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# Institutional and Policy Constraints to Innovation in the Malawian Legume Value Chains: Current Status and Business Actors' Coordination for Institutional Change

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## Preface

This scoping study was conducted by Domenico Dentoni, professor in agribusiness management and strategy at Wageningen University (WU), with the support of MSc students Felix Krussmann, Mohammed Degnet, and Ali Noor as part of the Michigan State University (MSU) Global Center for Food Systems Innovation (GCFSI) Year 2 Program. The GCFSI Core Team in Year 2, including MSU and WU staff, has tackled the following overarching question: “Where and how can multipurpose legumes be scaled for sustainable intensification of maize systems and what would the potential impacts be, in the medium term, across the food system in Malawi?” Under Dentoni’s supervision, the research team conducted field interviews, prepared analytical outputs, and disseminated results to stakeholders. After approval in May 2014, primary data collection was prepared and implemented in Lilongwe (Malawi) in summer 2014; data was analyzed from September to November of the same year. Dissemination to USAID Malawi and Malawian stakeholders—including Lilongwe University for Agricultural and Natural Resources (LUANAR)—took place in November 2014. Data collection and dissemination was implemented in collaboration with LUANAR/MT3 team (Sekawo Kasiya, Charles Jumbe and Jeremiah Kang’ombe). Logistics of data collection were coordinated with core GCFSI researchers David Tschirley (who leads the work focusing on Rapid Urbanization), Thomas Smith and John Dirkx (who lead the work focusing on workforce development).

The focus of this study on institutional and policy constraints and the business actors’ efforts to promote institutional change and develop legume market development complements the following activities simultaneously undertaken by colleagues at GCFSI:

- GCFSI urbanization team research (led by David Tschirley) on the structure of the legume value chain and on growing middle-class consumers’ demand for legumes. As such, this study leads to recommendations on how universities and development agents (such as GCFSI’s university and institutional partners) can coordinate and exchange resources with business actors to seize demand-driven opportunities in a context of policy and institutional constraints.
- GCFSI skills development research (led by Thomas Smith and John Dirkx) on the workforce and competence needs of agribusiness and the role of African universities in filling this gap. As such, this study leads to recommendations on how post-secondary education can impart technical skills and social competencies to agribusinesses that will help to scale innovation in a context of policy and institutional constraints.
- GCFSI research on urban informal markets (led by Stephanie White and Michael Hamm) and on Information and Communication Technology (Charles Steinfield and Susan Wyche). As such, this study leads to implications on 1) how farmers and other business value chain actors coordinate with public authorities and other stakeholders to advocate for the tailored introduction of “rules of the game” to apply in value chains (e.g., seed certification, quality standard and contract enforcement); 2) how stakeholders can exchange resources innovatively to jointly exploit IT innovations (e.g., SMS-market information systems through Esoko Ltd).

## EXECUTIVE SUMMARY

Legume (including soybean, groundnut and pigeon pea) value chains in Malawi suffer major inefficiencies that constrain safe and high-quality supply and limit the growth of market demand for Malawian legumes (Rusike et al. 2013). These inefficiencies challenge the potential of legumes to sustainably meet the nutritional needs of both the rural population and of the growing urban middle-class, whose consumption is estimated to grow sharply through 2025 (Reardon et al. 2013; Tschirley et al. 2013, 2014). Legumes have potential to play a dual role in both providing high-protein nutritional value to consumers and support to nitrogen fixation for the complementary production of grains (Snapp and Silim 2002; Snapp et al. 2002).

Given the current inefficiencies affecting legume value chains, this scoping study has two goals:

- 1) To review the institutional and policy issues that perpetuate inefficiencies and constrains the scaling of innovation by business actors in the Malawian legume value chains (in this study, referring to farmers' input suppliers, traders & processors; farmers-support organizations; and the African Commodity Exchange)
- 2) To explore how the mentioned business actors have cooperated or competed with each other in 2013 and 2014 in the attempt to solve or at least mitigate institutional and policy issues

To meet these goals, this scoping study entails a stakeholder analysis and an innovative application of value network analysis (VNA) on the basis of interviews to 59 business value chain actors and their partners (Appendixes 1-2).<sup>1</sup>

First, results from this scoping study found that key institutional and policy issues include the following:

- 1) Uncoordinated information systems for farmers: farmers often receive price information in specific districts, but this information is not coordinated with information on input costs and uses. As a consequence, the use of information systems at today remains limited.
- 2) Weak credit and input markets for farmers: seed supply and demand is highly influenced by the government, and a strategic plan for upcoming years is still uncertain. As a consequence, farmers cannot commit to credit schemes with financial institutions in input investments.
- 3) Poor infrastructure systems: warehouse facilities grew rapidly in areas surrounding Lilongwe and Blantyre in 2009-2014, yet peripheral legume farming areas are still underserved.
- 4) Constraints to farming as business: poor contract enforcement and uncertain legislation around business and trade licences and taxation favors business short-sightedness.
- 5) Weak public monitoring and auditing on quality standards: quality and safety standards of legume supply are not consistently monitored and enforced.

To address these institutional and policy issues, business value chain actors (farmers' input suppliers, traders and processors; farmer-support organizations; and the African Commodity Exchange) have undertaken the following actions in 2013 and 2014:

- To provide farmers with coordinated information across output and input markets, business actors cooperate with each other, NGOs, and donors through joint investment in commodity exchange. At the same time, business actors compete by building preferential "knowledge networks" with farmers and their farmer-support organizations.
- To plan supply and demand of improved seed varieties in 2015-2020, international seed companies cooperate with the government and other business actors. At the same time, farmer-support

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<sup>1</sup> VNA maps the strategic resources (financial, information, knowledge, hierarchy, commodity, infrastructure) that business actors access or pool through coordination with their existing stakeholders.

organizations advocate for expanding local competitive base in seed market through more articulated seed certification system.

- To reduce annual shocks in legume demand-supply and to grow exports, business actors cooperate by integrating legume warehouse systems and pressuring the government to implement more certain trade and licensing rules. At the same time, legume supply and demand remain segmented because of poor road and limited storage infrastructure, as well as limited incentives in privately upgrading standard certification and monitoring.

On the basis of VNA methodology, this analysis of business actors' coordination with other stakeholders to address these issues has implications and recommendations Malawian universities (such as LUANAR), international researchers, and international donors (as these are the stakeholders engaged in GCFSI).

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## ACRONYMS

ACDI/VOCA	Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance
ACE	Agricultural Commodity Exchange
ADMARC	Agricultural Development and Marketing Corporation
AFSUN	African Food Security Network
AHL	Auction Holdings Limited
AICC	African Institute of Corporate Citizenship
APEX	Annual Production Estimated Index
ASWAP	Agricultural Sector-Wide Approach Platform
CIS	Central Information System
CISANET	Civil Society Agriculture Network
DSS	Decision Support System
EPA	Extension Planning Area
FFS	Farmer Field Schools
FISP	Farm Input Subsidy Program
FUM	Farmers' Union of Malawi
GCFSI	Global Center for Food Systems Innovation
HESN	Higher Education Solutions Network
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and Communication Technology
ITC	Information Technology and Communication
IP	Intellectual Property
IT	Information Technology
LDT	Legume Development Trust
LUANAR	Lilongwe University of Agriculture and Natural Resources
MAPAC	Malawian Platform for Aflatoxin Control
MDTF	Multi Donor Trust Fund
MLM	Multipurpose Legume-Maize
MSU	Michigan State University
NASFAM	National Association of Smallholder Farmers of Malawi
NGO	Non-governmental Organization
PACA	Partnership for Aflatoxin Control in Africa
SA	Stakeholder Analysis
SMS	
STAM	Seed Traders Association of Malawi
TISWAP	Trade and Industry Sector Wide Approach Platform
USAID	United States Agency for International Development
USAID/Lab	US Global Development Lab
VCA	Value Chain Analysis
VNA	Value Network Analysis
WFP	World Food Program
WIEGO	Women in Informal Employment: Globalizing and Organizing

# 1. INTRODUCTION

Legume value chains in Malawi, and more broadly in Eastern Africa, need to increase their efficiency to meet the emerging needs of the rising urban middle-class, whose consumption will grow sharply by 2025 (Reardon et al. 2013; Tschirley et al. 2013, 2014) and of rural households. Legumes represent an affordable, nutritious food for Malawian consumers and for export to other growing urban centres in the region (Styen et al. 2012). Along with providing market opportunities, legumes play a dual role for farmers' food and nutrition security and support nitrogen fixation to support the production of grains (Snapp and Silim 2002; Snapp et al. 2002). Yet, today legume chains suffer major inefficiencies that constrain safe and high-quality supply of legumes, increase the costs of doing business and limit market demand growth (Rusike et al. 2013).

Solutions to increase the efficiency of legume value chains would include, among others, information systems for farmers to gauge information on input and output prices, storage facilities to mitigate shocks between supply and demand of legumes, seed certification systems that effectively signal the quality of legume seeds, and enforcement mechanisms to ensure a standard legume seed supply that is safe and of high quality. These solutions require changes in the "rules of the game" at the institutional/policy level that regulate the relationships among market actors. Changes at the market level that impact the relationships between suppliers and buyers are not sufficient. Effective institutional and policy changes would have effects beyond a single legume value chain governed by a specific processor or trader and would stimulate business investments in product and process innovations (Hounkonnou et al. 2012) with subsequent reduction of food losses, trade growth, improved nutrition, and incomes.

Despite the need to increase efficiency in Malawian legume chains, public institutions have so far largely failed to support the implementation of policies that unlock private investments and stimulate the business potential for introducing innovation in agricultural and food chains (Fafchamps 2004; Eifert et al. 2008). Given the unfavourable institutional and policy context, business actors (including farmers' input suppliers, traders and processors; farmer-support organizations; and the African Commodity Exchange) are attempting to develop private (or public-private, to indicate any generic form of coordination with government entities) institutions that could support market development. For example, through the Agricultural Commodity Exchange for Africa (ACE) in Malawi, business actors organize "rules of the game," which regulate the trade of legumes as well as related credit and input supply markets (Greif 2008); or develop knowledge networks with farmers that replace the decreasing role of public extension. However, policy and institutional issues further constrain efforts by traders, processors, and input suppliers to create conditions for investing and introducing innovations, and block bottom-up attempts from non-profit sector actors (e.g., non-governmental organizations, farmers' unions, and civil society organizations) (Ricker-Gilbert et al. 2013).

The academic literature (so far) has limited its exploration into the drivers and effects of these private efforts. Even though there is potential for business actors to develop market-support institutions and stimulate innovation in legume value chains. Recent research has focused on how business actors innovate through vertical coordination and its effects (e.g., contract farming, Barrett et al. 2012 and Bellemare 2012; equity-based partnerships, Sartorius and Kirsten 2007; interlinked transactions, Gow et al. 2000; or farm acquisition, Swinnen and Maertens 2007). The effects of these private investments are only on one supplier-buyer transaction, but not on developing new "rules of the game" that could change multiple supplier-buyer transactions at the same time. Other researchers described the organization and outreach of market-support institutions developed by business actors (such as "public-private partnership"; Poulton and Macartney 2012; Collier and Dercon 2013), yet do not investigate why business actors participate in developing these institutions and what their effects are on supporting the agricultural and food markets. At

an institutional and policy level, research focused on the effects of economic policies and on the barriers to effective implementation (Fafchamps 2004; Eifert et al. 2008; Ricker-Gilbert et al. 2013). Therefore, a gap persists in understanding why and how business actors participate in institutional change and what the effects of this participation are on stimulating innovation in agricultural and food value chains.

Given the relevance of private investments in institutional change for stimulating innovation and developing trade in Malawi and in other Eastern African countries, this scoping study provides preliminary insights that help tackle the question: how do business actors (legume traders, processors and input suppliers) initiate institutional change that supports market development and unlocks incentives for innovation? To tackle this question, this study reviews the institutional and policy issues that constrain private investments in the Malawian legume value chain innovation (with a focus on soybeans and groundnuts as commercial legume crops, and pigeon pea mainly as a subsistence legume crop), and explores how business actors (legume traders, processors and input suppliers) collaborate with their private and public stakeholders to access and pool resources that support market development despite the existing institutional and policy constraints, and the preliminary outcomes of these public-private forms of collaboration.

To summarize and interpret how legume traders, processors, and input suppliers participate in these forms of institutional change, this study uses VNA (Biem and Caswell 2008) to map the resources exchanged and pooled by business actors through networks and alliances with stakeholders within and outside legume value chains. Complementary to value chain analysis (VCA), VNA allows researchers and practitioners to assess how business actors coordinate with other actors in the legume systems—not only within the chain (as VCA does), but also outside the chain—to access scarce (and potentially strategic) resources. As simpler versions of VNA, net-mapping techniques are already in use in Africa to map networks among stakeholders in and around chains, as well as their power relationships (e.g., Hellin et al. 2010; Aberman et al. 2012; Solomon et al. 2014), yet not their resource exchange and pooling. The concept of institutional entrepreneurship, defined as the process of innovatively recombining internal and external resources to an organization to achieve institutional change (Battilana et al. 2009; Mair and Marti 2009; Tracey et al. 2011), provides the theoretical underpinning that links institutional economics (Williamson 1991) to network theory (Gulati 1998) and the resource-based view of the firm (Das and Teng 2000).

## 2. METHODOLOGY

The analysis of the institutional and policy constraints and of business actors' efforts to initiate or accelerate institutional change in the legume value chain sector is undertaken through two steps:

- **Step 1: Stakeholder analysis (SA).** Through SA, the research team mapped the institutional and policy issues that constrain innovation in the Malawian legume value chains. To perform SA, the research team first conducted a broad literature review on inefficiencies in Malawian value chains and their relationship with institutional and policy constraints. Next, 39 field interviews were conducted with stakeholders in and around the Malawian value chains (Appendixes 3-5), plus 20 interviews with LUANAR staff. Then the team transcribed and coded the interviews and triangulated them with information from the literature review. Finally, on the basis of data coding, the research team designed problem maps that connect the immediate stakeholders' problems (e.g., "petrol is expensive, so legume supply from farm to processing is limited") to the institutional and policy constraints (e.g., "poor coordination on investments in public infrastructures"). The final result of SA is the Problem Map (Appendix 1).

- **Step 2: Value Network Analysis (VNA).** On the basis of VNA, the research team explored how business actors in the legume value chain collaborate with other stakeholders to access and pool resources that contribute to institutional change. To perform VNA, the research team first conducted 39 field interviews with stakeholders in and around the Malawian value chains (Appendixes 3-5), plus 20 interviews with LUANAR staff, then transcribed and coded them. Then they triangulated the interview data with recent reports from agribusiness companies (traders, processors and input suppliers), development agents and NGOs. On the basis of data coding, the team designed value network maps that represent relationships among legume value chain actors and their stakeholders outside the chain. Along with these relationships among actors, VNA shows the strategic resources that actors exchange or pool as part of their operations (e.g., money, information, knowledge, hierarchy). Information on the exchange resources among actors is qualitative (e.g., the maps illustrate that two actors exchange money and information, but not *how much* money or information). The final result of VNA is the Value Network Map (Appendix 2).

The research team conducted primary data collection coordinating logistics with MSU and LUANAR staff in July-August 2014. Data triangulation with literature review, analysis and interpretation took place in September-December 2014. The research team shared the outputs from SA and VNA and preliminary findings with MSU and LUANAR staff participating in the broader GCFSI program in November-December 2014. In addition, 14 stakeholders in Lilongwe were interviewed to achieve a joint interpretation of the maps (Appendix 5) in November 2014, including USAID officers in Malawi. In addition to disseminating this report and related academic publications, research findings will be disseminated through the following:

- Seminar at LUANAR, Bunda Campus, held by Noor Ali to an audience of staff and postgraduate students (November 25, 2014).
- Presentation and discussion at a Food and Agriculture Organization (FAO) workshop on “mapping complex systems dynamics for urban food security in Africa” in Italy (March 2015) and follow-up submission for publication on a special issue of an agricultural systems journal.
- Submission for publication in a food policy journal (focusing on the role of processors, traders and input suppliers in developing the African Commodity Exchange as an illustration of market-support institution).

### 3. FINDINGS

The analysis of the problem map and value network map (Appendix 1-2 built from the interviews with stakeholders; Appendix 3-5) illustrates how institutional and policy constraints drive five key issues in Malawian legume value chains. These five key issues are the following:

1. Uncoordinated information and knowledge services for farmers.
2. Weak credit and input markets.
3. Poor infrastructure services (storage, road, electricity, and ICT).
4. Problems with farming as a business and cooperative formation.
5. Weak public monitoring and auditing on quality standards.

Findings from this scoping study disentangle how institutional and policy factors relate to these five issues (from the problem map) and how business actors are undertaking efforts to overcome these issues by promoting institutional change (from the value network map). Therefore, for each of these five issues (Issue 1-5), a summary is given on the institutional and policy constraints and on how value chain actors’ coordination for institutional change.

These key issues limit farmers' access to information, credit, and other inputs. They also increase costs and limit other value chain actors' access to a consistent, high-quality, and safe supply of legumes. Therefore, these issues ultimately result in food losses and trade stagnation while impacting income generation and food security.

## **Issue 1: Uncoordinated Information and Knowledge Services for Farmers**

Farmers (see Appendix 2, quadrant D2) face information asymmetries vis-à-vis input suppliers (C4) on the price and use of agricultural inputs (seeds, fertilizer, pesticides and in-farm storage facilities) in relation to market access and prices. This creates risks to farmers that enter into transactions with traders (E5) and processors (C6) requiring safe, high quality supply of legumes. Risks include facing rising input prices (for seeds, fertilizers, storage use, fuel for transport and credit) vis-à-vis stagnating output prices (especially for soybeans and groundnuts, which are the most traded legumes).

### ***BACKGROUND ON THE INSTITUTIONAL AND POLICY CONSTRAINTS***

Issues on farmers' limited access to market information and knowledge relate to institutional and policy constraints in the following ways:

- **Decreasing government role in extension services.** Differently from past decades (1980s-2000s), government-funded extension services (E1) lack resources to reach out to farmers in peripheral areas to provide updated information on input prices and use. Also, the role of the National Association of Smallholder Farmers of Malawi (NASFAM) (B1) and national universities (C1) play extension roles with farmers through government funding (B1-G3), but this funding has decreased sharply in the past 10 years.
- **Limited coordination between ASWAP and TISWAP across Ministries.** Strengthening public extension services recently returned to the government agenda, and we can expect public funding, as well as funding through the Agricultural Sector-Wide Approach Platform (ASWAP)<sup>1</sup> trust (G3) with additional support and management support from the World Bank (G3) through the Multi Donor Trust Fund (MDTF). The ASWAP trust aims to provide a framework to facilitate agricultural investments among government, donors and business actors. It provided funding to the Malawian government for the development of market information systems too, particularly input markets rather than output markets. There is a gap with TISWAP (the Trade and Industry Platform), which has to do with a structural separation within the government between the Ministry of Agriculture and the Ministry of Industry and Trade, which tends to separate rather than coordinate agricultural operations from post-harvest operations. To increase harmonization among market information systems, ASWAP and TISWAP require more coordination.
- **Incomplete government-led information services.** Ministry of Agriculture provides pricing information to farmers through annual production estimated index (APEX) through private information providers such as Esoko. Yet, farmers find these estimates unreliable, and triangulation with other sources of price information would be needed. Moreover, this legume market price information is not matched with information on input costs, so farmers struggle to compare information on legume output prices and input costs to make informed business decisions on input choices, production processes, and market channels in the legume sector.
- **Limited coordination among public and private information systems.** Non-governmental organizations (B4) and government agencies (G3) provide farmers (D2) with information on inputs but do not consistently coordinate with each other to provide complementary input and output information that farmers can use. Some areas are over-supplied with extension and information efforts, while others lack basic access to information on practices and markets. At least five

separate, uncoordinated information systems were identified during our summer 2014 research. As a result, farmers are often confronted with conflicting information about best practices from different support organizations.

- **Limited knowledge of farmers in assessing and using market information.** Another aspect of the problem of uncoordinated market information systems is the inability of most farmers to combine input and output information from different sources to make strategic decisions on legume production and trade. Differently from the past, farmers are required to rapidly reassess their production and market choices depending on the market information. There are too few institutions that can provide business training to farmers (see also issue 4). As the two points below illustrate, farmers' associations and universities also face constraints when providing business knowledge to farmers.
- **Farmers associations' role as knowledge providers.** NASFAM (B1) and FUM (C1) provide extension and market advice to farmers (D2). NASFAM provides a formalized structure to share knowledge: farmers are organized in clubs, committees, and associations and linked to trainers at the local level and business managers at the regional level using market information from ACE, AHL, and ACDI/VOCA. Farmers also sell to NASFAM Commercial, the marketing arm of NASFAM, yet most legumes are sold in the spot market (i.e., "on the spot," without formal contracts or established relationships between buyer and seller). Relative to NASFAM, FUM also represents traders and processors; thus, it is more oriented toward linking with markets, cooperative formation, and business environment issues (see constraint 4). Both NASFAM and FUM face financial constraints and need to develop an understanding of transforming agribusiness to provide farmers with updated training on how to manage and use input-output information systems.
- **Changing role of universities as knowledge providers.** The role of universities (C1) is changing from government-funded extension to collaborations with farmer-support organizations and companies. LUANAR's networks (C1) with NASFAM (B1), FUM (C1) and the Civil Society Agriculture Network<sup>2</sup> (CISANET, B4) are strong because of a history of collaboration through extension. However, networks with traders, processors and input suppliers are still weak. LUANAR has growing faculty expertise and graduate programs in economics, agribusiness, law and policy, agriculture, and IT services that have potential to connect with the current needs of business actors and their stakeholders.

Therefore, despite this proliferation of information provided by different actors (government, traders and processors, input suppliers, non-governmental organizations), there is still a gap for farmers in understanding and using input cost and use information as well as output information, which limits their choices for investing in commercial legume production. If operating individually, value chain actors (i.e., traders/processors, input suppliers) cannot provide a complete set of input and output information to farmers because it is too expensive to train farmers (D2) without a guaranteed return of safe, high-quality supply (see next constraints).

### ***BUSINESS ACTORS' COORDINATION FOR INSTITUTIONAL CHANGE***

In 2013-2014, business actors (i.e., legume traders, processors, input suppliers) attempted to align incentives for value chain actors, companies, government (G3) and farmer-support organizations [e.g., NASFAM (B1), Farmers' Union of Malawi (FUM) (C1)] to create a stable, high quality, and safe supply of legumes.<sup>3</sup>

- **Agricultural Commodity Exchange (ACE) for Africa (D3)<sup>4</sup>.** ACE is a private body owned by farmers' associations and, since 2010, shared with traders, processors and input suppliers that co-

invested in ACE as a market-support institution. It generates revenue through intermediation and warehouse services among farmers, traders, processors, and the World Food Program (WFP), both in legumes and other crops. ACE receives support from the government and donors (see constraint 3 below; ACE 2014). ACE launched its market information system through Esoko in 2011 through the USAID-funded Market Linkages Initiative (A3). Since then, ACE has provided farmers with legume price information and trade opportunities. The presence of ACE mitigates the issue of poor coordination among different output information systems: currently, ACE is developing a central information system (CIS) with funding from donors and the Malawi government.

- **Development of farmers' information services by business actors.** When farmers (D2) make contracts with their buyers, traders (E5) and processors (C6) provide knowledge and information on appropriate input use. Yet, farmers bear the risk of increasing costs of inputs vis-à-vis uncertain output revenues. This risk limits farmers' use of information on input from traders and processors. Moreover, traders and processors interact with farmers directly only in 35-50% of cases depending on the seasonal available supply, while in 50-65% of the cases, middlemen (C6) buy from farmers through spot market mechanisms at lower prices with no transfer of information or knowledge, because middlemen usually do not have specific knowledge on appropriate input use and costs. Input suppliers (C4), which sometimes are the same companies as legume traders (e.g. Farmers World, D5), conduct extension activity through their local stores and organize field days. Yet, they may provide biased information to sell inputs that may create lock-in risks for farmers (D2) through transaction-specific investments: farmers cannot afford expensive inputs without certain information about prices and quantities for their outputs in the marketplace.
- **Involvement of information-technology providers for information services.** New private market entrants provide information to farmers (D2) through innovative information technology (IT) services. Esoko Ltd. (C3) operates a mobile-based market information exchange for individuals, businesses, and agricultural projects in Africa. It provides automatic and personalized price alerts, buy and sell offers, extension messages, and contact profiles via SMS. The company also sells strategy, support, and training services to projects rolling out market information systems. The Government of Malawi (G3) and NGOs (B4) [e.g., ACIDI-VOCA (B4)] currently use Esoko Ltd. to disseminate extension information to farmers, but on a small scale and with donor funding. Despite the increasing availability of technology for communicating market information, the financial sustainability of market information systems remains uncertain. For example, a telecommunications provider such as Airtel (which channels the information provided by Esoko Ltd. through SMS to farmers) and farmer associations were not able to agree on a large-scale farmer payment contract for information provision. Although they also use Esoko channels and share capital in ACE, traders and processors often work separately to establish their exclusive market information systems with farmers through Airtel or other providers, also with government support. Strategically, this allows traders and processors to develop preferential farmers' networks and legume (and other commodity) supplies relative to competition. Moreover, having a preferential network of verified farmer contacts is more effective for traders/processors than using the Esoko farmer list to inform farmers and create more stable commodity supplies from them.

## Issue 2: Weak Credit and Input Markets for Farmers

### *BACKGROUND ON THE INSTITUTIONAL AND POLICY CONSTRAINTS*

Farmers (D2) do not have access to capital to purchase key inputs for safe, high quality legume production, mainly seeds (on seed supply problems, see issue 3 below). This credit access issue reflects a low

expectation from banks and other potential creditors (E2) that farmers (D2) can engage in profitable business with legumes and thus repay their debt. Institutional constraints behind the credit issue:

- **Government decreasing role in input provision.** Despite the recent subsidy cuts, the government still plays an important role in subsidizing fertilizer and seeds for farmers, but it is uncertain whether these subsidies will further reduce in coming years. In 2013, for example, the government purchased 5,000 MT out of 9,000 MT to subsidize distribution to farmers: without government purchases, the market would collapse, because most farmers could not purchase certified seeds at full market price.
- **Limited farmers' access to credit institutions.** Banks and other money-lending institutions (E2) pose requirements (i.e., interest rates and provision of collateral) that farmers (D2) cannot meet. Bankers perceive agriculture as a risky, low-profit activity with production cycles that do not align with normal financial timelines. It is also difficult for lenders to repossess collateral from farmers who default on loans. Saving associations and credit cooperatives (E3) play some role in small-scale farming, but do not provide enough large-scale support to solve the credit constraint for commercial agriculture. Malawi has a public agricultural bank (National Bank of Malawi) to address the financial needs of farmers, but it is accessible to farmers who can provide a total of 40% financing from their own funds and own the land/property (for land collateral), which are conditions impossible to meet for most farmers.
- **Limited farmers' access to credit from business actors.** Credit from input suppliers (C4) and traders (E5) for input purchase is also not feasible, as this loan is perceived as too risky by traders, processors, and input suppliers. Thus, there are no interlinked transactions through forward contract arrangements to provide inputs and funding to farmers (D2). With higher and more stable input supply and legume output supply, traders and processors would invest in credit for farmers (D2), but without any guarantee from contracts or exclusive selling partnerships from farmers, processors and traders do not have incentives to take on the risk of providing credit to farmers or acting as guarantee for farmers, vis-à-vis financial institutions.

### ***BUSINESS ACTORS' COORDINATION FOR INSTITUTIONAL CHANGE***

Accordingly, the main solutions to release the credit constraint are to improve the input market for legume production and the output markets, so that financial institutions can perceive the legume sector as a profitable area for investment. To deal with the issue of credit constraint, business actors (traders, processors, and input suppliers) are investing in the following forms of coordination with stakeholders:

- **Seed Trader Association of Malawi (STAM).** An “oligopoly” of seed suppliers (D2) [represented through its Seed Traders Association of Malawi (STAM) (F1)] coordinate to plan legume seed production annually based on their estimates of farmers' demand (Chinsinga 2010; Chirwa and Dorward 2013). Seed suppliers coordinate with the government, which acts as a monopolist in controlling foundation seed (E1/2) needed for seed production, in order to estimate farmer demand for seeds. This coordination between seed suppliers and the government is necessary to align the government supply of foundation seed and the seed companies' demand. If seed companies do not receive enough foundation seed from the government, the seed market is constrained. Malawi, unlike other East African countries, does not have an agreed-upon estimation for how much seed will be needed in the upcoming year. These limitations in coordination impede seed companies, farmers, and traders from planning joint investments in seed production and have repercussions on the legume market, because the uncertainty of seed costs affect the willingness of farmers and traders/processors to enter into stable supplier-buyer contracts and partnerships (see issues 4 and 5). While too expensive for most of the farmers, international hybrid seed varieties are

competitive in the African regional market (and on the domestic market as far as no certification of local seeds are implemented).

- **The role of international research institutions.** In collaboration with seed suppliers and donors, the International Crops Research Institute for the Semi-Arid-Tropics (ICRISAT) and other research institutes work to analyze financial mechanisms for farmers to save and invest in hybrid seeds, yet farmers so far do not save and invest enough to adopt hybrid varieties of legume seeds. ICRISAT is now considering replicating alternative savings models introduced to rice producers in Northern Malawi.
- **Advocacy for certification of local seed varieties.** Related to seed constraints, FUM (C1) and CISANET (B4) are urging the government (G3) to expand their certified seed classifications from only “certified/uncertified” to include a “local certified” classification category. The new classification would allow for the development of a local seed industry with a price signal that separates locally certified seed from seed certified via the government and STAM traders. In 2013, more than 80% of the farmers reported using seed saved from the previous year. This shows the importance of local seed systems and the need to develop them through investment in farmer training for seed production and seed selection. Seed companies trading international hybrid seed varieties do not support (but do not openly contrast neither) these advocacy efforts by farmers’ associations, as they do not see locally certified seeds as substitutes and, thus, competitors of international hybrid seed varieties.

### Issue 3: Poor Infrastructure Systems (Storage, Road and Electricity)

#### *BACKGROUND ON THE INSTITUTIONAL AND POLICY CONSTRAINTS*

Poor infrastructure development does not help mitigate the shocks between legume demand and supply in Malawi. Market shocks may consist of swift legume price and quantity fluctuations over time or of strong legume price and quantity differences across districts. Poor road conditions hinder price arbitrage and legume transport to different districts in Malawi, as well as from the farm-gate to central facilities in each district. Petrol is expensive relative to regional prices<sup>2</sup>, which increases transaction costs. Lack of safe storage facilities (especially in peripheral districts) does not mitigate shocks in supply and demand over time. Inconsistent electricity supply raises the cost and availability of processing facilities, especially in peripheral areas. These infrastructure limitations, as well as price and quantity fluctuations, make supplier-buyer transactions along the Malawian legume chains unstable, because neither of the two parties is willing to enter into a long-term contract or partnership when prices and quantities could vary unpredictably.

- **Inaccurate supply-demand estimates by government.** In the past, to mitigate uncertainty around legume production, the government (G3) made estimates on seasonal production levels so that companies could plan and set minimum prices for farmers (D2), but actors in the value chain found these estimates to be inaccurate. The National Export Strategy lacks consistency with investments made by input suppliers and traders. The government, legume traders (E5), and processors (C6) do not have sufficient data to make estimates that fit with actual production levels. Also, minimum prices established by the government are not enforced when the supply is higher than the estimated production and when the product goes through middlemen (C6).
- **Limited infrastructure investments by international organizations.** Public infrastructure development by the government and investments by international organizations—such as the World Bank (G3) and International Monetary Fund (G3)—have been decreasing in past 10 years.

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<sup>2</sup> Retail prices of diesel \$1.56 (K745)/litre; petrol \$1.51 (K721)/litre in January 2015 as published on [www.globalpetrolprices.com](http://www.globalpetrolprices.com).

- **Limited use of ADMARC storage facilities in peripheral areas.** Processing of legumes currently takes place in economic centers such as Blantyre (and to lesser extent in Lilongwe), relatively far from the origin of raw materials. Locating processing and storage facilities closer to legume production areas could decrease costs and improve communication between processors and suppliers. Through the Agricultural Development and Marketing Corporation (ADMARC)<sup>5</sup> (G3), the government (G3) controls a network of 400 warehouses (with a total of 300,000 square meters), strategically positioned especially in peripheral areas. Yet, now it is scarcely used and needs recapitalization and renovation to operate. ACE (D3) may collaborate with ADMARC to use the storage system, but it needs financing for renovation of the storage network. In addition, the Ministries of Agriculture and Industry and Trade do not coordinate directly with ADMARC (because ADMARC is directly controlled by the Malawian Office of the President), so a public-private partnership between the government and ACE (and their shareholders) for the recapitalization of ADMARC storage facilities seems unlikely. AHL traditionally controls the tobacco and maize auctions and has stronger ties with government; since ACE and AHL are competitors, it is unlikely that the government ADMARC facilities are made available to ACE.

### ***BUSINESS ACTORS' COORDINATION FOR INSTITUTIONAL CHANGE***

While the business actors (traders, processors, input suppliers) have no incentives to contribute to road and energy investments, investment in the organization of storage facilities has been substantial:

- **Private sector investment in ACE.** ACE has shares with 11 Malawian traders and processors, six companies in Zimbabwe, and a growing number of members from South Africa. Farmers' World, NASFAM, RAB Processors, Ag Advisors Int. (Zambia) and ETG have shares in ACE. ProPack, RAB processors and Farmers' World provide their warehouses to ACE in the same location where they sell inputs to farmers. NGOs (e.g., ACIDI VOCA) and companies (e.g., Charles Steward) also commonly use the ACE warehouse system on market prices. Outside ASWAP, donors and donor-funded implementers invest in ACE; for example, AGRA and USAID will invest \$1.1 million USD and \$830,000 USD over the next two years. Despite this rapid growth and private sector investment, ACE faces the barrier of a limited storage network in peripheral areas.
- **Competition between ACE and AHL.** Commodity exchange businesses such as Auction Holdings Limited (AHL) (E3) and ACE (D3) have been playing an increasing role between 2009 and 2014 in mitigating the fluctuation of legume supply and demand across years.<sup>6</sup> ACE controls space for farmer-trader legume transactions and is a mechanism used by WFP to purchase legumes. Despite increasing transactions through the commodity exchange, farmers in peripheral areas cannot afford storage facilities because of the cost of transport to the warehouses and the cost of storage (see constraint 4). Moreover, ACE and AHL compete rather than cooperate in their role as intermediaries. This creates a competitive market for intermediation but also inefficiencies in the use of storage space, especially in peripheral areas.
- **Bottom-up initiatives of organizing collective storage facilities.** Farmer associations (D2) have local bottom-up initiatives to store legumes (e.g., Mwandama Grain Bank) (D3), which are connected with storing and trading through ACE. Yet, often they do not have enough capital to build and maintain safe storage facilities.

## Issue 4: Problems with Farming as Business and Cooperative Formation

### *BACKGROUND ON THE INSTITUTIONAL AND POLICY CONSTRAINTS*

Most Malawian smallholder farmers (D2) do not perceive farming as a business. Part of the reason is that public institutions do not guarantee policy implementation regarding contract and cooperative laws. As a consequence, farmers and their partners perceive high risks when entering formal contracts (farmer-trader, farmer-bank and in-between farmers in cooperatives). In particular:

- **Poor legal resolution of disputes.** The inability of public institutions and courts to resolve legal disputes is at the root of default risks among transacting parties. There is no commercial court and legislative body to enforce and strengthen legislation in cases of default and fraud in finance contracts within the agriculture industry. The general court system is overloaded and is unable to provide a suitable response to farm investors. Disputes are usually settled informally among parties since the costs of engaging in a trial often outweigh the benefits. Some traders try to establish informal, trust-based relationships with farmers to secure their legume supplies, but this does not provide enough guarantee to support joint investments that could increase efficiency.
- **Bureaucratic process for cooperative formation.** Cooperatives face bureaucratic constraints from the Ministry of Industry and Trade (E2) related to access to trading licences, trade restrictions (including but not limited to export bans, e.g., transport levies), uncertainty around future subsidies, and high withholding taxes on cooperatives. The government requires many formal conditions to forming cooperatives, including minimum organizational standards, bylaws, and a governance and accounting structure for cooperatives. As a consequence, the administrative process for establishing a cooperative often discourages farmers from engaging in formal processes of formation.

### *BUSINESS ACTORS' COORDINATION FOR INSTITUTIONAL CHANGE*

Businesses and farmer support organizations provide training to farmers on business and cooperative formation, yet they also coordinate with other stakeholders to pressure the government to reduce uncertainty and risks on trade policies, business licenses, and unfavourable taxation. Traders (E5), donors (A3), NGOs (B4), WFP (B4), input suppliers (C5) and ACE (D3) all work with farmers (D2) on training programs to develop trust-based supply channels with traders and processors.

- **Collaboration with Farmers' Associations:** NASFAM (B1) provides small-scale farmers (D2) with basic training on reading, writing and accountancy. Yet, funding and outreach is limited. FUM (C1) has a role in training farmers on agribusiness skills at a higher level of complexity. Organization of smallholder farmers (C2) would provide stronger credit opportunities, access to capital, and lower transaction costs with input suppliers (C4), traders (E5), and processors (C6). Moreover, farmers could negotiate better prices on inputs and legume sales. NASFAM (B1) and FUM (C1) strongly encourage a cooperative foundation: for example, farmers now can become members and receive advice only if they are associated with cooperatives. Yet, competencies on strategy, organization, and supply chain management need continuous updates due to rapid market changes—thus, training at the NASFAM and FUM level are needed. LUANAR (C1) and local knowledge centers (D1) have the potential to provide FUM (C1), CISANET (B4), and NASFAM (B1) with updated expertise and graduates in agribusiness through train-the-trainer initiatives in collaboration with companies.
- **Establishment of private mechanisms for resolution of disputes in ACE.** To encourage a culture of farming as a business, private actors (traders, processors and input suppliers) together

with farmers' associations also have introduced an internal mechanism in ACE for the resolution of disputes among farmers, traders, banks, and storage owners (ACE 2014).

- **Advocacy on government legislation with civil society organizations.** Business actors advocate for review and identification of agricultural laws to accelerate the resolution of disputes and facilitate business and export licences. FUM (C1), CISANET (B4) and NASFAM (B1) pressure the government (G3) to improve policy consistency through the Parliamentary Committee in Natural Resources and Agriculture. The targets in the government are the Ministry of Agriculture (E1) (subsidies, extension services), Trade and Industry (E2) (bans, regulations on trade) and Finance (G3) (taxation, transport levies). These three ministries may need to take control over the resolution of disputes from the Ministry of Justice, which does not have resources to focus on agricultural policy-making and enforcement. FUM (C1) and the African Institute of Corporate Citizenship (AICC)<sup>7</sup> (B4) advocate on these issues through the Legume Development Trust (LDT)<sup>8</sup> Platform (B4). Also, CISANET (B4) and the Soy Association of Malawi (C5) advocate before the government, through other channels different from LDT. Although they have different histories and missions, CISANET and AICC seem to overlap rather than cooperate in their advocacy efforts before the Malawian government.

## Issue 5: Weak Public Monitoring and Auditing of Quality Standards

### *BACKGROUND ON THE INSTITUTIONAL AND POLICY CONSTRAINTS*

The quality and safety of the legumes supplied from farmers (D2) to traders (C4) and processors (C6), and then to national and international buyers (F5/6) is often inconsistent over time. This is a problem because unsafe legumes could cause health problem for consumers; generate post-harvest losses; and prevent farmers and traders from exporting legumes. Public standards are poorly enforced at the domestic level, and often, effective monitoring takes place only on exported product. In particular:

- **Poor enforcement of public quality and safety standards.** Public institutions that monitor and enforce quality standards along the value chain are functioning poorly. The Malawian Bureau of Standards (H3) has limited resources to monitor standard settings on a large scale: it inspects only legumes for export (thus from traders to international buyers), but do not play a role at the farm level, between farmers and traders, and/or retail. Further responsibilities are not clearly dedicated among different monitoring divisions in the Ministry of Agriculture (E1). Additionally, there is no Food Safety Authority present in Malawi to monitor and enforce public safety standards.

### *BUSINESS ACTORS' COORDINATION FOR INSTITUTIONAL CHANGE*

While no private standards are developed for the legume sector, and while other intermediation and verification mechanisms are developed through ACE (see issues 1 and 3 above), traders, processors, and input suppliers coordinate with stakeholders to advocate for more stable policies on legume trade and standard enforcement. In particular:

- **Limited incentives for introducing private standards.** Traders and processors (C4)—who process and sell the raw products—have little incentive to apply private standards due to the marginal profit margins made on legumes. They often prefer to buy or not buy legumes “on the spot” rather than establish private standards associated with contracts (see also issue 4 above). These traders and processors are not expecting a steady improvement in public standard enforcement, so their solution is to provide training and input information to farmers (see issue 1).

- **Partnerships for advocating public control on aflatoxins.** In 2013, with input from suppliers (C4), farmer-support institutions (B/C1), NGOs (B4), and knowledge institutions (C/D 1; F4), traders (E5) created the Malawian Platform for Aflatoxin Control (MAPAC) with support from donors and the Ministry of Industry and Trade. Both AHL and ACE participate. The platform is connected to the Partnership for Aflatoxin Control in Africa (PACA)<sup>9</sup>. The partnership achieved extensive participation among business actors, government, and donors (MAPAC 2013). It is still too early for the interviewed stakeholders to assess the effects of advocacy through PACA and MAPAC on government actions.

#### 4. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Findings of this scoping study show that business actors in the Malawian legume sector (traders, processors, and input suppliers) seek wide coordination with each other, the government, farmers' associations, and research institutions to release the existing institutional and policy constraints. Out of the five key issues (mentioned in Findings earlier) where institutional and policy constraints affect efficiency of the Malawian legume chains, business actors have been responding as follows in recent years (2013-2014):

1. **ACE as a response to issues of uncoordinated information (Issue 1), poor infrastructure development (Issue 3) and farming as a business (Issue 4).** Traders, processors and input suppliers (banks, fertilizer and seed suppliers) simultaneously cooperate through commodity exchange (ACE and AHL) and compete by establishing knowledge networks with farmers. As market information systems for farmers thrived, agribusinesses invested on a central information system (CIS) through ACE. To encourage a culture of farming as a business, ACE also has introduced an internal mechanism for the resolution of disputes among farmers, traders, banks, and storage owners (ACE 2014). Moreover, traders and input suppliers also have attempted to create preferential networks with farmers to provide them with the necessary knowledge in exchange for preferential access to their legume supply (in years when the national legume demand is higher than the supply). To do so, traders and input suppliers have been investing in extending their employee base in peripheral areas and collaborate with farmer-support organizations such as NASFAM and FUM, which have the potential to provide complementary agribusiness training to companies. To respond to poor infrastructure systems, input suppliers, traders, and processors have been investing to expand storage systems through shares and physical capital. Through the ACE warehouse system, ACE also provides third-party verification of legume quality and storage safety.
2. **STAM-government negotiations as a response to issues of weak seed markets (Issue 2).** Through STAM, seed companies seek coordination with the government to either maintain current levels of government seed purchasing for farmers (in the short run) or, in the longer run, to make strategic supply-demand long-term plans. Other input suppliers and traders and processors follow seed companies, since inputs and outputs are complementary to high-quality seeds. High-quality seeds are critical to enhance productivity, yet they are expensive and unaffordable for most farmers without government subsidies, which are expensive on the public budget. The root problem is that the seed market is controlled by an oligopoly of seed companies and local seed quality is not recognized, thus supply of seed is constrained.
3. **MAPAC and PACA to advocate the establishment of public quality and safety standard enforcement and consistent trade legislation (Issue 5).** Traders and processors collaborate with stakeholders, via MAPAC and PACA to improve legume trade policy-making and enforcement. MAPAC and PACA provide legume value chain actors with opportunities to build consensus to influence the government.

The VNA methodology maps the network of value chain actors. Based on this analysis, donors and implementers can identify key partners and look for opportunities to leverage funding. The results of the VNA methodology will be used to identify strategic action that may release the potential of existing Malawi legume value chains actors to bring about sustainable change to the legume industry in Malawi.

1. **Role of LUANAR to support change on issues of uncoordinated information (Issue 1), poor infrastructure development (Issue 3) and farming as a business (Issue 4).** Traders, processors and input suppliers need expertise in the following areas (in relation to Issues 1, 3 and 4): information technology and communication (ITC) development; knowledge management; community communication and education; agribusiness strategy and management; law and governance; finance and accounting. Malawian universities such as LUANAR, in collaboration with international research institutes, have the potential to provide graduates and advice on these fields.
  - a. **Role of research institutions to support change on issues of uncoordinated information (Issue 1), poor infrastructure development (Issue 3) and farming as a business (Issue 4).** Research questions of immediate need for traders, processors, and input suppliers: Under what conditions are farmers willing to pay for information about input and output markets, and through which channels? What is the most effective combination of market information channels and farmers' business training? What is the most effective combination of formal training and social learning processes to share business knowledge with farmers? Under which conditions can farmers' cooperatives safely create or adapt local warehouse facilities in peripheral areas? How can ACE or other public-private partnerships guarantee safe and well-connected storage facilities in peripheral areas?
  - b. **Role of international donors to support change on issues of uncoordinated information (Issue 1), poor infrastructure development (Issue 3), and farming as a business (Issue 4).** International donors have the potential to invest more in sector-wide platforms (such as ASWAP and TISWAP), yet this investment is advisable only if the Malawian government increases coordination efforts across the Ministry of Agriculture and Ministry of Industry and Trade. Second, international donors may investment in ASWAP and TISWAP conditional to increased coordination between the government and ACE to complement (rather than replicate) their market information system and their storage facilities. Finally, international donors have the potential to support the efficient recapitalization of ADMARC to complement ACE storage mechanisms in peripheral areas and contribute to road development only in selected peripheral areas where safe storage is not achievable.
2. **Role of LUANAR to support change on issues of weak seed markets (Issue 2).** Traders, processors and input suppliers need workforce in seed technology and breeding; finance and accounting to seek farmers' financial incentives and cash constraints in purchasing seeds; entrepreneurship and strategy to create new ventures in local seed market; law and economics for coordination on controversies over demand/supply of local versus foreign varieties of seeds, and intellectual property (IP) issues with seeds; logistics and supply chain; engineering; long-range planning; packaging; and food technology. Moreover, LUANAR can play a role in organizing seed technology courses with STAM. Given its expertise in seed technology, LUANAR could form local seed breeders either as workforce for international companies or create spin-offs that produce and market local seeds.
  - a. **Role of research institutions to support change on issues of weak seed markets (Issue 2).** Key questions for future research that would support the coordination efforts by business actors: What is the marginal impact of different quality levels of seeds on legume land productivity and maize land fertility? How does the productivity of other inputs,

including farmer labor, vary accordingly? What is farmers' willingness to pay for different quality of seeds, and how does it vary according to different formal and semi-formal certification mechanisms, financial schemes, and cooperative-purchasing schemes?

- b. **Role of international donors to support change on issues of weak seed markets (Issue 2).** Future international donor investments should be conditional on a monitoring process that measures the impact of government subsidized sales of certified seed to farmers via private seed companies. This form of subsidy has the potential to distort private, market-based price signals and cause disconnect between production and real commodity demand. Moreover, international donors have the potential to coordinate efforts to reach a long-range plan for private seed supply-demand matching, with supply supported by domestic seed production and more articulated formal seed quality certification systems.

**3. Role of LUANAR to support change on issues of public quality and safety standard enforcement and consistent trade legislation (Issue 5).** Traders, processors, and input suppliers also need a workforce in food safety; food quality; nutrition; post-harvest technologies (to address quality and safety standards issues and their impacts on nutrition); public policy; and public relations (to manage and facilitate advocacy processes in these platforms effectively).

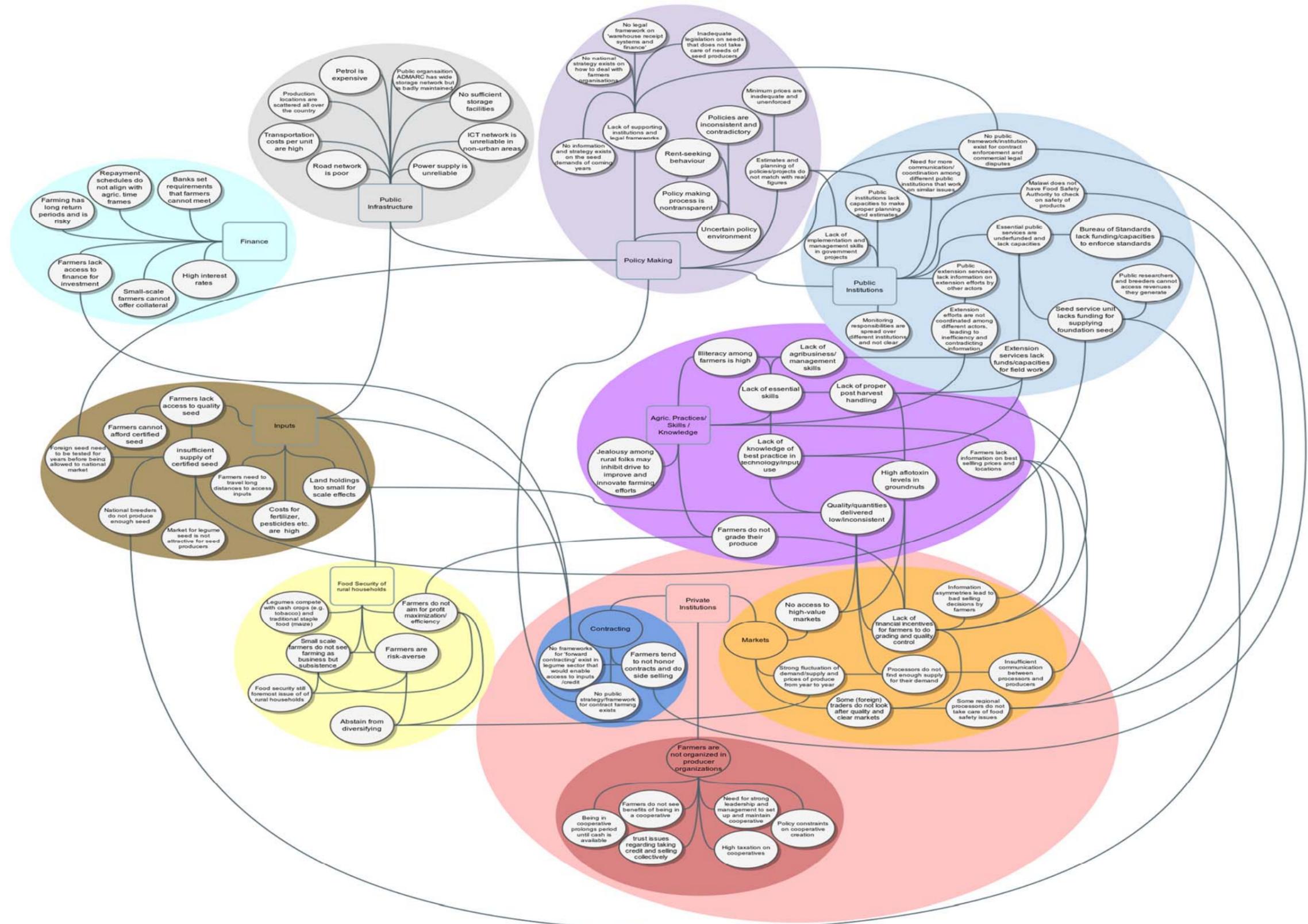
- a. **Role of research institutions to support change on issues of public quality & safety standard enforcement and consistent trade legislation (Issue 5).** Key questions that researchers should tackle to complement business actors' coordination efforts entail: What is regional consumers' willingness to pay for safe and standardized legumes? More broadly, is Malawi competitive regionally in legume and soy-product markets? Are farmers and traders willing to pay for an efficient quality and safety standard for legumes?
- b. **Role of international donors to support change on issues of public quality & safety standard enforcement and consistent trade legislation (Issue 5).** International donors have the potential to support facilitation processes for PACE and MAPAC to establish a consensus on trade policy-making and implementation issues on the prevention of aflatoxin issues in the legume sector.

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APPENDICES  
 APPENDIX 1 - PROBLEM MAP  
 (Please zoom in to see map details)



**APPENDIX 2 - VALUE NETWORK ANALYSIS MAP**

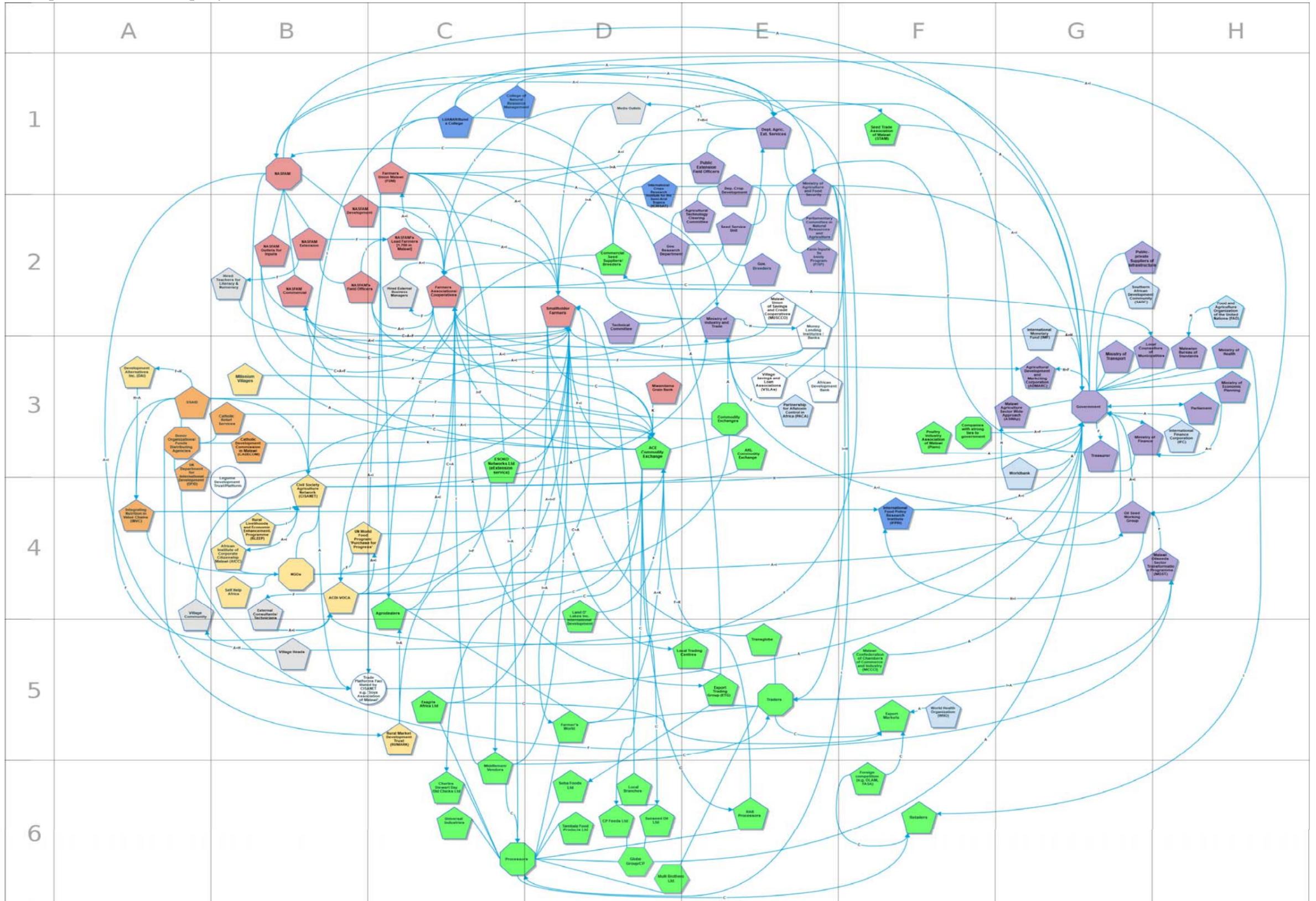
(Please zoom in to see map details; map also attached to report)

**Types/categories of actors:**

-  = actor
-  = category of actors/cluster
-  = multi-stakeholder platform
-  = conglomerate
-  = private sector / lobby organization
-  = knowledge institution
-  = international institution
-  = miscellaneous
-  = public sector / governmental institution
-  = farmer / farmers association
-  = donor organization / funds distributing agency
-  = NGO
-  = finance institution

**Types of influences:**

- A = advice/advocacy
- C = commodities in exchange for money
- H = hierarchy/rule
- I = information
- K = infrastructure
- = direction of influence
- no label + no arrow = unknown/undefined relationship
- straight line = direct affiliation between actors/category



## APPENDIX 3 – INTERVIEW PROTOCOL TO BUSINESS VALUE CHAIN ACTORS (I.E., IN THIS STUDY, INPUT SUPPLIERS; COMMERCIAL FARMER-SUPPORT ORGANIZATIONS; TRADERS & PROCESSORS; AGRICULTURAL COMMODITY EXCHANGE)

### SUPPLY-SIDE CONSTRAINTS

What are the biggest problems that you have ensuring sufficient SUPPLY of agricultural products for your business?

INTERVIEWER: Ask the respondent about the TWO MOST IMPORTANT constraints, then list those in the table below and complete the table

1a. What major constraint or problem affects the <u>supply</u> of your products (please list below if you have more than one major constraint)	1b. Which crops are affected by this problem?	2a. Who is involved in the problem? (list name or organization, as appropriate; <i>indicate male or female if an individual</i> )	2b. Type of organization/ individual:  1=farmers 2=ag companies 3=government 4=NGOs 5=other (specify)	3a. HOW MUCH influence does this organization/ person have on the problem?  1=a little 2=moderate 3=high	3b. WHAT TYPE of influence does this organization/ person have on the problem?  1=funding 2=rule/hierarchy 3=provide info 4=advice 5=other (specify)	3c. ON WHO does this organization/ person have a direct influence? ( <i>List all that apply</i> )  1=farmers 2=ag companies 3=government 4=NGOs 5=other (specify)	4. Is there any particular skill or training that would help managers or employees in your company have a positive influence on this problem?

**Please note other comments on SUPPLY-SIDE comments that interviewee may give:**

INTERVIEWER: If the interview subject will share quantitative data with you regarding the entity of this problem (for example: quantity of legumes that the interviewed company demands to suppliers; relative to quantity that suppliers are able to produce sell), please obtain it.

## DEMAND-SIDE CONSTRAINTS

What are the biggest problems that you have ensuring sufficient DEMAND for agricultural products from your business?

INTERVIEWER: Ask the respondent about the TWO MOST IMPORTANT constraints, then list those in the table below and complete the table

1a. What major constraint or problem affects the <u>demand</u> of your products (please list below if you have more than one major constraint)	1b. Which crops are affected by this problem?	2a. Who is involved in the problem? (list name or organization, as appropriate; <i>indicate male or female if an individual</i> )	2b. Type of organization/ individual: 1=farmers 2=ag companies 3=government 4=NGOs 5=other (specify)	3a. How much influence does this organization/ person have on the problem?  1=a little 2=moderate 3=high	3b. What type of influence does this organization/ person have on the problem?  1=funding 2=rule/hierarchy 3=provide info 4=advice 5=other (specify)	3c. On who does this organization/ person have a direct influence? ( <i>List all that apply</i> )  1=farmers 2=ag companies 3=government 4=NGOs 5=other (specify)	4. Is there any particular skill or training that would help managers or employees in your company have a positive influence on this problem?

Please note other comments on DEMAND-SIDE comments that interviewee may give:

INTERVIEWER: If the interview subject will share quantitative data with you regarding the entity of this problem (for example: volume of legumes demanded by retailers; relative to quantity that company is able to process and sell), please obtain it.

**THE POLICY ENVIRONMENT**

Are you (very satisfied, somewhat satisfied, not satisfied) with the policy environment for doing business in Malawi?

(1=very satisfied; 2=somewhat satisfied; 3=not satisfied) Please explain:

Please briefly describe the major policy issues that constrain your ability to do business in Malawi:

Brief description of the policy issue	TYPE of policy issue: 1= current taxes and levies 2= current legislation 3= existing public investments or services 4= missing public infrastructures or services 5= bureaucracy or other costs of doing business 6= others (specify)	LEVEL of the policy issue 1=local 2=national 3=regional Africa 4=international	Who has the power to influence this policy issue? How? <i>(list name or organization, as appropriate; indicate male or female if an individual)</i>

**Note to interviewer:** Ensure that the policies discussed are the most important/relevant to the company. The methods we are using work best for discussing only one or a few major issues in depth. What are the most relevant skills/training that your company may need to positively influence or better deal with this policy issue?

**SKILLS AND WORKFORCE DEVELOPMENT**

Our project team has a few questions also on skills and workforce development in your company: on the education background of your employees; of the professional development and training that you give on the job; to the partnerships and interactions that you have with other organizations for training or learning purposes. Since it would take around 30-45 minute, could we schedule another meeting with either you or another person within your company that can answer these questions?

**APPENDIX 4 – TABLES WITH INTERVIEWEES (DATA COLLECTION – Summer 2014)**

# of interview	Name of organization	Date of interview	Web site
<b>Companies</b>			
1	ETG Export Trading Group	26/06/2014	<a href="http://www.etgworld.com/contact/malawi/">http://www.etgworld.com/contact/malawi/</a>
2	NASFAM Commercial	30/06/14	<a href="http://www.nasfam.org">www.nasfam.org</a>
3	Farmers World	15/07/2014	<a href="http://www.farmersworld.net/">http://www.farmersworld.net/</a>
4	ACE – Agriculture Commodity Exchange for Africa	15/07/2014	<a href="http://www.aceafrica.org">http://www.aceafrica.org</a>
5	Demeter Agriculture Ltd (Subsidiary Farmers World)	16/07/2014	<a href="http://www.farmersworld.net/index.php?iframe=demeter">http://www.farmersworld.net/index.php?iframe=demeter</a>
6	Sunseed Oil Ltd (part of Globe Group conglomerate together with CP feeds)	16/07/2014	<a href="http://www.globegroup.mw">http://www.globegroup.mw</a>
7	Transglobe Produce Exports Ltd	17/07/2014	-
<b>Farmer-support organizations / Associations</b>			
8	Farmers Union Malawi (FUM)	01/07/2014	<a href="http://www.farmersunion.mw">www.farmersunion.mw</a>
9	Seed Trade Association of Malawi (STAM)	18/07/2014	-
10	National Smallholder Farmers Association of Malawi (NASFAM)	06/08/2014	<a href="http://nasfam.org/">http://nasfam.org/</a>
<b>Public institutions</b>			
11	Department of Agricultural Research Services HQ (Min. Agric. & Food Sec.)	21/07/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
12	Ministry of Agriculture and Food Security	22/07/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
13	Agricultural Extension Services (Min. Agric. & Food Sec.)	22/07/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
14	Dep. Crop Development (Min. Agric. & Food Sec.)	24/07/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
15	Ministry of Economic Planning	24/07/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
16	The Agricultural Sector Wide Approach (ASWAP) (Min. Agric. & Food Sec.)	25/07/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
17	Ministry of Industry and Trade	07/08/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
18	Oil Seed products Working Group (Ministry of Industry and Trade)	08/08/2014	<a href="http://www.malawi.gov.mw/">www.malawi.gov.mw/</a>
<b>Donors, NGOs &amp; key informants</b>			
19	Civil Society Agriculture Network (CISANET)	04/08/2014	<a href="http://www.cisanetmw.org/">http://www.cisanetmw.org/</a>
20	USAID Malawi	04/08/2014	<a href="http://www.usaid.gov/malawi">http://www.usaid.gov/malawi</a>
21	The Rural Market Development Trust (RUMARK)	05/08/2014	<a href="http://www.rumark.org/">http://www.rumark.org/</a>
22	Alliance for a Green Revolution in Africa (AGRA)	05/08/2014	<a href="http://agra-alliance.org/">http://agra-alliance.org/</a>
23	Undisclosed Informant	07/08/2014	-
24	ACDI-VOCA	07/08/2014	<a href="http://www.acdivoca.org/site/ID/ourwork_malawi">http://www.acdivoca.org/site/ID/ourwork_malawi</a>
25	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	08/08/2014	<a href="http://www.icrisat.org/">http://www.icrisat.org/</a>
26	African Institute of Corporate Citizenship (AICC)	08/08/2014	<a href="http://www.aiccafrica.org/">http://www.aiccafrica.org/</a>

**APPENDIX 5 – TABLES WITH INTERVIEWEES (DATA INTERPRETATION – November 2014)**

S.Nr	Name	Position	Organisation	Date of Interview
1.	John Edgar	Office Chief – Sustainable Economic Growth	USAID Malawi	November 19, 2014
2.	Tamani Nkhono	National Director	Civil Society Agriculture Network (CISANET)	November 19, 2014
3.	Sally Ann Pauw	Trade Specialist	Agriculture Commodity Exchange for Africa (ACE)	November 20, 2014
4.	Chisi	Seed Business Development Officer	Seed Traders Association of Malawi (STAM)	November 20, 2014
5.	W.G. Lipita	Controller of Agricultural Extension and Technical Services	The Agricultural Sector Wide Approach (ASWAP)	November 21, 2014
6.	Isaac Gokah	Trade Advisor, “Hub & Spokes Program”	Ministry of Industry and Trade	November 24, 2014
7.	Paresh Kiri Vijay Kumar	General Manager	Export Trading Group (ETG)	November 24, 2014
8.	Neil Orchardson	Technical Assistant	Ministry of Industry and Trade - Oil Seed Products Working Group	November 26, 2014
9.	Peter Lungu	Coordinator	International Crops Research Institute for the Semi-Arid Tropics ( <b>ICRISAT</b> )	November 26, 2014
10.	Bupe Mwakasungala	Project Coordinator Legumes Platform	African Institute of Corporate Citizenship (AICC)	November 27, 2014
11.	Vincent	Extension & Training Coordinator	ACDI VOCA/ESOKO	November 27, 2014
12.	Cuan Oopermann	Team Leader	Malawian Oil Seed Transformation (MOST)	November 28, 2014
13.	Raymond	Project Manager – Legumes	NASFAM Development	November 28, 2014



“Institutional and Policy Constraints to Innovation in the Malawian Legume Value Chains: Current Status and Business Actors’ Coordination for Institutional Change” is part of the GCFSI Publication Series, created for the United States Agency for International Development (USAID) and the U.S. Global Development Lab. These reports are published to communicate the results of GCFSI’s ongoing research and to stimulate public discussion.

This report was produced by GCFSI as part of the USAID and the U.S. Global Development Lab Higher Education Solutions Network (HESN), a multi-disciplinary research and development effort led by seven world-class universities working directly to evaluate and strengthen real-world innovations in development. This network fosters cooperation between development professionals and academia by harnessing the ingenuity and passion of scientists, students, faculty, and entrepreneurs to solve some of the world’s most pressing development challenges in food security.

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## APPENDIX 6 - ENDNOTES

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<sup>1</sup> Agriculture Sector Wide Approach Programme-Support Project (ASWAp-sp) is a form of budget support within the agricultural sector that the government of Malawi started in mutual agreement with donors. The financing of ASWAp goes through a multi-donor trust fund (MDTF), which is managed by the World Bank. The main goals of the ASWAp are strengthening the impact of the investments on food security and sustainable growth in the agricultural sector, as well as reinforcing the natural resources by doubling the size of the area used for sustainable farming. ASWAp-sp is structured to focus on three targets: 1) food security and risk management; 2) commercial agriculture, agro-processing and market development, and 3) sustainable land and water management.

<sup>2</sup> CISANET is a non-profit association composed of individuals, non-governmental organizations (both local and international), community-based organizations, and associations operating in the agriculture sector to promote agricultural development and sustainable livelihoods for the poor by influencing desirable change in policies, practices and attitudes of government, donors, civil society and other stakeholders through effective advocacy, networking, monitoring, research and capacity building.

<sup>1</sup> Farmers Union of Malawi (FUM) is an umbrella body of farmers organizations in Malawi established in 2003 to ensure that farmers effectively participate in the design, formulation, implementation, monitoring and evaluation of public policies, strategies, programs and plans. FUM has three operational areas: institutional development; policy analysis and advocacy; and agribusiness and marketing. It is structured along the following strategic areas: organization, business and market development, research, policy analysis, lobbying and advocacy, information management and communication, strategic networking and coordination, and women and youth farmers.

<sup>4</sup> The Agricultural Commodity Exchange for Africa (ACE) is a spot and forward market commodity exchange, meaning that all contracts require a physical delivery of commodities either immediately, or at a specified future date. Contracts with ACE will clearly specify commodity specifications.

<sup>5</sup> Agricultural Development and Marketing Corporation Limited (ADMARC) is a government-owned statutory corporation under direct control by the Office of the Malawian President. Main responsibilities included: procuring and selling farm inputs such as fertilizers, seeds and pesticides for crops to all smallholder farmers in Malawi; buying produce from both traders and smallholder farmers at responsible prices; adding value for sales in both export and local markets; ensuring easy accessibility of staple food maize in the country through a vast market network; provisioning reliable markets for smallholder produce; and attending to the social obligations on behalf of government through handling and selling of Farm Inputs Subsidy Programme.

<sup>6</sup> ACE charges 0.2% of the amount transacted with no verification and 1% with its role as third-party verification. Commodity exchanges play a significant role in the national legume business; e.g., ACE estimates to trade 7,500 MT soybeans, which is 11% of soybeans traded from Malawi in 2014 (68,000 MT soybean traded out of 114,000 MT produced); 2,000 MT groundnuts in 2014; and 7,500 MT pigeon peas, i.e., 3% of commercial production in 2014 (ACE 2014).

<sup>7</sup> African Institute of Corporate Citizenship (AICC) is a non-governmental organization whose main mandate is to promote the role of business in development. AICC acts as a “catalyst and facilitator of change,” thus as broker and initiator of multi-sector partnerships and platforms and knowledge management hub for issues relating to the role of responsible business in African societies. Since its establishment, AICC has, among other things, engaged in capacity building, research and facilitation of multi-stakeholder processes that bring together businesses, government and civil society for the collective.

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<sup>8</sup> The Legume Development Trust (LDT) platform is one of the four public-private partnerships formed under the Malawi Agriculture Partnership (MAP) program of the AICC, which is the secretariat strongly anchored by nine board members. It was launched in June 2013. The LDT is a coordinating body aimed at enhancing collaboration that would consolidate various efforts to develop the legume sector. It comprises all key value chain players and service providers along the legume sector: input suppliers, farmers, farmer organizations, traders, processors and government departments, donor partners and other service providers. It was formed as a result of the realization that there was little collaboration amongst stakeholders in the sector. The aim is to create a strategic forum to enhance competitive advantage of the legume industry. The initial seed money was provided by international donors. It currently focuses on groundnuts, beans, pigeon peas and soya but its mandate covers all legumes. It is grouped into themes: A) Production: To look in to seed availability and access, production and productivity, research, technology dissemination and post-harvest management issues; B) Marketing: legumes market environment, marketing information systems, product development and other market related policy issues; C) Policy and Institutional Development: institutional support and capacity building, information technology transfer as well as policy issues affecting the sector in general; D) Processing and value addition: quality, processing, standards and regulations.

<sup>9</sup> Partnership for Aflatoxin Control in Africa (PACA) aims to protect crops, livestock, and people from the effects of aflatoxins. The African Union Commission (AUC) provides leadership for PACA and works with a steering committee representing: farmers, consumers, research and technology organizations, healthcare and trade professionals, and the private sector (seed and input suppliers, banks, traders and processors). The vision is that with aflatoxin contamination reduced to safe levels, Africa's food crops are more likely to meet international food safety standards, enabling African countries to increase their export potential. The Malawi Programme for Aflatoxin Control (MAPAC) is the local platform of PACA to create mechanisms for effective coordination on aflatoxin control in the country. Link to most recent strategic plan for institutional change is provided in the text.