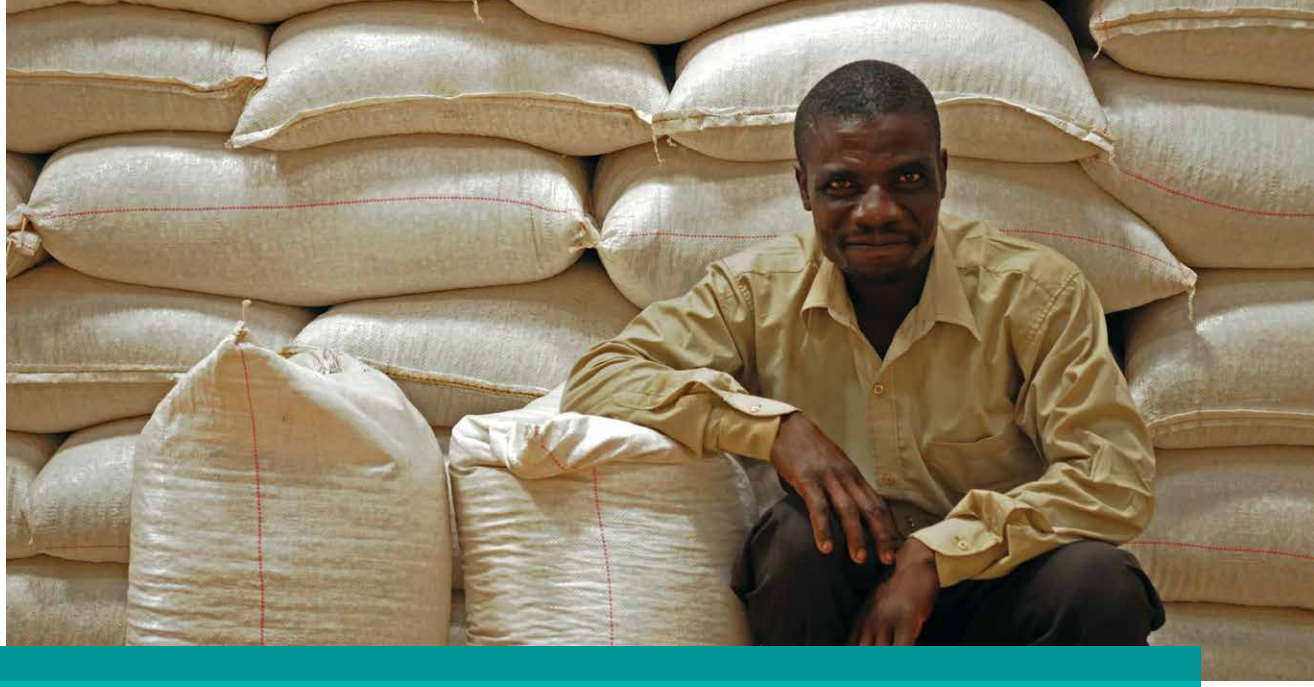


Photo: ACE

Building the pillars of an **agricultural marketing system** The case of ACE, Malawi

Introduction

Smallholder farmers across the world are subject to the whims of the weather. But in Malawi, one of Africa's least developed countries, farmers are particularly vulnerable as they depend on a single rainy season. A bountiful harvest can also be a double-edged sword - a glut in supply brings a significant drop in prices, leaving many farmers trapped in a cycle of poverty.

Of course, prices do not remain low throughout the year. As supply becomes relatively more scarce, prices start to rise again, creating another problem for poor rural and urban households that need to purchase food. Finding a way to rebalance supply and demand across the year would therefore benefit everyone.

In a normal functioning market, seasonal price fluctuations are an opportunity for producers to benefit from temporal arbitrage - that is, storing and holding the product on the expectation of a higher price in the future. In reality, however, there are several factors compelling Malawi's smallholders to sell their crop at harvest time when prices are at their lowest.

Having just endured many months without agricultural income, farmers are understandably cash poor and have household expenses that need to be paid. Credit is also difficult to come by on reasonable terms. Even in Village Savings and Loan Associations (VSLAs), the nominal interest rate on loans is set at between 5% and 20% per month for short-term loans.[1] Therefore, borrowing money while waiting for grain prices to rise is a risky prospect for any farmer. Storage availability and quality can also be a problem. Farmers and their cooperatives often do not have access to secure facilities and therefore run the risk of theft. Furthermore, poor quality storage may result in post-harvest losses from aflatoxin, rodents and decay.[2]

[1] Ksoll, C., Bie, H., Jonas., Lønborg, J. and Rasmussen, O. (2016). Impact of Village Savings and Loan Associations: Evidence from a Cluster Randomized Trial. Journal of Development Economics, Volume 120, May 2016, Pages 70-85. Available at: https://www.sciencedirect.com/science/article/pii/S0304387815001352

[2] Precise figures are hard to come by. IFAD (2012) estimates post-harvest losses in Malawi to be as high as 40% of production, while other studies estimate losses in the grain sector in Eastern and Southern Africa to be around 13.5% of the total value of grain production. World Bank. (2011). Missing Food: The Case of Postharvest Grain Losses in Sub-Saharan Africa. Washington, DC. World Bank. https://openknowledge.worldbank.org/handle/10986/2824 License: CC BY 3.0 IGO. It is estimated that about 20-25% of the food grains produced in Africa is wasted due to improper or inadequate storage. Wehling,P. and Garthwaite, B. (2015). Designing Warehouse Receipt Legislation. Regulatory Options and Recent Trends, FAO, Rome. Available at: http://www.fao.org/3/a-i4318e.pdf

Traders of different sizes are also affected by these issues, although on a different scale. Working capital is expensive, and the high cost of secure storage prompts many traders to move the commodity on reasonably quickly, which exacerbates price volatility during the year and weakens the country's food security.

Grain trading in Malawi

Grain trading in Malawi, as in many developing countries, used to be conducted through a state-run marketing board. For decades, Malawi's Agricultural Development and Marketing Corporation (ADMARC) worked to facilitate the marketing of agricultural produce and inputs and enhance the smallholder agricultural sector. However, by the 1990s, ADMARC was increasingly criticised for its stifling bureaucracy, lack of transparency, corruption, and an emphasis on tax collection.[3] Further questions about the coherence of its policies, the efficiency of the marketing board under government control, ongoing financial losses, and failure to provide food security led to pressure on the country to liberalise, which it did in the early 2000s.

Unfortunately, the private sector was not sufficiently developed to take advantage of market liberalisation. Constrained by poor storage and transport infrastructure, poor access to credit facilities and weak institutions to address legal disputes, the private sector struggled to reliably meet the country's food needs in the lean season. Private sector buyers were also often unwilling to procure from smallholders in remote rural areas, where long distances and poor infrastructure involve additional costs.[4]

Because Malawian agricultural markets did not act competitively, ADMARC remained as a residual buyer and seller, operating designated floor and ceiling prices. ADMARC's role allowed for some long-distance maize trading between surplus and deficit areas and created some competition in areas which lacked competing buyers.[5] Malawi's foray into liberalisation had shown that systemic weaknesses in its marketing system needed to be addressed.

Vibrant agricultural commodity exchanges an answer?

Similar scenarios have been observed in many other sub-Saharan countries, where weak, disjointed and atomistic conditions in poor rural areas undermine the ability of existing markets to develop and constrain economic growth. One possible answer is to develop a coordinated, vibrant exchange mechanism to facilitate the development of agricultural supply chains.[6] Agricultural commodity exchanges help facilitate trade by governing contractual relations between market participants, mitigating information asymmetries and decreasing transaction costs between buyers and sellers.[7] The number of commodity exchanges in Africa have substantially increased in the last two decades, but many have languished due to a range of challenges (Table 1).

Table 1: Typical challenges experienced by African commodity exchanges

Challenge	Primary causes
Failure to attract sufficient trade volumes for profitable trade	Small domestic commodity markets, thinly traded
High transaction costs and prohibitively expensive to operate	Small domestic commodity markets, high start-up costs
Insufficient trade services, such as hedging quality, price and delivery risk	Lack of investment and development in the exchange
Limited participation of financial institutions	Multiple reasons associated with perception of risk
Weak storage infrastructure	Inadequate public and private investment
Poor transport infrastructure	Inadequate public investment
Poor communications infrastructure	Inadequate public and private investment
Market manipulation or conflicts of interest among brokers	Weak legal and regulatory environment
Missing contract safeguards and weak contract enforcement	Weak legal and regulatory environment
Asymmetric trade risks between buyers and sellers	Conflicts of interest, thinly traded markets
Perceived likelihood of policy interventions	Governance
Unstable macroeconomics	Governance

Source: Authors work, adapted from various sources[8]

[3] Robbins, P. (2010). Review of the Role of Commodity Exchanges in Supporting Smallholder Farmer Market Linkages and Income Benefits.
[4] Morua Hernandez, V. (2012). The Agricultural Commodity Exchange for Africa. Mapping the Progress of Structured Trade Systems in Malawi. Available at http://www.bidvolumeonly.org/media/7618/The%20ACE%20Model%20Valeria%20Morua%20-%20Revised.pdf
[5] Jayne, T.S., Mangisoni, J. and Sitko, N. (2008). Social Analysis of Malawi's Maize Marketing Reforms, Report for the World Bank, Malawi, pp. 1-2, 40-1. Available at http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.151.1687&rep=rep1&type=pdf
[6] Dorward, A. and Kydd, J.G. (2005). Making Agricultural Market Systems work for the Poor: Promoting Effective, Efficient and Accessible Coordination and Exchange. Available at http://eprints.soas.ac.uk/8918/
[7] Morua Hernandez, V. (2012). The Agricultural Commodity Exchange for Africa. Mapping the Progress of Structured Trade Systems in Malawi. Available at http://www.bidvolumeonly.org/media/7618/The%20ACE%20Model%20Valeria%20Morua%20-%20Revised.pdf
[8] Rashid, S., Winter-Nelson, A. and P. Garcia (2010). Purpose and Potential for Commodity Exchanges in African Economies. IFPRI Discussion Paper 01035, IFPRI, Washington, DC; Jayne, T., Sturgess, C., Kopicki, R. and Sitko, N. (2014). Agricultural Commodity Exchanges and the Development of Grain Markets and Trade in Africa: A Review of Recent Experience. Working Paper 88. Available at https://ageconsearch.umn.edu/bitstream/188568/2/wp88.pdf; Dentoni, D. and Dries, L. (2015). Private Sector Investments to Create Market-supporting Institutions: The Case of Malawian Agricultural Commodity Exchange. Available at http://ageconsearch.umn.edu/bitstream/205709/2/AAEA%202015%20ACE%20final.pdf

Photo: ACE

George Funsani, Kafulu Warehouse manager, demonstrates maize being sorted before it is put in the warehouse

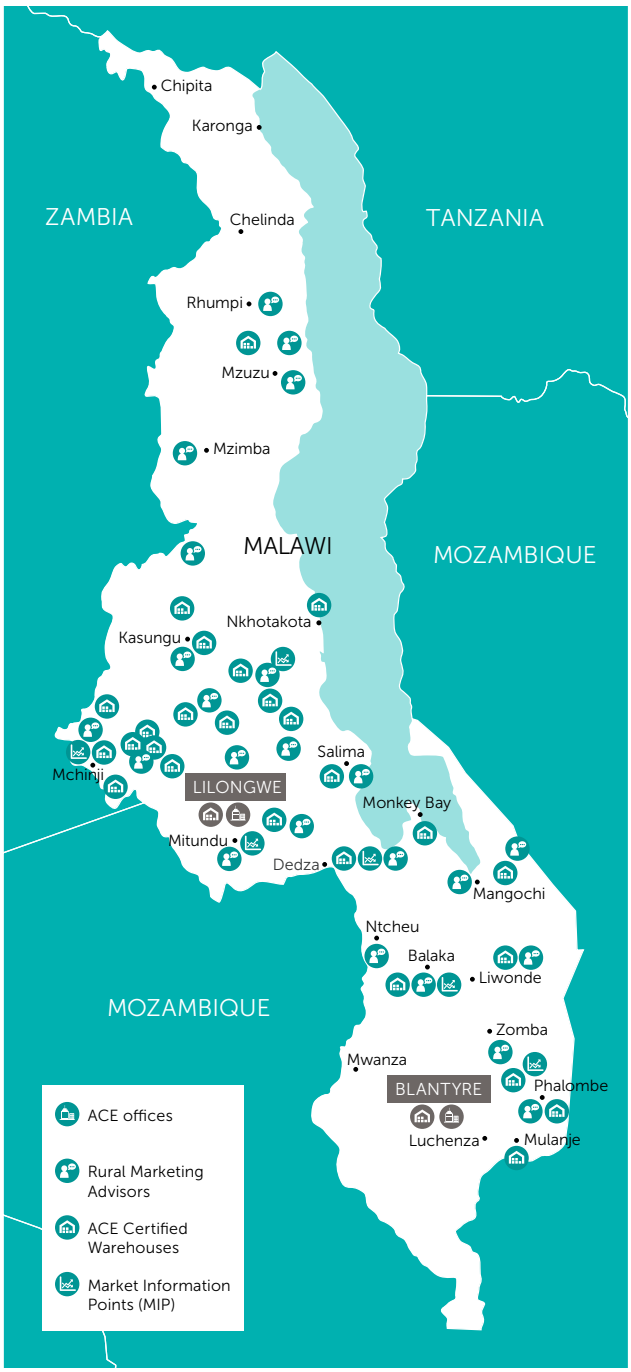
Agricultural Commodity Exchange for Africa (ACE)

The Agricultural Commodity Exchange for Africa (ACE) is Malawi's attempt to mature the marketplace for agricultural commodities. ACE was established in the mid-2000s with donor funding from the United States Agency for International Development (USAID) in a partnership with the National Small Farmers' Association of Malawi (NASFAM). The Common Fund for Commodities (CFC) initially contributed funds for operational support and regional sensitisation and, later in 2011, collaborated with the European Union (EU) to jointly fund the introduction of the warehouse receipt system (see below). ACE has continued to forge many important partnerships with the development community and the private sector.[9]

The overall objective of ACE is to create impact through a more efficient and transparent marketing system for agricultural commodities. For the country, well-functioning markets are vital to reducing price volatility, which has spurred economic development and enhanced nation-wide food security. For producers and traders, ACE is an opportunity to engage in structured trade, access higher-value markets, reduce transaction costs, and reduce risks associated with storage, credit and contractual arrangements.

Marketing systems are notoriously complex and defy simple solutions. For this reason, ACE has been built on three interlinked pillars; market information, trade facilitation and a warehouse receipt system (Figure 2).

Figure 1: ACE locations in Malawi

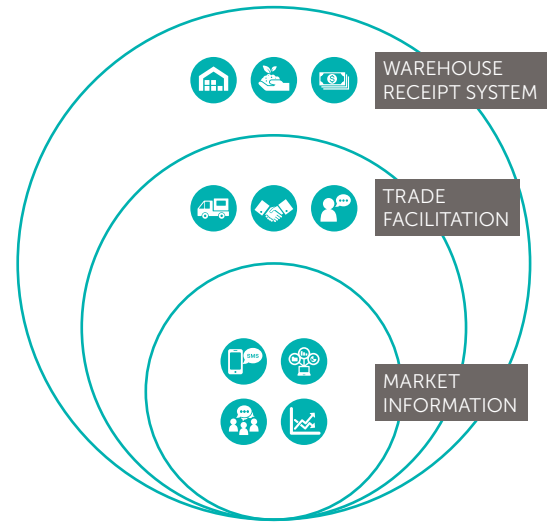


Source: ACE Rural Strategy 2020

[9] ACE. (n.d). Current and Past ACE Projects. Available at http://www.bidvolumeonly.org/about-ace/funded-projects.aspx
The USAID-funded projects, such as the Market Linkages Initiative and Integrating Nutrition into Value Chains, support the technological side of ACE.
The Alliance for a Green Revolution in Africa (AGRA) has provided critical support when it comes to training and sensitisation efforts.

The pillars of ACE

Figure 2: ACE pillars and supporting services



Source: ACE Rural Strategy 2020

Pillar 1 – Market information

Market information is important for all market players, but particularly for smallholders and their cooperatives based in remote rural areas. Reliable market information helps them decide when the best time is to sell and from whom they can obtain a competitive price.

Under this pillar, ACE collects weekly price information from markets in Lilongwe and Blantyre for key agricultural commodities. ACE then factors in the cost of transporting the commodity to rural warehouse locations and disseminates these discounted prices via its online platform and SMS-based market information system. Any organisation, company or project working with farmers is free to register their clients on the ACE system. Market information is further disseminated through ACE-operated rural market information points and a nationwide network of rural marketing advisors, who support clients in marketing their commodities.

Pillar 2 – Trade facilitation

ACE is neither a buyer, nor a seller. Its core function is to facilitate trade in grain (maize) and legumes (soybean, groundnuts, pulses) via its online trading platform. In the early days of its establishment, ACE facilitated trade through an Offer Volume Only (OVO) system. This works like a normal auction where buyers compete on price for set volumes offered by suppliers. Like other African commodity exchanges, ACE initially struggled to grow under the OVO system. As the platform was not well-established, market actors lacked confidence in the exchange and both buyers and sellers were concerned about contractual defaults. Buyers were worried that sellers would not provide either the volume or the quality of the commodity agreed, while sellers were sceptical that buyers would always pay on the terms of the agreement.[10] Such risks were exacerbated by weak contract laws in the country, and a lack of institutional capacity for contracts to be enforced.

An important addition to the ACE trading platform was the introduction of a Bid Volume Only (BVO) contract in 2010. The BVO system is basically a reverse auction, where buyers first bid to buy a commodity. Buyers define the terms and volume they wish to purchase, but without a specific price. Potential suppliers can then place offers to sell, competing with each other on price. The buyer is free to select any of the offers. Buyers are also free not to select any offers if they deem prices to be too high. Once a bid or offer has been negotiated and accepted, ACE generates a binding contract. If there is a dispute, traders must abide by the exchange's arbitration rules.[10]

The introduction of the BVO system was particularly important to facilitate the procurement needs of the World Food Programme (WFP) under its Purchase for Progress initiative. Observing the functioning of the BVO system, some commercial processors then also increased trade volumes on the exchange. The introduction of the BVO system was an important way for ACE to grow its trade volumes year on year.[11] However, as ACE only charged a 0.2% commission on these direct trades, other revenue streams were still needed for ACE to achieve financial viability.

Overall, the ACE virtual trading platform offers sellers access to higher-value output markets, with bids to buy and offers to sell promoted by ACE's market information services (pillar 1). Since trading on an exchange like ACE involves a degree of technical capacity, ACE's Rural Marketing Advisors are on hand to help farmers and farmer groups work with the system and integrate into the formal market.

[10] Dentoni, D., Dries, L. (2015). Private sector investments to create market-supporting institutions: The case of Malawian Agricultural Commodity Exchange

[11] The exception was 2017, in which Malawi's grain markets suffered due to a combination of factors including too much grain from humanitarian support in the marketplace, bad trade policies, and barriers to export markets.

However, to really grow, ACE had to instil greater confidence in market actors to trade on the exchange. A warehouse receipt system was identified as a vital pillar to complement the trading platform.

Pillar 3 – Warehouse receipt system

Early on, ACE realised that it would struggle to increase traded volumes without a successful warehouse receipt system that could back up the exchange. Understanding the importance of this crucial component, the CFC jointly funded the introduction of the warehouse receipt system, including the construction of the first three rural warehouses and the integration of other privately owned 'ACE-certified' warehouses in the system.[12]

The warehouse receipt system enables farmers (individuals or cooperatives) and traders to securely store grains and legumes at ACE-certified warehouses for a period of time after harvest. The system essentially works as follows: when a farmer or other depositor wishes to deposit a quantity of produce at a certified ACE warehouse, it is first cleaned, graded, re-bagged and stacked. In Malawi, there are no de facto national grading standards so ACE grades have been defined using both National Food Reserve Agency and WFP criteria.[13] A warehouse receipt is then issued to the owner, stipulating the quantity and the quality grade of the commodity as evidence of location and ownership. A warehouse receipt is a standard storage and collateral management contract between the depositor and the storage operator.[14]

The security of ACE-certified warehouses provides farmers with a viable option not to sell at the point of harvest when supply is high and prices are at their lowest. By storing their produce in ACE-certified warehouses, farmers and other depositors can simply wait until prices become more favourable later in the year.

But more than this, the warehouse receipt can be used as collateral for a loan, backed by the claim that the commodity is securely held in the warehouse. Prior to ACE, commodity finance was only available to selected stakeholders on a balance sheet basis due to lender's perceived risks. Now, the assurance that the warehouse receipt provides enables depositors to access much more affordable credit from banks and other formal lenders. The system can therefore solve the liquidity problem that small producers face at harvest time, which compels them to sell at low prices. This is also beneficial to the banks, who may be able to reach a new set of customers.[15]

Furthermore, the warehouse receipt system is integrated with the exchange (pillar 2). When the warehouse receipt is offered for sale on the exchange platform, the buyer can be sure that the underlying commodity exists, that it is in secure storage, and that they will get the quantity and quality stated. This is guaranteed by the ACE storage facility operator.[16] In this way, the warehouse receipt system reduces risk to the buyer and allows for the development of 'sight-unseen' trade to develop. This encourages more trade, more competition and greater access to higher-value markets for quality. Multiple warehouse receipts can even be aggregated and sold together, which can lead to economies of scale and result in a price premium.

ACE now has 19 active warehouses representing 81,574 metric tonnes of storage space available for third party deposits.

CFC's initial investment in the warehouse receipt system has been a catalyst for the growth of the ACE network of warehouses. ACE now has 19 active warehouses representing 81,574 metric tonnes of storage space available for third party deposits. From this, ACE operates a nationwide network of eight rural warehouses owned by partner farmer associations or private sector partners; cumulatively they offer depositors access to 5,050 metric tonnes of storage space.[17]

[12] The CFC jointly funded the project with the EU. The project was entitled 'Warehouse Inventory Credit – Malawi Component' (CFC/FIGG/38FA)

[13] Grain quality standards define the maximum percentages of defective and broken kernels, foreign matter and moisture permitted for a specific grade

[14] ACE (2012). Warehouse Receipt System in Malawi: A Strategy, a Solution. Agricultural Commodity Exchange for Africa, Malawi. Available at http://www.bidvolumeonly.org/media/1326/wrs_strategy_paper.pdf

[15] Work still needs to be done to fully develop appropriate financial products. ACE has played a central role encouraging banks to undertake this new business and develop financial products. In 2012, First Merchant Bank (FMB) was the only bank to participate directly, granting ACE an overdraft facility of K25 million (US$39,500) at an interest rate of base plus 2%. Warehouse receipts were financed at 70% of their market value, of which the bank covered 75% and ACE the remaining 25%. Given this set-up, ACE is expected to take on the first 25% of a loss on a warehouse receipt. Unfortunately, in 2017, the price of pigeon peas collapsed when India stopped importing from Malawi, which resulted in FMB freezing this facility. ACE needs to develop risk tools to get this facility back online.

[16] The storage operator is liable in case of a default and the warehouse receipt system requires that the storage facilities are comprehensively insured: the warehouse receipt owner has to take out on-site insurance, not only for the infrastructure but also for stock on-site, as part of their registration with ACE. This includes third party storage. However, there is no guarantee that, should a problem arise and loss or damage occur to products on warehouse receipt, the warehouse receipt owner will be refunded. The insurance company will pay the insured warehouse owners but the warehouse receipt owner will depend on the integrity of the warehouse operator to make good on his losses. If not, the only recourse would be through legal action. Dentoni, D., Dries, L. (2015). Private sector investments to create market-supporting institutions: The case of Malawian Agricultural Commodity Exchange,

[17] In 2017, ACE experienced USAID budget cuts which resulted in the closing of some rural sites. ACE is working to bring more storage into operation again through private sector partnerships. Previous storage figures are available here: ACE. (n.d.). Warehouse Receipt System. Available at http://www.aceafrica.org/

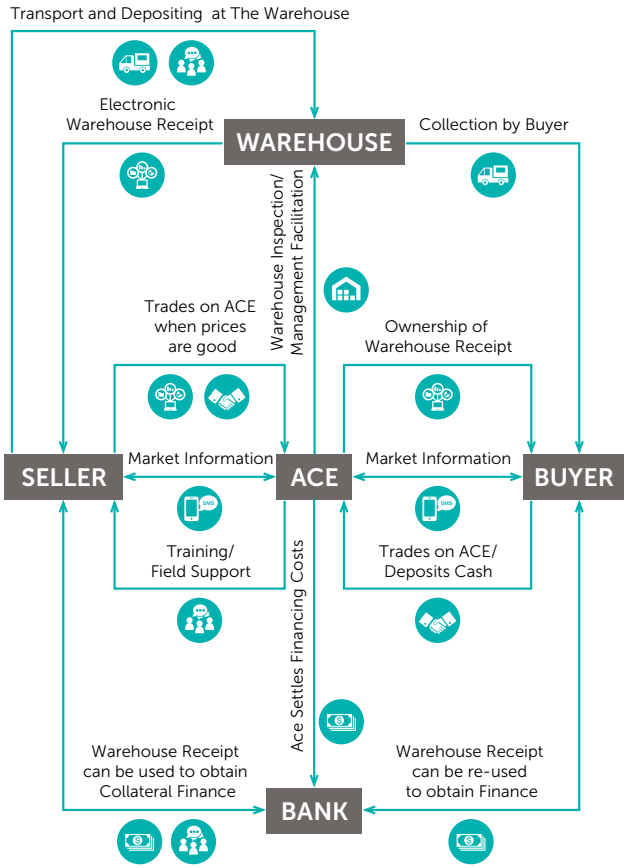
Overall, the warehouse receipt system reduces post-harvest losses and protects participating farmers and farmer groups against low market prices at harvest time. Moreover, it allows depositors to profit through temporal arbitrage and, in the meantime, access affordable credit from formal lenders. The warehouse receipt system greatly strengthens the trading system, which supports the development of quality markets and enables depositors to reach more buyers. It gives buyers the confidence to trade in commodities on a sight-unseen basis and allows for the trade of warehouse receipt contracts without having to transport the produce, which lowers the cost of trade.

ACE-certified warehouse owners benefit through the fees they charge for storage, and creditors benefit through interest on loans and reduced exposure to risk. ACE also benefits from the higher commission charged on a warehouse receipt trade compared with that charged on a direct trade. Through a reduced glut on the market in the harvest period, and an increased availability of supply during months of relative scarcity, the marketing system is now more balanced, which reduces commodity price volatility. Ultimately, this contributes to a stronger marketing system which is good for rural economic development and increased food security.

Figure 3: The life of a warehouse receipt

Photo: ACE

Figure 4: ACE warehouse receipt system



Source: ACE Rural Strategy 2020

ACE market-supporting institutions

ACE has overcome challenges by providing a mix of market-supporting institutions that increase trader confidence and the efficiency of transactions, reduce uncertainty and generate larger commodity trade volumes. For example, ACE has been a forerunner in trying to standardise commodity quality standards in the country. It has also worked to define a regulatory framework for warehouse receipts. Across Africa, specific warehouse legislation and formal regulatory structures have tended to follow, rather than lead, the development of ACE's successful receipt system.[18] Insurance is another area that ACE has been prominent in developing. Insurance is important for protecting the grain stored in certified warehouses against natural perils and theft. It is equally important to guarantee financial performance, which is important for the integrity of the system and the confidence of financial institutions.

ACE has often found that farmers and their organisations lack capacity, at first, to engage in structured marketing. Therefore, ACE has tried to work proactively with institutional partners to strengthen the producer end of the value chain through training and sensitisation, input loans and mobile money.

The way forward for ACE

ACE has been able to overcome many of the challenges that have constrained other exchanges, but it is not resting on its laurels. Recently, ACE engaged in a series of workshops and interviews with stakeholders and staff to identify the weaknesses of its model and threats in the system. The process culminated in the development and formulation of the ACE Rural Strategy 2020 which will guide ACE's programmatic planning, decision-making and rural activities for the next five years.[19] The strategy document recognises the need for ACE to strengthen its internal monitoring systems and continually learn from experiences in the field so that it can continuously adapt, improve and scale its services, in line with the changing needs of its clientele.

In particular, the ACE Rural Strategy 2020 highlights the need for more direct support services to farmers and rural clients. One of ACE's biggest challenges is the relatively low adoption rates by farmers and small rural enterprises in spite of the great potential benefits ACE offers. ACE's internal assessment showed that its 'three pillars' approach is the right one, however farmers and farmer organisations need even more bespoke training and closer support from capable field staff to be able to take advantage of ACE services. This would even extend beyond ACE's core business, and so ACE needs to leverage the right partnerships to support farmers on issues such as production quality, farmer group strengthening and a stronger input supply chain.

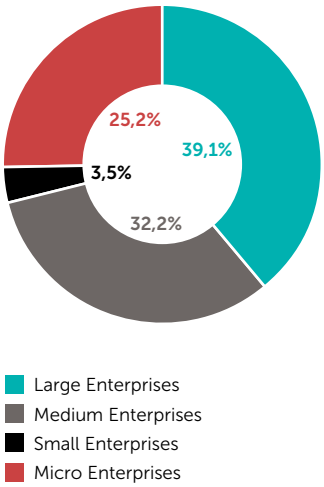
Recently, ACE's advocacy efforts have contributed to improved governance in the sector. The Ministry of Industry, Trade and Tourism has recently drafted a Warehouse Receipts System Bill, which was approved by the Cabinet Committee on Legal Affairs in May 2017 and appoints the Reserve Bank of Malawi as the regulator.[20] The Act, if approved, will bring in revised rules and regulations which is expected to bring more stability to the markets.

[18] Onumah, G. (2010). Implementing Warehouse Receipt Systems in Africa: Potential and Challenges. Paper prepared for the Fourth African Agricultural Markets Program Policy Symposium, organised by the Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA) of the Common Market for Eastern and Southern Africa (COMESA). September 6-7, 2010, Lilongwe, Malawi.

[19] Cronjaeger, P., Fischer, F., Møller, K S., Morris, A., Hernandez V M. (2016). ACE Rural Strategy 2020. Available at http://www.bidvolumeonly.org/NewsLetters/ace_rs_75dpi.pdf

[20] Gondwe, A., Baulch, B. (2017). The Case for Structured Markets in Malawi. IFPRI. Strategy Support Program, Policy note 29. Available at http://massp.ifpri.info/files/2017/08/MaSSP-Policy-Note-29_The-case-for-structured-markets-in-Malawi-revised-11.24.17.pdf

Figure 5: Overall trades on the ACE platform, disaggregated by size of seller (2015)

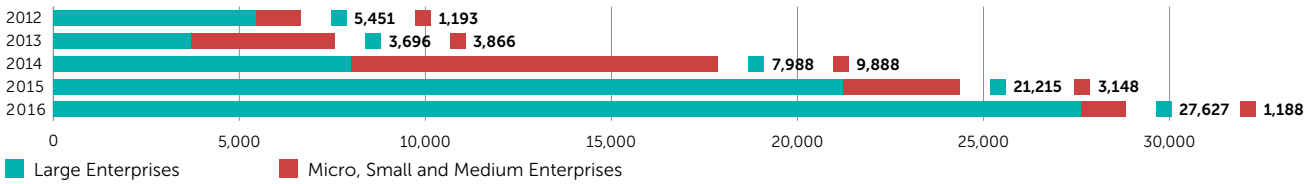


Source: ACE Rural Strategy 2020

Photo: ACE

ACE warehouse manager George Funsani demonstrates ACE certified maize being weighed

Figure 6: Warehouse deposits by type of depositor (metric tonnes)



Source: ACE Rural Strategy 2020

The ACE Rural Strategy 2020 also highlights the fact that ACE needs to become more economically viable and financially sustainable. ACE generates revenue through commission on the exchange and will shortly introduce a warehouse receipt fee. (Storage fees go directly to the ACE-certified warehouse owner, which is often a farmer organisation). Therefore, ACE needs to make the right investments in infrastructure and personnel to continue to grow its trade volumes and turnover. This involves targeting its interventions to the right clients in high potential areas (rather than to the many). Financial sustainability became an even greater concern in 2017 when ACE experienced significant funding cuts from USAID, combined with particularly challenging market conditions in the country. In response, ACE is conducting a further review of its commercial model. In the medium to long-term, ACE strives to become an economically viable and donor-independent organisation, while still following its vision to support farmers and promote inclusive, pro-poor growth in Malawi.

ACE is in demand because it is able to deliver tangible benefits to all types of actors in the marketing system. Crucially, it has demonstrated that smart investments in a well-designed institution can begin to transform a marketing system. Up to now, ACE has shown a willingness to evolve its model, adapt to the needs of the market, and pilot innovative schemes. If ACE can deliver on the 2020 strategy, its many supporters believe it will revolutionise agricultural trade in the region and deliver on the promise of inclusive rural development.

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