, while most processors sat on the sidelines with the expectation that the FRA

would be forced to sell to them at concessionary prices. Lacking the guaranteed markets and liquidity provided by grain wholesalers, many grain traders were forced to exit the market or curtail their buying activity. The effect of FRA activity on grain assembly is apparent in nationally representative survey results, which show that the mean number of traders visiting Zambian villages declined from 9 in 2009/10 to 7.4 in 2010/11, as reported by maize sellers (Chapoto and Jayne 2011).

Given the clear benefits derived by smallholders from the assembly trading sector, in terms of local market access and lowered search and transport costs, continued interventions that undermine the sector are worrying. If governments are committed to ensuring the development of agricultural output markets they must institute a set of predictable, rules-based guidelines for triggering government action in food markets. This will rein in much of the policy induced market uncertainty that makes investments in grain procurement and storage so risky in the region. This is turn will have clear knock-on effects for the assembly trading sector and the level of competition for smallholder grain more broadly.

5. CONCLUSION

This article has presented an alternative view on the grain assembly sector in rural Africa. Contrary to the widely shared vision of Africa smallholders as cut-off from output markets for their produce or held captive by predatory and exploitative traders, we have demonstrated that village-level grain assembly is in fact highly competitive, both in terms of the numbers of buyers in villages and the low price margins they operate on. The development of the assembly trading sector is of particular importance to the millions of smallholders in the region who do not enjoy the economies of scale needed to directly link to external markets for their produce.

Moreover, the evidence suggests that donors and local policy-makers must reconsider their preconceived ideas about grain markets in the region. In particular, investments aimed at improving farmers' access to markets may be misplaced. Indeed, many of the policies pursued by governments to improve farmers' access to markets directly undermine the performance of the assembly trading sector, and therefore, limit farmers' available market channels.

Rather than thinking in terms of creating institutions to overcome perceived issues of market access and private sector exploitation, donors and governments need to think about how to help farmers to better engage with existing market channels and how to facilitate greater competition within the trading sector. This boils down to a combination of investments in market skills training for farmers, infrastructure to better link rural villages to urban markets, and investments to improve farm productivity, which will allow more farmers to engage with markets in the first place. Above all, governments must commit to ensuring that the policy environment is favorable to private sector investment in grain trading and processing. Designing and adhering to a set of rules to govern how, when, and to what extent governments will intervene in grain markets will encourage greater investment in the agricultural sector. By so doing governments can capitalize on the gains that have been made since the initiation of market reforms in ways that are directly beneficial small-scale farmers.

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