ASSESSMENT OF AND RECOMMENDATIONS FOR STRENGTHENING THE PLURALISTIC AGRICULTURAL EXTENSION SYSTEM IN EASTERN PROVINCE, ZAMBIA

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ASSESSMENT OF AND RECOMMENDATIONS FOR STRENGTHENING THE PLURALISTIC AGRICULTURAL EXTENSION SYSTEM IN EASTERN PROVINCE, ZAMBIA


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ACRONYMS

ADEO    Agriculture Diary for Extension Officers
ARPT    Adaptive Research Planning Team
ASNAPP  Agribusiness in Sustainable Natural African Plant Products
CAADP   Comprehensive African Agriculture Development Plan
CASH    Commercial Agribusiness for Sustainable Horticulture
CFU     Conservation Farming Unit
CGA     Central Growers Association
CIMMYT  International Maize and Wheat Improvement Center
CNFA    Citizen Network for Foreign Affairs
CO      Camp Officer
COMACO  Community Markets for Conservation
CRS     Catholic Relief Services
CSO     Central Statistical Office
DACO    District Agriculture Coordinator
DEM     District Extension Methodologist
EAS     Extension and Advisory Services
FAO     Food and Agriculture Organization
FSR     Farming Systems Research
FTC     Farmer Training Center
FTF     Feed the Future
FTI     Farmer Training Institute
ICT     Information and Communication Technology
JICA    Japan International Cooperation Agency
MAL     Ministry of Agriculture and Livestock
MEAS    Modernization of Extension and Advisory Services (USAID LWA Project)
MFNP    Ministry of Finance and National Planning
M&E     Monitoring and Evaluation
NAP     National Agriculture Policy
NAIP    National Agricultural Investment Plan
NGO     Non-Governmental Organization
NRDC    Natural Resources Development College
NRM     Natural Resource Management
PACO    Provincial Agriculture Coordinator
PAO     Principal Agriculture Officer
PRA     Participatory Rural Appraisal
RSM     Rapid Scoping Mission (MEAS)
SAO     Senior Agricultural Officer
SMS     Subject-Matter Specialist
SNV     Netherlands Development Organization
USAID   United States Agency for International Development
WB      World Bank
ZARI    Zambia Agricultural Research Institute
ZEGA    Zambia Export Growers Association
ZNFU    Zambian National Farmers Union
ZVAC    Zambia Vulnerability Assessment Committee
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During the fieldwork, the study team was hosted by CRS/Zambia. The technical advice provided by Mr. Douglas Mwasi and the day to day logistical support of Ms. Lillian Chakalunta were invaluable and greatly appreciated. We also wish to extend appreciation to CRS-Zambia Country Representative Dane Fredenburg.

While numerous prior studies and documents inform this work, two Ministry of Agriculture and Livestock (MAL) documents should be mentioned as having been foundational, enabling the team to get a “running start.” They are the National Agricultural Investment Plan (NAIP), the General Operational Guidelines for Agricultural Extension Service Providers for Small-Scale Farmers in Zambia. Websites of USAID –Zambia Feed the Future implementation partners and other organizations providing advisory services to small-holder farmers in Eastern Province were also rich sources of information.

The study team sincerely thanks all the donor representatives, government personnel, staff from non-governmental organizations, farmer-based organizations and the private sector, as well as the men and women smallholder farmers who met with the study team and graciously gave their time and shared their knowledge and experiences regarding the pluralistic extension and advisory services in Zambia, as well as their suggestions on how to strengthen and expand these services in the future. This study is a compilation of all of these valuable inputs. The authors alone accept responsibility for any shortcomings or factual errors in this report.
EXECUTIVE SUMMARY AND RECOMMENDATIONS

Introduction
At the request of the USAID/Zambia mission, the MEAS project (Modernizing Extension and Advisory Services – a USAID funded project) conducted a rapid scoping mission (RSM) to examine the pluralistic extension system in Eastern Province and to develop recommendations for strengthening extension and advisory services. The fieldwork for the assessment work was carried out during the time period July 28 to August 15, 2014, and included in-depth interviews with Ministry of Agriculture and Livestock (MAL) staff at all levels, international and national non-governmental organization (NGO) directors and staff, lead farmers, university faculty, agricultural researchers and private sector representatives. To the extent possible, interviews were carried out on the “shop floors” of the different respondents, allowing the MEAS team to visit farms, area and district extension and project offices, universities and training centers, and research facilities.

The primary objective of the RSM was to assess the pluralistic extension system in Eastern Province at district and provincial levels, including the relationships to the national level, in order to provide recommendations to both public and non-public actors, an institutional framework to guide the processes, and key areas for strengthening at local levels, highlighting processes to improve coordination, harmonization, planning and reporting between public and private extension delivery. The team focused on contributions and constraints of these different advisory service providers. The following recommendations include strategies for improving coordination across a diverse set of extension and advisory service (EAS) providers. The assessment team believes that MAL district and provincial level agriculture coordinators have an important role to play in the execution of these strategies. Ultimately, a coordinated, well-functioning system of EAS will require that the many and diverse organizations engaged in EAS at the local level engage in MAL-convened, district-level work planning, reporting and assessment – all with attention to development goals defined by local people.

The assessment concentrated on the five districts in Eastern Province that represent the Zambia FTF’s zone of influence. It is acknowledged that some of the key FTF implementation partners operate across all nine Eastern Province Districts. And, while the assessment focusses on Eastern Province, some of the results and recommendations should be applicable to the rest of the country.

It is clear that MAL and its partners have been thinking deeply about the potential benefits, as well as the challenges that accompany increased pluralism of EAS in Zambia. MAL has gone well beyond official acknowledgement or recognition of pluralism. It endorses and seeks to support pluralism, and planned (again, in concert with partners) and promoted institutional arrangements to foster better coordination. We believe that its current plan to focus coordination efforts at the District level (detailed in Annex C) is sensible. The following recommendations are intended to help mitigate potential coordination challenges, to build platforms for coordination that “double” as learning and innovation platforms, and to stimulate a Zambia-specific dialogue about what increasing pluralism means for public extension and policy maker’s role in creating an enabling environment over the long term.

Pluralism in EAS clearly offers a measure of choice to Zambian farmers. The entry of new EAS providers, is viewed as a positive development, as many of them are opening doors for smallholder participation in new markets, or helping farmers to find, test and adapt solutions to agronomic challenges. At the same time, it brings into focus important questions about the underlying purpose of EAS, and the extent to which agricultural development strategies favored by private EAS providers compete with or support broader rural poverty alleviation and food security goals.
Among the most troubling statistics related to rural Zambia are those related to poverty levels, food insecurity and stunting. Even if private agricultural EAS providers were present in every block or camp across Zambia (which, of course, they are not) hundreds of thousands of the most disadvantaged rural households are not well positioned for appreciable gains through some of the agricultural interventions being promoted. Disadvantages can relate to location (including poor market access), natural resource endowments, illiteracy, poor health, weak local organizations, and access to the basic resources for farm-based livelihoods. Who among the expanding set of EAS providers can sustain pro-poor rural development work – not as an alternative to, or in competition with the agricultural EAS services that help well-positioned smallholder farmers innovate, solve problems and participate in value chains – but as a complement to these emerging services? The question seems especially germane when one considers that non-public EAS providers decide themselves where and with whom they will work. Understandably, commercially-oriented value chains and businesses will make that choice based on prospects for return on investment. Rural development NGOs with a strong “pro-poor” agenda often choose to work with the most disadvantaged, but such NGOs are not present in every rural village or Camp, and their long term presence in a particular place may be determined more by funding and project cycles than by their organization’s mission and actual need among the poor they are trying to serve. This begs the question –“Can public extension – the only EAS provider with a long-term presence in every Camp in Zambia – reinvent itself for a broader rural development mandate?” It is assumed that most Camp Officers will continue to work closely with Camp Agriculture Committees, and to facilitate farmer learning and capacity strengthening in partnership with non-public EAS providers. But can they play a similar facilitation, capacity strengthening and coordination role when it comes to other critical rural development priorities? Does the arrival of alternative technical agriculture advisory services from the private sector afford public extension the “space” for this broader mandate?

Pluralism has the potential to greatly strengthen extension in some blocks and camps. Conversely, it could perhaps weaken it in others if used as a rationale for significant disinvestment in public extension. We would expect the biggest gains in non-public agricultural EAS to occur in areas best suited to commercialization and value chain development. In contrast, areas with the most limited resource endowments for commercial agricultural production that also lack NGO attention and farmer organizations may find MAL as the sole EAS option.

MAL also needs to acknowledge and respond to widely held perceptions that public extension is no longer relevant. The weakness of MAL extension was a recurring theme during our assessment, and we heard it from a wide range of organizations and individuals – including representatives of farmers’ membership organizations, NGOs, donor organizations, and private companies. The most charitable assessment of MAL extension pointed to its limited capacity for actual extension service delivery, but the still important role in helping to facilitate the work of other organizations at the Camp level. Others spoke of the importance of rebuilding public extension, but believed it unlikely given the cost and extend of their problems. The least charitable views portrayed public extension as “dead”, or an irrelevant vestige of the past, already supplanted by the private sector and membership organizations.

We believe that the latter view grossly understates MAL’s potential contributions to Zambia’s increasingly pluralistic EAS. But it is clear that MAL will be hard pressed to reclaim its reputation as a viable player in extension and advisory services unless it finds a way to exercise leadership in the coordination of services at District and local levels, and in the convening of platforms for learning and innovation that bring widely recognized value to non-public EAS providers and to rural communities. And donors, as well as the Zambian government, will have to realistically examine the ability of the private for profit sector to adequately reach marginalized farmers, and the long term sustainability of NGO driven services to the poor.
Recommendations for Consideration:

**Governmental EAS**

Initiate a full study of the feasibility and consequences of reorienting MALs role at the local level. This should examine in detail an alternative role for Camp Extension Officers – a role less focused on technology-oriented content delivery and more about facilitating learning, helping to organize and strengthen local groups’ capacity for decision-making and for addressing a wider range of community concerns, and for serving as a “connector” between farmers and a wide range of EAS providers. Ideally, this study would be conducted by MAL staff itself, rather than relying on outside experts.

Equip District-level MAL personnel with high level networking, communications, team-building and facilitation skills necessary to be proactive conveners of organizations engaged in agricultural and rural development.

**Lead the establishment of practitioner “learning networks” at the District-level.** Embrace the potential of pluralism for enriching catalyzing collaboration and innovation in EAS and rural development practice. If organized in a way that conveys a sense of shared ownership and that leads to participant-valued learning, these can be powerful, self-sustaining, long-term communities of practice.

The Government needs to find a way to fully fund reasonable operational expenses at Camp level – lack of mobility is currently a very significant issue. Given limited funding, priorities will have to be set in terms of which regions and/or which segments of the farming population to focus on, taking into account where other providers may be sufficiently engaged so that the public sector can reduce its presence.

MAL is encouraged to move aggressively toward the incorporation of information and communications technology (ICT) into extension practice. Besides training and equipping Camp, Block and District-level personnel, it is recommended that MAL pilot innovative applications proving valuable among EAS providers elsewhere. Examples include farmer to farmer video (e.g., Digital Green), digital information resources, and applications for recordkeeping, reporting, and other program management tasks.

Consider the creation of a small number of high quality national or provincial specialist teams. Deploy when and where farmer demand for particular advisory services cannot be met through existing public or private EAS resources. Such teams can also be important resources for in-service training of Camp Officers and other EAS providers. Mobility, flexibility and responsiveness are critical to their effectiveness.

Give smallholder farmers a greater voice in the prioritization of publicly-funded agricultural research. Consider channeling a portion of public research funding through a semi-autonomous, farmer-led research body where smallholder farmers sit on the Board of Directors and on panels to consider applied research proposals and dissemination strategies for research findings. ZNFU is in a good position to convene and support such a body. Emphasis should be on the research priorities of ZNFU’s smallholder members, however.

**Deploy public extension resources for advancing the broader rural development agenda (beyond agricultural development) of Zambia.** While acknowledging that small holder agriculture is an important driver of rural economic growth, broad-based improvements in health, nutrition, education and the status of girls and women, as well as expansion of non-farm livelihood options, could benefit significantly from a form of rural extension and adult education that more directly targets factors - beyond technology access - that perpetuate poverty.
Pursue greater integration of the goals and strategies reflected in the National Agriculture Investment Plan and the National Food and Nutrition Strategic Plan – Consider how Zambia’s increasingly pluralistic EAS system can best advance a comprehensive, more fully integrated national food and agriculture strategy.

A Learning Agenda

Seek to influence the curricula at the Colleges of Agriculture that supply MAL and other EAS providers with field personnel. Assist them in developing experiential learning opportunities relevant to contemporary, pluralistic EAS systems and to the new roles/functions of public and private extension practitioners and advisory service providers.

Develop an aggressive in-service training program for District, Block and Camp-level extension staff that will strengthen the attitudes, knowledge and skills needed for MAL’s new role in a pluralistic EAS system. Skills include: creating high performing teams; working in teams; community organizing; participatory learning and action; facilitation; adapting extension approaches to more fully address various forms of marginalization (including those based on gender and socio-economic status); accessing expertise and other resources across sectors, including those related to health and nutrition.

Bring EAS providers together to review and refine the process for preparing and aggregating their respective contributions to District work plans and performance reports. Also, provide training and other support to EAS providers to enhance prospects that common M and E and reporting frameworks are embraced and contribute to sound decision making.

Establish and communicate clear meanings for the words and concepts being used in the conversation about coordination of pluralism. A common understanding among potential partners of meanings behind words like “coordination” and “harmonization” is important. Make a clear distinction between concepts that imply standardization (something that can narrow options presented to farmers) and concepts that imply communication and coordination while maintaining scope for multiple approaches (and farmer options).

Support the DACO and his/her team with advanced training in collaborative program planning, evaluation and the aggregation and analysis of reports from multiple EAS partners in ways that prove useful.

Action research and learning about coordination/harmonization - MAL’s plan/ interest to coordinate pluralistic EAS though District-level platforms across Zambia offers a rich opportunity for learning. Even more attractive are the opportunities to learn from efforts, including unsuccessful efforts, to elevate these coordination committees become the more powerful and potentially impactful learning and innovation platforms. National MAL can play an important role in establishing a flexible action research agenda to support, document and learn from the process.

Experiment with participatory approaches and funding mechanisms that give farmers a more prominent role in the innovation process. One such approach -- Farmer Learning Centers – brings small groups of the most innovative farmers together to strengthen their capacity for innovation, then builds “support links” to research and commercial actors. Examples of this approach exist in Malawi and Zimbabwe.
where they are organizationally embedded within universities, though in partnership with public extension.¹

**Enhanced Private Sector and Civil Society Involvement**

Create “demand” on the part of EAS providers for the benefits of collaboration and work plan coordination. Busy NGOs, private businesses and farmers’ organizations, each with their own goals to achieve, and their own resources, will quickly find better things to do with their time than to attend MAL-convened coordination meetings if they perceive no benefit from doing so. Each District will need to determine what will motivate them to support coordination and harmonization efforts voluntarily. Benefits could include opportunities for learning (training as well as membership in “communities of practice”), continued access to the services of Camp Officers in supporting field-level activities, or the opportunity to gain greater visibility and recognition for their organization’s work. One could imagine provinces competing with one another for National recognition of their creative agricultural and rural development partnerships.

Seek broad consensus across EAS organizations on shared, high priority objectives. Collaboration is possible despite differences in mandates, development philosophies and approaches if potential collaborators organize the interactions around important shared goals. Barriers to collaboration based on differences tend to lessen as personal relationships, trust and mutual respect become stronger.

Develop performance enhancement programs for agri-input dealers. As a group, agri-input dealers are underprepared for their role as de facto agricultural advisors. It is recommended that MAL explore the possibility of partnering with business, trade associations, or IFDC to develop and implement a program to upgrade the technical agricultural knowledge and practical business skills of agri-input dealers across Zambia, coordinating with the current SNV program where appropriate.

Create and monitor adherence to high standards of professionalism and performance of private EAS providers. Pluralism increases the need for professional standards. Standards serve not simply as evidence that an extension or advisory service practitioner possesses appropriate technical skills, but also that s/he has committed to upholding ethical standards. It is understood that the work of EAS providers who work for private companies is guided by commercial goals, but professional integrity demands that EAS providers not knowingly recommend products or practices that run counter to farmers’ best interest. There exist many organizations that certify farm advisors around the world which could inform a Zambian certification program. They typically offer extensive in-service training opportunities (required for periodic recertification) and demand adherence to a strict code of professional ethics.

¹ Participatory research concepts are not new to MAL and ZARI. More than thirty years ago, the Adaptive Research Planning Teams (ARPT) sought to work more closely with farmers in on-farm adaptive research. While ARPT led to an increased recognition of how farmer participation can improve the relevance of research, numerous further enhancements to participatory research have emerged in the intervening years. The review team advocates contemporary approaches that support a more prominent and meaningful role for farmers in the innovation process.
STRENGTHENING THE PLURALISTIC AGRICULTURAL EXTENSION SYSTEM IN ZAMBIA

Introduction

As with other countries, agricultural extension and advisory services (EAS) in Zambia are provided by public, private, and non-profit organizations. While it has become commonplace to refer to this collection of actors as a system, this claim is only valid in the loosest of terms, as many of the component parts do not functionally interact with others in an operational sense, tending rather to function as independent information sub-networks within larger national, and international spheres of exchange. The potential for interaction and exchange between these component parts defines the potential for positive synergism, while a lack of such interaction is a predictor of inefficiency, redundancy and conflict.

A brief overview of EAS in Zambia is available from the USAID funded, IFPRI implanted Worldwide Extension Study and can be accessed at www.g-fras.org/en/world-wide-extension-study/africa/eastern-africa/zambia.html and need not be repeated here.

This assessment focuses on the pluralistic extension system in Eastern Province at district, provincial, and relationships to national levels. In the sections that follow, an overview description of each of the principal actor groups is provided, followed by a summary of findings and conclusions, and recommendations in ways that their collective efforts can be strengthened.

The Zambian Context

Aggregate economic indicators depict Zambia as a rapidly emerging success story. GDP has grown between 6% and 7.6% annually since 2006 (largely due to high copper prices), the overall poverty rate has declined, and the country’s farmers – comprising over 70% of the national workforce – have produced surplus maize – Zambia’s principle crop and staple food – over the past 5 years.

However, a closer look reveals great disparities in the extent to which this improved overall economic performance is benefitting Zambians. Approximately 80% of rural Zambians remain below the poverty line, compared to approximately 30% for urban Zambians. And despite recent production surpluses, food insecurity and malnutrition remain major issues, as illustrated by the 46% stunting rate. (See also the Demographic and Health Surveys Program for detailed data and in-depth analysis describing these and other disparities in well-being (www.dhsprogram.com/).

Zambia’s favorable climate, along with large stocks of good quality land and minimally utilized water resources, suggest great potential for agriculture-led poverty reduction going forward. However, IAPRI (Tembo and Sitko, 2013) cites the following factors as limiting this potential:

1. Small-scale farming systems in Zambia are overwhelmingly dominated by a single crop: maize. In 2011/12, 86% of all smallholders grew maize.
2. Yields for all crops in Zambia are well below global averages.

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2 Through remainder of the report non-profit organizations are referred to as non-governmental organizations (NGOs) following convention, even though in definitional terms NGOs include all organizations outside of government, which is not the intension.

• While input use has trended upward since 2001, 45% of Zambia farmers still do not use fertilizer on their fields, while more than 40% do not use hybrid maize seeds.

• Increasing land fragmentation and shrinking land size holding in Zambia. While the mean land size holding in Zambia is 3.27 hectares, three quarters of the rural population controls on average 2.5 hectares of land or less. This is indicative of significant differentiation within the smallholder sector.

• Despite the high prevalence of maize cultivation in rural Zambia, a considerable proportion of the small- and medium-scale agricultural households are net buyers of maize. In a record maize production year, 28% of rural households remain net buyers of maize. These farmers tend to control smaller farm sizes and tend to be located in more marginal agro-ecological zones.

• Government spending on agriculture to the total government budget rose from 12.2% in 2007 to 13.6% in 2011 which is above the spending goal agreed upon under the 2003 Maputo declaration. However, procurement and distribution of maize through the Food Reserve Agency (FRA) and input subsidies through the Fertilizer Support Program/Farmer Input Support Program (FSP/FISP) account for over 80% of the total agricultural budget.

The Zambian agriculture sector is characterized by a dual structure, where a small number of large commercial farms, concentrated along the railway line and major road networks, co-exist with scattered subsistence and semi-subsistence smallholders and few small commercial farmers who face difficulties accessing inputs and participating in remunerative output markets. More than 50% of rural households are engaged solely in subsistence agriculture. Commercial agricultural development has been limited by the Government of Zambia’s almost singular focus on the production of maize for food self-sufficiency. Transportation and other market infrastructure, as well as extension services and agricultural research capacity remain underdeveloped nationwide, but especially so in remote rural areas (Bonaglia, 2008).

The current National Agricultural Policy (NAP) 2004-2015 provides the overall vision and policy framework for the agricultural sector and assigns a pivotal role to the private sector, which is expected to engage increasingly in service provision. The Ministry of Agriculture and Livestock is delegated responsibility for policy formulation, enforcement of legislation, regulation and inspection, maintenance of the strategic food reserves, provision of market information, financing the control of pests and diseases of national economic importance, and monitoring and evaluating overall sector performance. MAL is also charged with developing partnerships with the private sector for service delivery, including extension and research. In the NAP document, donors are encouraged to provide financial, technical and other support for the implementation of agricultural policies and programs and capacity building for stakeholders (Bonaglia, 2008).

As the Government of Zambia has endorsed and sought to actively support pluralism in extension and advisory service deliver, it has also moved beyond conventional concepts of extension – a dissemination conduit for the one-way transfer of technologies from research institutions to farmers. A more contemporary concept is evident, of a service that facilitates the access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitates their interaction with partners in research, education, agribusiness, and other relevant institutions; and assists them to develop their own technical, organizational and managerial skills and practices (Christoplos, 2010).

Categories of Farmers in Zambia – Zambian farmers are most commonly categorized into three groups: 1) small-scale farmers; 2) medium-scale farmers; and 3) large-scale and commercial farmers. The small-scale farmers tend to be subsistence producers cultivating less than 5 hectares each. Medium-scale farmers cultivate 5-20 hectares each and normally have surplus produce for the market. Approximately 1.4 million Zambian farmers fall into either the small-scale and medium-scale category (combined,
farmers in these two groups are typically referred to as “smallholder farmers”) while large-scale farmers number approximately 1500. Large-scale/commercial farmers cultivate above 20 hectares of land each and produce crops for both local and export markets (Kuteya, et al., 2014).

However, in describing their priorities for extension to the study team, the Ministry of Agriculture and Livestock shared a 5 category farmer typology. The government’s most recent official farmer registration process uses these 5 categories:

1. Subsistence
2. Small-scale
3. Emergent commercial farmers
4. Medium commercial farmers
5. Large commercial farmers

Subsistence farmers are described by MAL as those whose asset base is insufficient to support farming as a primary livelihood. MAL sees the Ministry of Community Development as having more relevant programs and capacity for helping to elevate these households out of the poverty trap. Large and medium commercial farmers look to private advisors and the National Zambia Farmers Union for services rather than to public extension.

Some 50,000 Zambian farmers are categorized as emergent commercial farmers. They cultivate between 5 and 20ha, typically with draught power, and use more purchased inputs than small-scale farmers. They tend to use hired labor and sell the majority of what they produce. The majority of farmers currently categorized as emergent operate along the line-of-rail that traverses the country from southwest to northeast.

Small-scale farmers are the main target of MAL extension services. The Central Statistics Office reports that 72.7% of all small-scale farmers cultivate less than two hectares of crops. Household food security is currently the main focus, but MAL described its strategy as “taking them to the next level – to become emergent commercial farmers.”

**USAID Feed the Future Zone of Influence in Zambia**

USAID-Zambia’s current FTF food security and rural poverty alleviation programs are concentrated in 5 Districts of Eastern Province (Figure 1). The work which engages many partner organizations and is supported through 12 Mission-funded projects seeks to address productivity issues, promote the development of smallholder-oriented value chains, improve nutrition, and support Zambian Agricultural Research Institute (ZARI) work in Eastern Province. This concentrated focus provides an opportunity to evaluate and measure change.

That concentration of effort also creates a greater need for fostering communication and coordination among the many projects and organizations working in the province. USAID has helped to convene quarterly meetings aimed at improving coordination and harmonization. Those meetings have revealed a number of issues. They include:

1) conflicts over NGOs’ and donor-supported projects’ use of incentives for engaging MAL staff,

2) differences in extension approaches, and

3) different and sometimes competing messages to farmers.
Figure 1a: Map of Zambia, with Eastern Province in Green

Figure 1b: The Eight Districts in Eastern Province, Zambia
USAID-Zambia’s current FTF food security and rural poverty alleviation programs are concentrated in five of the eight Districts of Eastern Province (Figure 1b).

**DESCRIPTION OF CURRENT EXTENSION AND ADVISORY SERVICE PROVIDERS, THEIR ORGANIZATION AND CAPACITY**

**Governmental Extension System**

The Ministry of Agriculture and Livestock (MAL) is by far the largest extension provider in the country. Its extension program is informed by and designed to advance the Ministry’s overall mission and vision, both articulated below:

**MAL Mission Statement**

*MAL’s mission is “to facilitate and support a viable and competitive agriculture sector that assures food security and incomes at both household and national levels and maximizes the sector’s contribution to Gross Domestic Product (GDP).”*

**Vision Statement**

The vision for the agriculture sector is to have *“an efficient, dynamic, competitive, sustainable and export-led agriculture sector that assures food security and increased income by 2030.”*

MAL implements a nationwide extension program through a large cadre of field-based Camp Extension Officers. MAL’s 2014 *Agriculture Diary for Extension Officers (ADEO)* -- a combined manual and daily record that every extension officer is instructed to carry and maintain -- states the official mission or job purpose of the Camp Extension Officer as follows: 

*to undertake the provision of extension services in order to facilitate dissemination of information and technologies for improved agriculture at camp level.*

The ADEO goes on to describe the Camp Officer’s role in terms of the following functions and “principle accountabilities”.

<table>
<thead>
<tr>
<th>Key Result Area</th>
<th>Principal Accountabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>Conducts timely demonstrations and training of farmers in order to ensure effective delivery of appropriate information on technology.</td>
</tr>
<tr>
<td>Technical Support</td>
<td>Conducts timely demonstrations and agronomic practices for the farmers in order to ensure effective delivery of appropriate technologies.</td>
</tr>
<tr>
<td>Performance Management</td>
<td>Ensures timely development of individual and camp work plans in order to monitor and evaluate performance.</td>
</tr>
</tbody>
</table>

The first chart below depicts the structure of the overall Ministry of Agriculture and Livestock (MAL). The second details organizational structure in MAL’s Department of Agriculture (DA), the unit with responsibility for public extension in Zambia.
Figure 2a: Organizational Structure of the overall Ministry of Agriculture and Livestock (MAL).

Figure 2b: Organizational structure in MAL’s Department of Agriculture (DA). Source: MEAS Debriefing, 2014
The evolution of public extension approaches in Zambia parallels the periodic rise and fall of research and extension approaches globally over the past four decades. Along with many other countries, Zambia adopted the Training and Visit (T & V) Extension model of extension championed by the World Bank from the mid-1970s into the 1990s. Promoted as a comprehensive management system to address issues of inadequately trained and office-bound extension field staff and a lack of accountability at all levels, the highly structured and rigidly implemented extension model proved financially unsustainable in Zambia and most other countries that adopted it.

In the wake of the T & V experience, and in response to widespread critique of what came to be known as “conventional” extension – characterized as the linear, one-way transfer of technology – Zambian public extension began transitioning toward more participatory approaches.

Concurrent with Zambia’s T & V extension “experiment”, Farming Systems Research (FSR) emerged as part of a larger effort to increase the relevance of agricultural research and extension for the small-scale farmer. A response to the criticism that new agricultural technology was frequently irrelevant to small-scale farmers, FSR was a systematic attempt to involve smallholders more actively in research and technology testing. ZARI’s FSR unit, inspired and trained by CIMMYT in the late 1970s, opened the door to more multi-disciplinary assessment of technology options, and to do so on farmers’ fields so as to better understand and address the heterogeneity of resource endowments and priorities of smallholder farmers. Though enthusiasm and financial support has faded over time, FSR brought more attention to the value of field-based trials, managed by smallholder farmers, and analyzed jointly by farmers and scientists. Unfortunately, too few FSR programs took full advantage of the opportunity to work in truly collaborative ways with farmers, or to integrate participatory extension into FSR. Nevertheless, FSR, along with the largely NGO-led innovations in participatory technology development and participatory learning helped accelerate the transition away from the most conventional forms of research and technology transfer.

The most prevalent approaches and methodologies today include Farmer Field Schools, on-farm demonstrations organized by “lead farmers”, and other forms of group-based learning and Farmer to Farmer dissemination. With the support of Camp-level extension staff, local farmers are brought together into commodity study groups or interest groups for sharing, demonstrations, farm cross-visits, presentations by MAL or by outside advisors and agribusiness representatives, and experiential learning. Extension Officers regularly meet these groups and occasionally visit households to follow-up on specific farmer problems. Lead farmers are also identified and demonstration plots are established at their farms. Farmer Field Schools are organized around these demonstration plots. Good facilitators are able to strengthen capacity for farmer observation, hands-on experiential learning, and join problem solving. Good FFSs promote a culture of curiosity, careful observation and adaptation among farmers.

Though they vary from camp to camp with regards to quality of facilitation, frequency, and impact, FFS are most frequently cited as the endorsed approach to extension in Zambia, for MAL as well as for many NGO and project-based service providers. Globally, the experience with FFSs has been mixed. Reports of sustained impact are accompanied by other reports of unsustainably high costs and extension practitioners poorly equipped for facilitating this type of farmer learning. It is clear that, like many other participatory extension/adult learning approaches, the FFS is not a universal recipe, but must be adapted to fit the context and accompanied by strong and sustained facilitator training.

The integration of the Department of Fisheries and Livestock into the Ministry of Agriculture has implications for MAL’s traditionally crop-oriented agricultural extension programming. The addition of livestock and fisheries development to the extension agenda adds further emphasis to calls that MAL extension move from direct service delivery to facilitating farmer learning and access to services.
provided by a range of providers – public, NGO, fee-based consultants, membership organizations, and private companies.

We do not, however, advocate for a total “pull back” on technical in-service training. Camp Officers will still benefit from significant technical knowledge to perform their role. However, that technical knowledge must be complemented by an even stronger skill set necessary to carry out their roles as facilitators, organizers and “connectors.”

MAL’s emphasis on participatory extension today appears driven by pragmatic concerns – a perception that it is an effective approach for promoting farmer learning and adoption of improved practices. Also, it enables a relatively small number of extension officers to serve a large number of farmers.

Although officially characterized as participatory, a Ministry-driven technology transfer agenda remains clearly visible within public extension in Zambia. Many MAL personnel described demonstration farms, lead farmers and even Farmer Field Schools not as ways to strengthen farmers’ capacity for technology testing, adaptation and innovation, but as efficient ways to promote and transfer technologies. Ministry strategies for extension, listed below, serve to illustrate.

As the innovation systems concept (Hall, 2006) gains momentum and EAS pluralism continues to expand, some might expect more attention to the potential for farmers to be recognized not simply as targets, or even as instruments for more efficient knowledge dissemination, but as meaningful contributors to the innovation process.

MAL Extension Strategies, listed below, reinforce the case for pluralism. Clearly no single EAS provider, public or private, is positioned to fully advance this set of strategies.

- Promote and strengthen farmer groups and farmer field schools as targets for technology transfer.
- Create and strengthen the zoning of agricultural camps in order to improve service delivery and infrastructure development.
- Use electronic and print media as communication tools to support extension information delivery.
- Promote and encourage the involvement of the private sector and NGOs in the provision of extension services.
- Promote crop diversification and use of improved technologies.
- Promote gender responsive agricultural extension services.
- Facilitate delivery of skills training and technology transfer to small-scale farmers using Farmer Training Institutes at staff level and Farmer Training Centers at farmer level.
- Promote food crop processing and utilization.

The Policy Environment: What Next for Extension?

The National Agriculture Investment Plan (NAIP), release in 2013, seeks “to identify and prioritize key investment and policy changes in Zambia that are critical to enhancing the desired agricultural productivity growth.” NAIP was created under the Comprehensive Africa Agriculture Development Programme (CAAPD) framework, the goal of which is to “facilitate the achievement of an annual

4 It is also possible however, that growth in contract farming or other value chain arrangements will diminish the scope for farmer-led innovation going forward. Rather than promoting experimentation, value chains may penalize farmers for deviating from strict production protocols – a response to market demands for quality, uniformity and pre-scheduled delivery. Given the very small percentage of Zambian smallholders that participate in such arrangements, this seems a more distant consideration.
agricultural growth rate of at least 6% in African countries triggered by an annual national budgetary allocation of at least 10%.”

NAIP is organized around four major programs: 1) sustainable natural resource management, 2) agricultural production and productivity improvement, 3) market access and services development, and 4) food and nutrition security and disaster risk management. Key support services (KSS), comprised of both knowledge support services and institutional development, are among the cross-cutting priorities. The private for-profit sector features prominently in Zambia’s national vision for agricultural investment and development. NAIP speaks of “private sector led agricultural growth with government providing the necessary facilitatory enabling environment” (NAIP, 2013).

NAIP’s overall objective is “to facilitate and support the development of a sustainable, dynamic, diversified and a competitive agricultural sector that assures food security at household and national levels and maximizes the sector’s contribution to GDP”. To track progress toward this overall objective, the following goals are being monitored during the 2011-2018 time period:

- reduction of rural poverty from 77% to 50%,
- increase in agricultural exports as a percentage of non-traditional exports from 41% in 2011 to 55%,
- reduction in chronic malnutrition of children under five from 45% to 30%,
- reduce soil erosion per hectare from 20 tons to 10 tons, and
- increase cereal production from the 3.2 million tons to 6.0 million tons per year.

NAIP lays out a very ambitious agenda for national agricultural development. Although in places it comes across as a loosely integrated compilation of more narrowly defined (and sometimes competing) departmental or programmatic priorities, it articulates very well the broad range of issues that currently limit agricultural growth, food security and poverty alleviation. MAL’s challenge will be to more fully integrate the large number of identified agricultural sector priorities with one another, and with the priorities and strategies within the National Food and Nutrition Strategic Plan. Also challenging will be the reconciliation of MAL’s stated focus on smallholders with commercial potential with the goal of reducing persistent and very high levels of poverty and food insecurity — especially in areas with comparatively poor resource endowments and market access. While the NAIP indicates MAL’s high level of sensitivity to the heterogeneity across Zambian agro-ecological zones and across rural households, less clearly defined is a strategy for encouraging investment in parts of the country that most need it, and in value chains that begin to address the disadvantages of women and the poor. It is also not clear what are the implications of MAL’s decision to back away from services to subsistence farmers.

Pluralism has brought calls for improved communication and coordination among public and private extension and advisory service providers in Zambia. The March 2013 MAL document entitled General Operational Guidelines for Agricultural Extension Service Providers for Small-Scale Farmers in Zambia states:

“Pluralism in extension service is generally welcome as it provides farmers with more opportunities to choose among different alternatives as the various extension service providers may offer different services. However, proliferation of such extension service providers without any coordination at farmer/village level does not necessarily bring positive impacts on production and productivity but could lower production and create confusion at the cost of farmers.”

The document details guidelines intended to bring about the desired coordination. Those guidelines derive from a March 2011 “Extension Approaches Harmonization Workshop” that resulted in a stated
commitment by attending organizations to “work more closely to deliver extension services effectively to small scale farmers. This does not necessarily call for a strict control and regulation by the Government but rather for an effective coordination among various stakeholders and joint supervision to make sure that services delivered by various players do not confuse target farmers.”

Guidelines detail a plan for EAS coordination nested within District Development Coordinating Committees and backed up by Provincial Agricultural Coordinator (PACO) offices. They also articulate notification and reporting processes that EAS providers need to follow if they plan to initiate work in a given District. All EAS providers are expected to work closely with the Office of DACO and PACO to achieve the objectives of District and Provincial Agricultural Plans.

The District Agricultural Office (DACO/SAO) will arrange a forum for stakeholders to get together to develop a consolidated work plan with clear vision, strategies, and activities, which are to be implemented by all of extension service providers together to achieve priority objectives. The District Office will also establish a coordination committee comprising of the representatives from Government, NGOs and the private sector to coordinate, monitor and evaluate the outputs of various activities.

Sections 6 and 7 of these General Operational Guidelines specify associated mechanisms, procedures, functions and roles. They also propose that District-level MAL offices lead the coordination efforts. See Annex C for Sections 6 and 7 and other excerpts related to coordination and harmonization.

Public Extension Staffing – MAL is responsible for providing extension services throughout Zambia. At least one Extension Officer position is attached to each of 346 Agricultural Blocks and the 1,757 Agricultural Camps within the Blocks, though the system is currently struggling with a high vacancy rate (nationally, only 76% of extension officer positions are filled). Under the Sixth National Development Plan (SNDP) the Government plans to increase significantly the number of extension officers. When fully implemented (scheduled for 2015), the plan calls for 4,965 agricultural extension officers and 2,611 livestock extension officers. That said, optimism is hard to find. Several MAL veterans noted that it may take much longer to address the staffing gap reflected in the following table (Table 1), despite assurances from headquarters.

Table 1. MAL extension staffing levels, Eastern Province, September 2014.

<table>
<thead>
<tr>
<th>District</th>
<th>Block</th>
<th>Camp</th>
<th>Manned</th>
<th>Vacant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CHADIZA</td>
<td>2</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>MAMBWE</td>
<td>3</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>NYIMBA</td>
<td>3</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>CHIPATA</td>
<td>8</td>
<td>58</td>
<td>49</td>
</tr>
<tr>
<td>5</td>
<td>KETELE</td>
<td>4</td>
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<td>20</td>
</tr>
<tr>
<td>6</td>
<td>SINDA</td>
<td>4</td>
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<td>22</td>
</tr>
<tr>
<td>7</td>
<td>VUBWI</td>
<td>2</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>LUNDAZI</td>
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<td>19</td>
</tr>
<tr>
<td>9</td>
<td>PETAIKE</td>
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<tr>
<td></td>
<td></td>
<td>36</td>
<td>239</td>
<td>174</td>
</tr>
</tbody>
</table>

NGOs and “Project” Extension
Participants/Actors:
The NGOs visited by the team represent but a subset of all NGOs working in agricultural and rural development in Eastern Province. Yet, among the small number visited are large differences in mission and overall objectives. While all seek to alleviate poverty and enhance rural livelihoods, some do so as a tactic to advance overriding goals related to natural resource management. For example, COMACO’s overall goal is wildlife protection and CFU’s goal is the reversal of soil degradation. Yet other organizations seek to forests or other biota. Not surprisingly, there is also much heterogeneity across the NGO community in terms of their approach to extension. A sample of the NGOs, and the defining characteristics of their EAS programs follows.

Initial descriptions, below, of private-sector EAS providers draw heavily upon each organization’s printed documents and web-based materials. Observations and remaining questions accompanying each description are based upon a combination of interviews, document review and, in some cases, field visits.

**Agribusiness in Sustainable Natural African Plant Products (ASNAPP)** is a value chain development organization established to enhance growth in the African indigenous plant products and horticultural Industries by intervening and building capacity along the supply chain to boost productivity, competitiveness and increase private/public investments to reduce poverty and hunger.

The ASNAPP vision is to expand economic opportunities for rural communities by using world class science, technologies, partnerships and business approaches. ASNAPP is currently partnered with 25 agri-enterprises. While broadening agribusinesses and stimulating entrepreneurship among small-scale rural farmers remains a goal, ASNAPP’s vision is to move local communities up the value chain and improve their livelihoods.

ASNAPP is currently active in South Africa, Ghana, Rwanda, Senegal and Zambia. ASNAPP’s activities in the African horticulture sector have seen it forge market linkages with various private and public entities regionally and abroad. ASNAPP uses these market linkages to improve small holder and emerging farmer participation in the formal sector economy, enhancing their ability to capture value and improve their livelihoods. Its business development model follows a market-driven, commodity-systems approach that is based on sound, traceable financial principles and innovative funding mechanisms. ASNAPP combines market assessments/ linkages, capacity building, quality control and assurance, technology transfer and policy advocacy in its development model. Market linkages are designed to improve small holder and emerging farmer participation in the formal sector economy, enhancing their ability to capture value and improve their livelihoods.

Market demand and rural economic growth are an overriding factor for all ASNAPP’s interventions, requiring a systematic and integrated approach. When initiating a new project, ASNAPP typically implements rapid market assessment and value chain analysis to identify physical and value flows of horticultural products in the market, key role players in the market, and marketing opportunities and risks.

ASNAPP offers consulting, training and mentoring services to a range of clients from small and emerging farmers to governments and private/ commercial businesses through various information mediums, training and mentoring. It offers high quality training services and materials focusing on greenhouse production, hydroponics, quality, health and safety requirements and control systems for international markets.

Research is one of ASNAPPs’ strengths. Partnered with 15 tertiary and research institutions both regionally and abroad, they have direct access to the latest findings and innovations. ASNAPP performs in house research for its own programs and contracted research for external organizations. In house
research is market driven, keeping an eye on current product and market trends, and anticipating future market demands.

**Team observations/questions:** ASNAPP brings high level expertise on horticultural value chain development to the CASH Project. Their most significant contribution to long-term development of smallholder market horticulture in Eastern Province, Zambia will come through the initiation of strong, self-sustaining value chains that generate returns sufficient to grow, diversify, attract capital (from grower associations, food retailers or processors, input providers, etc.), and inspire the creation of additional value chains, both in and beyond the horticulture sector.

Upon completion of project-based work in Eastern Province, will the “young” value chain alliances seeded through the CASH project be well-positioned for sustained competitiveness? Will “post-project” value chains have the expertise and business models that support strong and sustained EAS in production, post-harvest management, GAP for food safety and quality control, and other knowledge domains critical the success of smallholder value chains? To what extent do models for market horticulture development being piloted by ASNAPP through the CASH project hold promise for smallholders in less favored areas?

**Commercial Agribusiness for Sustainable Horticulture (CASH):** Launched in 2012, this four year, US$4.8 million Global Development Alliance project aims to supplement small-scale farmers’ income by expanding Zambian horticulture market share. CASH will provide access for over 5,000 farm/rural households and members of farmer and enterprise organizations to horticulture production support services (seeds, fertilizer, pest control, financial services, pre- and post-harvest quality control, among others) and market support services (buyers, market specifications, communications strategy, data collection and dissemination, and results monitoring). The project is working with farmers in Chipata, Petauke, Lundazi and Katete Districts of Eastern Province, and in peri-urban areas around Lusaka.

Smallholder producers will gain market share in three new demand points:

1. On the fresh market in supermarkets, hotels and caterers;
2. On the dry horticultural products market;
3. On the processed food market: companies producing sauces, canned purees, pulps, and bottled horticulture products for various end users.

The lead implementing organization, ASNAPP, is working with small farmers in central and eastern Zambia to improve livelihoods. ASNAPP assists in forging market linkages between small growers, hotels and retailers. Their extension officers and agronomists provide training and technical support to growers in the field. At ASNAPP demo sites new varieties, production techniques and post-harvest handling are demonstrated to farmers.

**Team observations/questions:** This project’s goals demand intensive efforts to improve and disseminate production technologies, upgrade overall farm business management skills, build the necessary knowledge and infrastructure needed to meet high quality standards, and to develop sustainable horticultural value chains that work for smallholders. The project has been built around a strong set of partners organizations. ASNAPP brings significant strength in value chain development and Stellenbosh and Rutgers bring expertise in horticultural production research and training. On-farm and training center demonstration plots appear well designed and appropriate to smallholder farmers.

The project works across 4 Districts with only 4 extension staff members (called TOT Officers within the project). These 4 TOT Officers (1/District) work with MAL Camp Officers on the ground. When CASH entered a District, MAL assisted by selecting Camps with potential for horticultural production – places where farmers were already engaged in horticultural production.
The strategy has been to build on what farmers are already doing in an effort to advance the following objectives: 1) increase enterprise competitiveness for horticulture, 2) promote participation among women in horticultural production, 3) increase the quality of products through training, and 4) test greenhouse technology (based at a farmer learning center). The focus is on education for high value crops including cauliflower, spinach, red pepper and other crops that are new to area farmers. There is an effort to link farmers to higher value markets including supermarkets and lodges, but much product goes through the open spot market.

CASH demonstration and training infrastructure includes a large greenhouse in Chipata (very high tech, high capital investment system) and 40 soon to be established gardens across four districts that will serve as sites for demonstrating and training on drip irrigation and pump systems. These sites are being used by other Feed the Future programs for their training activities as well. Also, Syngenta and other seed companies are conducting company trainings at the demonstration sites a well. The private sector is also involved in irrigation kit training at the mini-garden training centers.

The CASH project trains lead farmers, then facilitates trainings by those lead farmers to fellow farmers. The program was designed so that each lead farmer would work with 25 other farmers. However, as other farmers have joined the program, lead farmers now work with groups of up to 35. In Chipata there are 41 groups of 25-35 farmers/group using 10 mini garden sites. Each site needs good access to water. Partners from MAL and seed companies are sometimes invited to the trainings.

The following process is used for the selection of the lead farmers. “DACOs office tells us which Camps to work in. We find out which NGOs worked there previously and ask them for lists of people. We visit them and evaluate their gardens. Lead farmers need to be literate, participate in trainings and be good observers. Some may have a certificate. We then approach the community and local leaders for input on who should be a leader.”

CASH farmer leaders are volunteers. “Other NGOs are giving bicycles, but we do not. So we have to point out the training benefits, and support farmer leaders with transportation to and from trainings in town. They just work with very local farmers. Farmers don’t understand why some USAID programs provide incentives and others do not. We’ve decided to move away from some communities where other NGOs were working.”

Asked about the “state of coordination” among partners in the area, we were told, “If we start new projects we meet at DACO office and see where we should work. DACO should be the coordinating office. Erin is doing a great job helping us deal with all these issues and to understand the government role. We all know where we are (Camps and Zones) and give one another feedback on one another’s activities.”

Aggregation requires the cooperation among multiple farmer groups. The project is trying to develop packing centers – exploring the possibility of renovating existing structures.

Looking beyond the period of external funding, and recognizing the improbability of finding advisors with knowledge and experience across the entire range of tasks relevant to this project’s goals, we encourage aggressive and early planning for sustainable post-project extension and advisory services.

The team was also struck by the wide range (in terms of capital requirements and scale) of technology demonstrated through the project. The greenhouse production technology on the upper end of this range of options raised questions about relevance to small holders.

Community Markets for Conservation (COMACO) is a non-profit company with a mission to: Provide marketing services, trade benefits, and extension support for farm-based and natural resource-based
commodities as a basis for small-scale farmer adoption of improved land use practices that promote natural resource conservation.

It uses a business approach that finds economic solutions to end poverty among rural small-scale farmers and encourages improved farming technologies to help end hunger. Economic incentives are assured if participating farmers resist poaching and adopt farming practices good for their land and resources. Detailed information regarding its inception, organizational and governance structure, extensive partnerships, and methodology are available at www.itswild.org.

The Company is primarily a food processing business that markets organic, value-added products derived from commodities grown by and purchased from farmers who have become COMACO producer group members.

In describing its extension methodology, COMACO notes “provid(ing) adequate but sustainable extension services to households that lead to increased crop yields while at the same time enhance the conservation of natural resources.” COMACO producer group members are attracted by improved commodity prices, low cost input support, and livelihood skills training.

There were 89,000 households registered in 2013, organized into 4,800 COMACO producer groups (typically 15-20 members per group), each with its own elected leader. Twice during the year, producer group leaders are provided farmer cards for each of their members. These cards provide an important role for groups to monitor their own farming practices, crops, yields and sales. Area managers collect the cards at the appropriate time and results become the basis for follow-up compliance inspections by extension staff to select the best lead farmers as commodity buying agents.

Producer groups are organized into registered Producer Group Cooperatives, each with an elected leader. This level of farmer-based organization affords COMACO the opportunity of working with peer-identified leaders. These leaders support and encourage cooperation among group members to abide by conservation norms (e.g. no poaching, snaring, or making commercial charcoal) and improved farming practices. They also assist COMACO in a) building farmer loyalty in growing food crops suitable for their soils and supportive of COMACO products and b) providing security and administration of their community trading depots, which serve as market and training centers.

Lead farmers play a critical role in the COMACO extension program. Approximately 1,700 lead farmers have been identified and trained, based on past compliance to required farming practices and willingness and interest in helping fellow-farmers to improve skills. This represents a ratio of about 50 farmers/lead farmer or about 3 to 5 producer groups/lead farmer. Lead farmers receive a commission for every new farmer they recruit and train, based on verification of approved farming practices by the area manager. Those who remain supportive throughout the farming season and produce the best results are chosen as part of a smaller group of lead farmers to serve as commodity purchasing agents, who receive commissions for every kg of commodities sold to COMACO.

This level of organization provides a flow of technical guidance and verification of use on improved farming practices, that include a mix of farming techniques, including home-based fertilizer-making with compost and bio-char, mulching, crop thinning, weeding techniques, crop rotation, minimal or zero-tillage techniques, pot-holing, plowing techniques to remove hard-pan and increase root penetration, inter-cropping with agro-forestry and water management.

Producer Group Cooperatives (PGCs) and their leaders also help organize Field Day learning events. Generally attended by group leaders and lead farmers, Field Days promote information exchange and the introduction of new ideas and skills, not necessarily limited to farming (family nutrition, bee-keeping
techniques, dry season farming with treadle pump, chicken husbandry, etc.). Attendance is typically above 100. During the year, COMACO convenes between 4-8 field days per year for a given chiefdom.

This current system of extension support is intended to help maintain farmer conservation compliance. In addition to lead farmers complementing and reinforcing the work of area managers, selected lead farmers maintain his or her farm plots as demo plots, where lead farmers bring farmers for instruction and where different practices are used to compare results with control or “traditional” methods. These demo plots are visited and supported by the area managers.

One of the key reasons why PG members are loyal to selling their commodities to COMACO is the program’s community out-reach service by trained extension staff who offer improved ways to promote food security, diversify income, and mitigate against the effects of climate extremes and other social and health challenges. Much of this training is conducted in the limited months of the dry season (June-November) when families are freer to participate and road access allows such activities. Though the primary focus of this training is oriented toward agriculture and related market benefits, increasingly, COMACO has begun offering new skills that broaden local understanding on how to invest improved incomes in safer livelihoods without depleting local natural resources.

Another method of ongoing learning is the Demonstration Farm. Each regional CTC, through their respective extension program, maintains demonstration sites to help promote successful adoption and understanding of recommended production practices. This is done in partnership with selected PGs and with sufficient freedom of design to ensure such sites meet the needs of local producers, while also facilitating training efforts by COMACO extension staff. In some cases, such demonstration sites might be nothing more than best practices carried on selected field plots and used for training of new PG members. In other cases, demonstration sites might have more oversight by extension staff to ensure recommended practices are followed according to new techniques being introduced into the area, such as how to intercrop with agro-forestry species or how to space and maintain a successful apiary. In 2009, COMACO worked with PGs to identify and recognize top farm plots to encourage farmer visits to these sites to promote continued adoption of best practices.

Team observations/questions: COMACO manages a well-organized and effective extension program. Extension approaches fit well the organization’s overall mission and vision. There exist clear incentives for farmers to join producer groups, incentives for knowledgeable and respected members of rural communities to assume lead farmer roles, and incentives and organizational arrangements that promote high performance and accountability of lead farmers to producer group members. COMACO’s head of extension possesses strong knowledge of various extension methods and approaches, and articulates very well the ways in which extension advances the overall goals and mission of COMACO. A strong culture of innovation is evident.

COMACO currently deploys a 56 member extension team across 6 Districts of Eastern Province plus 1 District of Central Province. These 56 extension staff members reside in villages and work hand in hand with MAL Camp Officers. The COMACO management team member responsible for extension operations indicated that there is a partnership agreement and coordination of operations with the PACO of Eastern Province.

Organizational structure for COMACO’s extension unit is described briefly as follows: A headquarters-based management team member has overall responsibility. Reporting to the Head of Extension are District-level Extension Managers (6) who coordinate extension work in each of the six Districts in which COMACO works. These District Extension Managers each supervise 5-6 field-based Area Managers (total of 56 currently). These Area Managers typically support 15-20 lead farmers (and about 60 producer groups), though some are supporting larger numbers.
Most COMACO local-level extension staff (Area Managers) have had post-secondary agricultural training similar to MAL Camp Officers, e.g. certificates or diplomas from NRDC or one of the Colleges of Agriculture. District Extension Managers have university degrees. In-service training from extension staff is conducted at COMACO’s hub center in Chipata, but is strengthened through collaboration with several other organizations including the Conservation Farming Union, Kasisi Agricultural Training Center, and Golden Valley Agricultural Research Trust (GART), among others.

Monthly Farmer Field Schools meet at the village farms managed by lead farmers. Demonstration plots serve as farmer learning centers for producer groups. When production problems emerge that suggest the need for outside experience or advisory services, COMACO reaches out to partner organizations. For example, CFU helped find solutions to farmer-identified problems associated with soybean production. COMACO is currently working with MUSIKA on certified seed and with ZARI on Chama rice production technologies.

COMACO markets organically-grown products of member farmers. Therefore, legumes as well as cereals are grown on each farm, and compost and crop residue management are key practices.

COMACO’s head of extension spoke to the issue of coordination and harmonization among EAS providers as follows: “We have been diluting each other’s efforts – targeting the same farmers with different messages.” NGOs and others each have their favored farm management practices and they often conflict with one another and with existing practice. That said, COMACO’s relationship with District and National MAL was described as strong. “We understand each other well. We sit down with DACOs and explain our methodology, and sharing information about our areas and target farmers. The government (MAL) has some programs in conservation farming with FAO in some of these same areas. We don’t want to target the same farmers with the same resources.” Also described was an existing commitment to “sit down together with Camp Officers and District MAL to brainstorm, agree on some approaches and develop one curriculum and action plan. We used to see farmers referred to as “COMACO farmers” or “Camp farmers”, etc. This had a negative effect on farmers. How, we look for a common approach – in terms of the innovation to focus on, but differentiate in terms of targeting.”

COMACO is supporting 66 MAL Camp Officers with fuel and 250 Kwache per month in return for helping with the program.

COMACO has enjoyed significant donor support since its inception. This level of external support begs the question – “What happens when donor funds go away? Will COMACO be able to sustain this level of extension services?” Actions have been taken to enhance prospects for sustaining EAS services to members should fewer external (or internally-generated) resources be available to support them. For example, some lead farmers are “graduating” to become Senior Lead Farmers, and they are working to take over the role of Area Managers. Another example effort to enhance sustainability of EAS services is the recent joining of 10 farmer groups to become a registered cooperative. That cooperative is now generating income that supports the work of a lead farmer. COMACO is now conducting a pilot program in Lundazi offering business skill, leadership, and cooperative management training to support the launching of additional local business units and cooperatives – each with the potential for supporting extension services for members.

About 52% of COMACO member farmers are women. Gender specialists in each District help COMACO to more fully consider gender issues in program design and operations. As a result of input by women, new enterprises have been initiated and new tool prototypes created that enhance women’s participation in revenue-generation. The Non-governmental Organization Coordinating Council (NGOCC), a women-initiated and led NGO focused on gender and development, is leading much of the gender-related work for COMACO.
The Conservation Farming Unit (CFU) is an independent organization registered under the Societies Act of Zambia which through a memorandum of understanding is associated with the Zambia National Farmers Union. Since 1996 the CFU has been supported by the Norwegian Government.

The CFU is a team of 104 staff promoting Conservation Farming in Zambia and the East and Southern African Region. Describing its approach within the often broad and sometimes competing concepts of conservation farming CFU states:

“The application of modern versions of reduced tillage whether by hoe, ox or tractor, is primarily what separates adopters from the rest and alongside it brings numerous benefits that are relevant to farmers such as: more precise and efficient use of on and off farm resources including seeds, fertilizers, lime and manures; the reduction of labor inputs and costs associated with land preparation; in combination with the effective use of herbicides, the reduction of labor required for hand weeding (in Zambia alone families spend 40 to 60 million man days a year hoeing weeds); the crucial ability to plant on time; the elimination of compaction and more effective rainwater harvesting. Together these benefits lead immediately to increased yields, improved food security and profits, in short to what all farmers strive for – enhanced productivity.”

Team observations/questions: CFU enjoys impressive visibility and name recognition across Zambia. CFU’s high quality training and outreach materials are broadly available. There is evidence that CFU’s clear, consistent and focused messages are well understood by farmers and extension practitioners. The importance and increasing relevance of its work is indisputable. Besides offering short-term productivity benefits to farmers, conservation farming offers long-term benefits to soil fertility and overall health, enhancing resiliency of crops to periodic drought, an increasingly important consideration as climate changes become more evident in Zambia.

CFU maintains extension programs in 5 provinces. On-farm training, farmer to farmer dissemination and farmer field days are key elements of CFU’s approach. Locally-based “farmer coordinators” supervise 4 times per year training. They are in turn supervised and supported by CFO extension “officers” (paid, full-time employees of CFU). A CFU farmer coordinator summed up the approach to working with farmers as “let the adopter do the talking.” At present, approximately 200,000 farmers participate in CFU extension/training programs.

In the course of hundreds of conversations with many organizations, both public and private, a few comments were made that suggest CFU has a reputation among some agriculturists as being “doctrinaire” and dismissive of competing ideas and evidence. Some of the self-descriptive narrative on their website could be viewed as supporting that reputation. For example, the following passage, while making an important point about farmers’ criteria for choosing among technology options, seems bluntly directed to other organizations working with Zambian farmers.

“The majority of farmers are unlikely to pay attention to agronomists and enthusiasts who promote technologies that are beyond their reach or are utterly impractical such as strict forms of organic farming, the digging of large pits or the importation of grass and other biomass to mulch their fields. And they are unlikely to listen to pronouncements that suggest CF should be practiced because the fertility of their soils will improve at some distant point in the future, or because the climate is changing for the worse. Their needs are too immediate to heed such predictions.”

This is mentioned only because it relates to the issue of coordination and harmonization of EAS services. Platforms for learning, innovation, joint work plan development and overall coordination work best when participating organizations respect differences, are open to learning from one another, and acknowledge that farmers benefit from having multiple options to choose among, combine and adapt in ways that meet their unique and highly variable resource endowments, livelihood strategies and goals.
Feed the Future Zambia **Mawa Project** is a five-year project (2012-2017) managed by Catholic Relief Services in partnership with Caritas Chipata, Golden Valley Agricultural Research Trust (GART), Women for Change and University Research Company. Mawa is funded by USAID Zambia. Mawa’s interventions are designed and sequenced to ease 20,000 very vulnerable smallholder farmers, particularly women, into adopting improved technologies and practices for diversified and intensified production. Mawa facilitates development of skills to experiment with new technologies, which prepare farmers for engagement with markets. Mawa also provides nutrition assessment, counseling and support through peer-to-peer education for households with children under two. Mawa’s integrated package of services is designed to help households reap the nutrition and economic benefits of diversified agricultural production for more resilient families and communities. Mawa operates in 19 agricultural camps in Chipata and Lundazi districts and identifies project participants through a participatory community process. Mawa has four components: 1) agricultural production, 2) health and nutrition, 3) savings and internal lending communities, and 4) gender (cross-cutting).

Mawa’s extension approaches are tailored to each of the four project components. This report focuses on Mawa’s agriculture extension services to households and communities. Mawa promotes adoption of sustainable agricultural production practices and technologies, with emphasis on conservation agriculture, through a network of field agents and lead farmers. Five community-based field supervisors, employed by the project, deliver monthly agricultural lessons aligned with the agricultural season, to 26 field agents and his or her group of 20 lead farmers. The community helps in the selection of lead farmers who live and work in the community based on an agreed-upon set of criteria, including, but not limited to, honesty, ability to work on voluntary basis, known and respected by community members, use of – or interest in - improved production practices. Lead farmers receive a bicycle as an incentive for their service to the community.

After being trained alongside field agents, this network of 520 lead farmers – of which more than 40% are women – monitors application and adoption of the promoted technologies through farm visits to 20 farmer group members. Lead farmers monitor and model skills for sustainable production: soil health, water management, crop management for diversity and small livestock management. Some specific management practices including “ripping,” for those with access to draft animals, and digging “potholes” amended with manure for those with access to either traditional or chaka hoes. Mawa also promotes use of improved and high-quality seeds by organizing “seed fairs” designed to increase access to seed for nutrition and resilience, identifying households to receive vouchers to purchase seed, including maize, cowpeas, groundnuts, sunflower, and soyabean.

Mawa’s technical assistance partner, Golden Valley Agricultural Research Trust (GART), advises lead farmers in planting demonstration plots to showcase agriculture production technologies. Demonstration plots allow lead farmers to validate improved seed varieties, demonstrate sustainable agriculture practices, and introduce labor-saving technologies. The project’s 500 demonstration plots serve as gathering points for field days, when lead farmers share new practices and technologies with farmer group members, but also the wider community.

Because of Mawa’s mandate to improve health and nutrition outcomes for pregnant and breastfeeding women and children under two, Mawa has made an effort to promote nutrition-sensitive agriculture, integrating nutrition and gender messages into agriculture extension messages. For example, demonstration plots include intercropping of maize and legumes, with messages on the importance of

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5 Mawa Project prioritizes the participation of households with pregnant and lactating women and children under two, low levels of productive assets, inability to access inputs through FISP, and low levels of household food availability.
legumes as a source of nutritious food for young children. Lessons about food production emphasize the need for dietary diversity. Extension messages also emphasize the value of equitable and informed decision-making related to agriculture production given the sometimes competing households needs for income and nutrition through intensified and diversified production. Finally, while Mawa agriculture interventions increase the amount of productive resources available to households, Mawa also has an equally robust community-based nutrition education component that supports households in maximizing the use of these resources for family health and nutrition. A network of over 900 nutrition volunteers delivers lessons focused on essential nutrition actions to many of the same households participating in agricultural production activities.

Based on guidance from the Ministry of Agriculture and Livestock, Mawa work takes place primarily in “unmanned” camps – those where the Camp Extension Officer position is vacant. Mawa encourages field agents and lead farmers to participate in meetings of the Camp Agriculture Committees (CAC) led by local farmers. Where no Camp Extension Officer is available, Mawa field staff generally connect with MAL through the Block Extension Officers, keeping them apprised of what Mawa is doing. “In the past Camp and Block Officers felt that there was not enough communication from Mawa field staff, but now we communicate with them more and are viewed favorably. These interactions can occur at CACs or in MAL offices.”

Field supervisors and field agents develop Mawa work plans, but they are shared, along with those of other organizations, at the District Agriculture Coordinating Committee (DACC) meetings. “Organizations can request or offer assistance from/to other organizations, and find ways to coordinate to reduce duplication of effort.”

Many organizations, including Mawa, described a desire and need for collaboration and coordination, but cited specific examples of the associated challenges. Asked for examples of collaboration among organizations working in the area, the interviewee stated, “CASH asked MAWA to help with saving and loan group training. We also look at how we can work in different places or with different interventions with other Feed the Future programs.” However, Mawa staff interviewed cited challenges when other organizations provide monetary or physical incentives for either lead farmer or community participation in project activities. “Mawa is trying to mold groups to be self-sustaining,” and explained that such incentives may encourage dependency or undermine the sustainability of project interventions.

Mawa staff also described a “difference between...extension approaches. The roles of lead farmers and the level of support from professional field staff differ” amongst organizations. Some organizations are “using lead farmers to train other farmers, though with no field agent in between. The role of lead farmers is to train farmers.” Under Mawa, the lead farmers are trained alongside his or her field agent. It is the field supervisors’ role to conduct trainings, while lead farmers monitor farm activities with support from field agents and field supervisors.

Mawa staff emphasized the value they place on collaboration with Camp Officers. “We have gaps in our expertise and knowledge. At fields days lots of questions come up that we can’t answer because they aren’t part of our “package” – questions about insects or diseases, for example. Or we may promote a crop and then farmers find they have insect infestations and ask for help. Or questions about diseases in chickens or livestock are brought to us.”

Despite this collaboration with MAL, the issue of collaboration amongst projects is clearly complicated by differences among organizations regarding their ability and willingness to provide incentives. “We try to get MAL or other organizations to do training. Field agents then communicate our request upward to MAL. The response has not been good. We need to make clear at the start of a program the policy on incentives. MAL Camp Officers are less involved if there are no incentives.”
**Musika** is a Zambian non-profit company that works to stimulate private sector investment in the smallholder market. It seeks to help businesses develop mutually beneficial and transparent commercial relationships with smallholders that integrate the provision of information and technology adoption, and provide confidence and long term incentives for smallholders to invest in their farming business.

Musika works with more than 40 corporate clients providing improved access to approximately 80,000 smallholders in Zambia, and works with five industry associations and the Government ((The Times of Zambia, February 16, 2014). Musika primary focus is private sector entities that are committed to working with the rural poor as their suppliers, consumers, clients or employees. Their goal is to help foster ‘value added’ commercial relationships between companies and farmers. By the first quarter of 2014 this work had led to the establishment of 750 new points of access to agricultural inputs, services and output markets in rural areas.

Extension and advisory services have proven important factors in many of the linkages developed to date. For example, in order to enhance prospects for success of the newly established linkage between small dairy producers and the international dairy company, Parmalat, farmers are trained to do quality control and to conduct business at the milk collection center. A Musika representative remarked, “As long as farmers can do these things, Parmalat will be there for a long time.”

Other companies that provide products or services to dairy producers have been attracted by the emerging commercial opportunities surrounding Parmalat’s investment. These smaller companies, including veterinary supply firms, have started training and extension programs of their own.

During the pilot phase of projects, costs associated with extension services are shared by Musika and the private sector partners. Beyond the pilot phase, private partners are expected to assume the full cost.

Companies hire qualified extension personnel possessing diplomas from agricultural colleges. These extension practitioners are required to live in the communities where they work. Musika provides motorcycles or bicycles and training in farmer to farmer approaches, managing demonstrations, and holding farmer informational meetings. Extension advisors make visits to individual farms, and also host producer meetings in central locations. Each of the 4 milk collection centers has their own extension officer.

**PROFIT+ Production, Finance and Improved Technology Plus:** Initiated in June 2012, this 4-year USAID-supported project targets smallholder farmers and agro-enterprises to increase agricultural productivity and facilitate market access and private sector investment in target value chains. PROFIT+ is linking input supply enhancement with output markets and working toward the development of more inclusive value chains. Working in 4 Districts of Eastern Province plus in peri-urban Lusaka, PROFIT+ has set a goal of achieving a 30 percent increase in productivity and income from selected value chains, thereby benefiting 200,000 smallholder farmers and increasing the value of agricultural sales by $125 million, in particular for value-added processing.

ACDI/VOCA is the prime contractor for PROFIT+, leading program management, value chain analysis, and interventions related to marketing, trade and financial services. The International Fertilizer Development Center (IFDC) is a primary partner, contributing expertise in commercial agro-input system development.

Other partners include: 1) CRS - providing training in Savings and Internal Lending Communities (SILC), 2) Danya - developing and implementing a strategy for using communications to increase behavior change
and facilitate learning, 3) Kimetrica - M&E, and 4) Crown Agents - technical assistance in warehouse management, transportation, trade, and marketing.

Training and extension activities focus on the use of inputs (fertilizer, inoculants, lime) and production technologies for 4 field crops and 2 horticultural crops. MAL Camp Officers have helped to identify lead farmers to be trained in the technology promoted by the project. Lead farmers will anchor the PROFIT+ extension program, playing key roles in Farmer Field Schools (FFS).

Plans are for each FFS to engage approximately 200 farmers, though they will attend on different days. “Demo host farmers” will host trials (primarily demonstrations of different input treatments) on their own farms and work with 5 lead farmers – each of them leading a group of about 20 farmers. All, including demo host farmers and lead farmers, are unpaid. The project’s target is to train 200,000 farmers by the end of 4 years.

The project is currently working with MAL, agri-input (seed, fertilizer and chemical) companies, a company that buys field crops, and a tomato processor. MAL Camp Officers are invited to training of trainer workshops, and PROFIT+ is enlisting the support of MAL in its farmer training program. Expenses incurred by MAL for support of PROFIT+ activities are covered by the project.

The project’s plan for hiring and deploying field-level extension personnel was not communicated to the team. Though based on very limited interactions with PROFIT+ project personnel, extension and training staffing seems “thin”, given the projected number of farmers involved. However, the team had insufficient time in the field to verify or explore the implications of this.

**Private Sector**

For the purposes of this report, both for-profit companies and farmers’ organizations are considered private sector entities, though they will be discussed separately.

**For-profit Companies**

A full and accurate inventory of all for-profit companies offering extension and advisory services in Eastern Province was not conducted. Rather, the team sought to gather information that would shed light the approaches and value propositions of private sector companies conducting EAS. Clearly, provincial and district-level inventories will have value to MAL if it assumes the role of EAS convener in each district.

**Cargill-Zambia** manages a large cotton outgrower scheme in Eastern Province. In Eastern Province alone, **Cargill** works with roughly 60,000 cotton small-holder cotton producers spanning every district. Farmer outreach/extension efforts are based at 161 Farmer Service Centers that double as buying and payment points. Cargill’s extension program is organized around Cotton Schools and focused on just five key management practices:

1. early/proper land preparation using minimum tillage/conservation agriculture approaches
2. early planting
3. appropriate plant populations
4. timely and correct weeding
5. integrated pest management

Initiated in 2009, there are now 1321 Cotton Schools in Eastern Province. In addition, about 800 Cargill Women’s Clubs are registered in Eastern Province.

Although Cargill’s Cotton Schools draw upon the considerable technical expertise within the company, the extension program utilizes farmer managed/owned demonstration plots, farmer to farmer...
dissemination, peer farmer evaluation of one another’s production management practices, and extensive farmer cross visits. Outreach also utilizes local language newsletters and radio programs.

Cargill’s extension program is highly organized. High levels of staff and lead farmer performance and accountability are demanded. Lead farmers are required to maintain extensive records for the demonstration plots (management practices/dates/ yields/value for each “pick”/and names of farmers who visited the demonstration plot or participated in extension activities, among other things). Cargill has succeeded in scaling the Cotton School concept quickly and effectively. Producers have clear financial incentive for participating in cotton school activities and the company has the capacity and incentive for timely inputs, training, and production-related problem solving.

To reduce risk of farmer “side selling”, companies that manage outgrower and contract farming schemes, including Cargill, are seeking to expand and diversify their interactions with farmers, thereby strengthening relationships and “loyalty”. Cargill intends to further diversify its advisory services (beyond cotton and maize) and to stock their Farmer Service Centers with a range of farm supplies, include livestock supplies. In addition, they have begun offering “Farmer Business Schools” to members of their Cotton Schools and Women’s Clubs. Participating members will receive instruction on business decision-making tools such as gross margin analysis. Not unlike other large companies offering extension and advisory services as a component of their outgrower programs, Cargill appears to be positioning itself to become a “total solutions provider” to its partner farmers.

Cargill has a very visible presence in Eastern Province. Active in Zambia since 2006, the company currently employs 500 full time, long term employees in its cotton and small scale origination network based in the Eastern Province and office in Chipata. In peak ginning season Cargill-Zambia employs up to 1,200 people. The Lusaka office has 15 full time employees and serves as the commercial trading base for Zambia.

Aside from the smallholder outgrower scheme, Cargill buys maize, cotton and soybeans from smallholder farmers and provides crop inputs, market price information and access to markets. It also serves a large commercial farming base, contracting with producers for the delivery of maize, soybeans and wheat.

Cargill considers itself a reliable partner to NGOs and other stakeholders engaged in efforts to improve the livelihoods of smallholder farmers through extension services, marketing practices and supplying inputs. The company is participating in the Competitive African Cotton Initiative (COMPACI) and Cotton Made in Africa (CMiA) program, which aims to improve agricultural practices and increase yields by 34 percent for 265,000 cotton farmers. In 2010, Cargill joined five other cotton-ginning companies, the German government and the Bill & Melinda Gates Foundation to expand education and training for African cotton farmers through the Competitive African Cotton Initiative (COMPACI). The effort, which aimed at raising incomes by 34 percent, involves 32,000 farmers in Zambia.

Looking beyond Cargill, informants reported that some previous outgrower schemes organized by seed companies and processors in Zambia have been unsuccessful. Citing past efforts to promote soybean production among smallholders, there were problems with low yields and limited farmer uptake. Poor weed control, inappropriate plant densities and other yield-limiting problems were attributed to farmers’ inexperience with soybeans and insufficient overall management skills. Even assuming the crop, management practice, and/or variety are well suited for the target locale (not always a good assumption), absent robust extension the risk of failure is significant. In-house advisors are almost always preferred by companies. Companies need full control over the knowledge services extended to participating farmers. Company-employed advisors can be trained for the exact technologies and extension functions required and help fully accountable for farmers’ management performance. Such
narrowly focused training is neither possible nor desirable for Camp Officers. Nor can Camp Officers be held accountable to the company managing an out grower or contract farming scheme.

**Agri-input Dealers** – Agricultural input dealers of all sizes and representing all product categories are engaged in extension and advisory service delivery. Services span a continuum from the very well-organized and formal customer training and advising (often backed by the larger companies whose products the dealers represent) to the ad hoc, and often low quality, advice dispensed by local merchants with limited agricultural experience and knowledge.

For farmers with limited access to public extension officers, agri-dealers are often the primary point of contact for not only supplies, but for information and technical advice as well. Agri-input dealers with good technical agricultural knowledge can make an important contribution to the overall EAS system. In Zambia the *Netherlands Development Organization* (SNV) is supporting the Agro-Dealers Inputs Extension Systems Support (AIESS) project. SNV reports that In 2013 AIESS “trained over 80 potential Agro-dealers of which 30 are now engaged in business, have established stocks and are now selling inputs ranging from maize seed, fertilizers, vegetable seed to agro-chemicals much closer to the farmers. The project also signed MOU’s with the 3 main input distributors (MRI, Seedco & Zambia Fertilizers) who are training the agro dealers and will assist them to put up farming and mini-irrigation demo sites in 2014 to promote the use of improved seed and technology.”

**Farmers’ Organizations**

**Central Growers Association (CGA):** Though not operating in Eastern Province, the team met with CGA at the suggestion of USAID-Zambia. Established in 1997, Central Growers Association’s mission is “to become the largest small scale farmer owned and managed agribusiness in Central Province operating well-managed and economically viable out-grower schemes for cash crops so as to improve their farming incomes among its members thereby contributing to their poverty reduction.” Services to members include extension and training, credit, market facilitation and market sourcing/price negotiation for member-produced tobacco and paprika. Current membership was reported to be 1212 (73% male, 27% female).

Team observations/questions: CGA maintains its own “in house” extension service for members. One member of CGA’s small leadership team oversees the extension/advisory service program. Most of CGA’s field extension staff members have studied at the Popota Tobacco Training Institute, one of MAL’s Agricultural Training Institutions. All members of the extension staff receive specialized training on tobacco and maize production at Popota. CGA conducts their own training related to paprika production using in-house experts. Anticipating an expansion into cassava production, CGA intends to contract with outside experts to train their extension staff in cassava production and value addition.

The roughly 1200 members of CGA are served by a 5-member extension team described as “tobacco guys with some training in paprika”. Farmers are clustered into “clubs”, each with a volunteer “contact person” who serves as an assistant extension officer – an important link between clubs and the paid extension officers.

Members see the MAL extension officers as having insufficient tobacco-specific training and expertise to meet their needs. They do, however, look to MAL extension for some training in more general agricultural production topics. Overall, CGA members produced 700+ Hectares of tobacco and 50+ Hectares of paprika last season. The average member cultivates approximately 3 Hectares (including crops other than tobacco and paprika). Recent paprika crops have fallen short of expectations due to adverse weather conditions (inadequate moisture at critical times), prompting the association to consider investments in drip irrigation and accompanying training/extension services.
CGA is a smallholder “spin off” organization from the Tobacco Association of Zambia (TAZ). CGA members describe being “kicked out” of TAZ by larger farmers over issues of payments. During the first two years after CGA’s formation, a private tobacco company (Zambia Leaf) provided extension services to members. After two years, however, the company discontinued extension services and CGA began their own membership-driven outgrower scheme and extension program. Zambia Leaf, which remained the buyer of CGA tobacco, sold CGA the physical assets associated with its extension program (primarily motorcycles) under a three-year payment arrangement.

CGA describes the cost associated with “in house” extension as a major challenge. CGA stated that historically their extension field staff earned more than MAL Camp Officers, but major government salary increases have resulted in CGA extension staff being paid far less those working for MAL. (CGA reports paying their extension staff 1,500 K per month, plus use of a motorbike, as compared to government extension salaries of 4,200 K (unverified)). In addition, the cost of motorcycles and associated maintenance and fuel has become increasingly burdensome. CGA enjoyed one year of World Bank support for extension that covered staff salaries, but now salaries must be fully funded through members themselves. “Farmers expect CGA management to keep extension staff working effectively, but it is a challenge for us to keep their salaries competitive. If we increase salaries, we need to increase farmer levies. It is a balancing act.”

Growers are earning net returns of 5000 to 13000 K per Hectare on tobacco, but are exploring value addition options that could double members’ per Hectare net returns. Maize is grown as a household food security crop by most members. By planting following tobacco harvest, maize is able to utilize residual fertility. Members are also exploring the feasibility of growing the legume tephrosia for two years in order to fix nitrogen and supply household firewood, and then to minimum-till tobacco, followed by maize. Effective extension will be important to the testing, adaptation and dissemination of this and other potential modifications to members’ farming systems.

**Eastern Province Farmers’ Cooperative (EPFC)** is a community business, registered in 2007, which provides farming services to smallholder farmers. EPFC has grown rapidly and now works with 6300 farmers, 500 of whom are groundnut seed producers, in Chipata and Katete districts of Eastern Province. The overall focus is to develop the value chain for groundnut producers—creating scale and efficiencies by linking thousands of business-oriented smallholder farmers to large and valuable markets. Using short value chains, EPFC strives for enhanced member income to support smallholder households, and to sustain and grow investments in farm productivity and efficiency.

Extension consists of beginning of season training for seed growers, post-planting training on field monitoring and inspection and post-harvest training on grading, handling and storage of seed. All producers get aflatoxin training.

Farmers are organized into groups of 20 to 70, organized as registered Farmers Associations or Cooperatives. EPFC develops a contract which describes the supply of seeds, training, other services and product marketing. Each group has a number of lead and contact farmers who provide a communication network throughout the EPFC organization. Some of the groups have built local storage sheds with capacity of around 50 tons and an office from which to run the group. Increased mechanization and the further improvement of local infrastructure is planned.

Extension is carried out by 3 paid field staff (2 in Chipata and 1 in Katete) who travel by motorcycle. All are specialists in seed production and field inspection, possess diplomas from NRDC or other agricultural colleges, and came to EPFC with prior extension experience. Farmers self-select into groups, each with a lead contact farmer who organizes meetings. Twenty-three (23) “emergent” farmers get direct
assistance. This consists of individual visits for advising and monitoring to insure that quality meets the standards of the Seed Control Certification Institute (SCCI).

Seed growers are selected based upon the availability of land (SCCI requires a minimum of 2.5 Hectares of seed per grower), sufficient family labor, access to labor saving devices, and access to financing at critical periods. SCCI helps to conduct trainings and to support groups of seed producers. If SCCI inspections reveal non-compliance in crop management or performance, the groundnuts can be “downgraded” to commercial.

Members pay modest “commitment fees” (50 K/grower/year), though these fees fall well short of covering operational costs for extension and other grower services. Lab testing alone costs EPFC 24 K per grower and another 5.5 K per grower is paid by EPFC for grower registration with SCCI. The long term goal is to be independent and financially sustainable company, able to cover all its costs without donor funding. EPFC management cited the need “to find good markets” as essential to this vision of a self-supporting organization.

Regarding coordination with other organizations (Profit + and COMACO) providing EAS to groundnut producers in the same districts, EPFC management reports “there appears to be competition at market time as multiple persons are buying, different organizations conduct field days and aflatoxin training with the same growers, and in some households the husband may be a member of one group and the wife a member of another. If we are all having field days, it is better to pool our resources and do it together. Farmers time is valuable.” He goes on to say, “We need to coordinate in other ways. Some organizations like ours, extend loans and we need loan recovery. Other organizations may be more focused on nutrition and soil health with less concern about lending and loan recovery. Profit +, COMACO and EPFC may have pricing differences that encourage ‘side selling’. This can make loan recovery challenging.”

**Zambia National Farmers Union (ZNFU)** is a national membership-based organization founded in 1905, with countrywide coverage, representing the agriculture industry. Specifically ZNFU represent small and large scale farmers; and agribusinesses.

Previously named the Commercial Farmer Bureau, the name was changed to Zambia National Farmers’ Union in 1992 in recognition of the steady growth of small farmers’ membership. Its mission is the: “Promoting and safeguarding the interest of members as individuals farmers, corporations/companies, purveyors, and other organization involved in the business of agriculture in order to achieve sustainable agriculture, economic and social development.

Its current membership is very diverse, and includes approximately 600,000 smallholder farmers and 700 large scale farmers, each with different expectations, needs, and preferences. Although small farmers can access information through district offices, the digital technology gap disadvantages them as compared to the large farm ZNFU members. Field days are often hosted by the large scale farmers, but learning activities take into account the interests of smallholder farmers who comprise the majority of attendees.

**Team observations/questions:** Besides pursuing an active policy advocacy agenda (including advocacy for government funding of public extension), ZNFU is engaged in the dissemination to its membership of information on agricultural technology, business and produce marketing. ZNFU is moving aggressively to develop EAS services for its members. A representative of ZNFU management described their e-extension program and a newly-launched credit program with accompanying extension services.
ZNFU notes that the presence of staff in most districts across Zambia enables them to offer information, extend innovations and new technologies, and strengthen members’ access to timely market information (the latter using phone-based SMS technology). Four months into the new e-extension initiative (launched in May 2014) about 700 users are accessing technical information on crops, livestock, on the website that also includes a directory of MAL resources. Fifty-one (51) ZNFU field extension staff, based at Districts across Zambia, support broader dissemination of this information to members without direct access to web-based information services. Members pay the salaries and field operations costs (mainly transportation) for these extension staff.

ZNFU collaborates selectively with government extension on field days and other events. (“Where we have active government extension officers we like working with them, but in many areas we find unmotivated staff. We work with camp officers where they are willing and don’t place demands for allowances and fuel. We do provide transportation for the Camp Officers in the local area to attend our meetings.”)

ZNFU reported that increasing the value of extension and advisory services for women ZNFU members requires a different approach. “Women prefer the ‘study circle method’….. interest groups coming together with study material in the local language at a time that works for them. They help each other and then begin practicing what they’ve learned.”

Asked about the impact of EAS pluralism in Zambia for farmers, a ZNFU representative stated, “If the extension system worked as it should, it would be best to harmonize, but the public extension system is dead, so each organization is working on its own. We have concerns about the same farmer getting different messages from many sources. If we are holding a district-level meeting, we will invite collaboration from Camp Officers.”

The ideal extension service was described as “one that is available and accessible, and that exposes farmers to a basket of different technology options.” There was an expressed concern that the “collapse” of public extension had opened the door to many players from the private sector whose aim was to maximize profits. “Government needs to play a role, starting at the national level, giving guidance to district levels, and developing an approach that works for all and helps government extension to perform. There are many reasons for the poor performance of government extension: inadequate resources, attitudes/demoralization among staff, and inadequate opportunities for field-level officers to stay up to date on the latest technologies.”

**The Zambia Export Grower’s Association (ZEGA)** was formed in 1984 as a not for profit association to promote the interests of Zambian growers wishing to export fresh horticulture produce. Since its inception, it has helped members export cut flowers, vegetables and fruit, primarily to the EU and South Africa. ZEGA was not involved in farming itself, but rather the provision of “backup services” – inputs, packaging, air freight services, advisory services (related to production, marketing and finance), and policy advocacy.

One of ZEGA’s notable successes was the development of infrastructure and a robust training program necessary for meeting export quality standards. Through the ZEGA Training Trust, it developed an in-house diploma training program in horticulture drawing upon instructors at the Natural Resources Development College (NRDC), and specialist trainers brought in from abroad. The industry flourished over much of ZEGA’s first 2 decades, peaking in 2003-2004 when 13,000 T of fresh produce valued at $60 M US were exported. The industry employed 15,000 persons at its peak.

A number of factors contributed to a rapid decline in ZEGA’s fortunes after this peak. While the largest farms (most of them managing 20 or more Hectares of greenhouse horticultural crops) prospered, many of the small farm members (many with 2 or fewer Hectares in greenhouse production) suffered major
losses. Also, the industry’s growth had been supported through a World Bank loan to the Government of Zambia, and much of the credit extended went to individuals who were not farmers, and lacked the horticultural knowledge, business skills and commitment to be successful. Many of these farms collapsed as well.

An effort to engage smallholders in export greenhouse flower production was led by AgriFLORA, a large company that contracted for production with smallholders groups (each group comprised of 25-30 individual smallholders). AgriFLORA provided technical services and then assumed responsibility for marketing. It employed 6000 – 7000 workers across 400 groups at its peak. In 2002 this company collapsed – in part due to the challenges of maintaining international quality standards when sourcing from thousands of small producers.

Not surprisingly, ZEGA’s diminishing membership found it difficult to cover the cost of maintaining its own diploma program and in 2007 it transferred the program and the physical assets associated with it to NRDC. That program continued, but in time produced more graduates (up to 22 per year) than the industry could absorb and has been discontinued.

ZEGA reports no comprehensive local advisory services well suited to export horticulture producers, though some seed, chemical and equipment (greenhouse) supply firms have provided limited advisory services. ZEGA has elected to contract for high quality private advisory services – often from providers in the Netherlands and elsewhere outside of Zambia. ZARI has provided important help in building expertise and infrastructure for phytosanitary compliance.

The most important challenges facing the export horticulture industry at this time have to do with factors other than technology or knowledge services. Because of high air freight cost in Zambia, growers truck produce to Johannesburg for air shipment. The massive increase in the value of Zambia’s currency against the US dollar and other currencies in 2005 led to big losses for Zambian exporters. Limited electrical power in 2006-2008 due to the reopening of mining and limited investment in the domestic power sector let to shortages that interrupted refrigeration and affected produce quality. And the 2008-2009 global financial crisis created credit shortages for growers and wholesalers and adversely affected global demand for cut flowers. All these factors have contributed to a significant “shake out” in the export grower industry. Only a few producers with very high level management have survived. Some of those have absorbed the productive assets of growers that went out of business for a fraction of their value, creating a cost structure that may keep them financially viable for the foreseeable future.

Exports are currently 5,000 T per year, down from the peak of 13,000 T. Export earnings have dropped to $20 M US per year, and total employment is down to 4,000. ZEGA membership has fallen to 12. Among those, considerable land area has been converted back to wheat and soybean production. Although the domestic produce market is growing – a result of growing income, and expanding middle class and the emergence of supermarkets with global standards – much of the produce is being sourced from South Africa as Zambian producers found it difficult to maintain consistent quality and deliver the volumes demanded by buyers.

Asked if smallholder producers’ organizations and value chains (like those being mobilized and supported through CASH and ASNAPP) will remain viable and competitive suppliers to the domestic supermarket trade after the donor supported technical backstopping, market facilitation, and external assistance with aggregation and cold chain development tapers off, ZEGA’s CEO was not optimistic. He commented, “Maybe government needs to provide the technical support for small-scale horticultural producers. If they can mobilize resources for maize and tobacco, why can’t it be done for smallholder horticulture?”
The ZEGA story is an instructive and cautionary case. Among the lessons.....even highly developed, well-resourced, and demand-driven private training and advisory services can quickly fall victim to changes in markets and the policy environment. EAS pluralism brings with it the likelihood of significant “churn” – many private sector EAS providers will enter and exit over time.
FINDINGS AND CONCLUSIONS

Major findings from the RSM are presented below, organized around key cross-cutting issues of EAS provisioning.

Public Extension in Zambia: current state and future opportunities

Public extension in Zambia has a long history of disseminating agricultural knowledge and information to smallholder farmers in every corner of the country. Nationwide “coverage” is well established, and recent redistricting/camp realignments, once fully implemented, will further enhance this coverage. Recent gains have been made toward improved management, reporting, accountability and field staff training. Moreover, the recently released National Agriculture Investment Plan (NAIP) suggests that the Government of Zambia strongly supports further strengthening of extension and advisory services and intends to allocate significant resources to carry it out over the next few years.

Challenges

However, Zambia’s public extension (within MAL) has not proven immune to the challenges that afflict systems worldwide. The most widely cited “universal challenges” confronting public extension include:

- inadequately prepared and supported field extension officers,
- insufficient operating budgets,
- weak research-extension linkages,
- supervision, accountability and performance issues,
- operational rigidity not in concert with the heterogeneity of rural households,
- evaluations based on service inputs rather than impacts,
- a lack of creativity and an organizational culture that discourages learning and innovation.

Looking beyond these to specific challenges currently constraining extension in Zambia, we note the following:

- high vacancy rates at block and camp levels,
- lack of stability in key Provincial and District Department of Agriculture management positions,
- duties not directly related to knowledge/information services are placing high demands on camp officers’ time, most notably duties related to the subsidized fertilizer distribution program,
- image/reputation problem have eroded confidence among farmer organizations.

Vacancy rates for Camp-level MAL Extension Officer positions in Eastern Province are very high. For example, in Petauke only 21 of 38 Camps Officer positions are currently filled, and in Lundazi only 23 of 44 Camps are staffed. As a result, the ratio of Camp Officers to farmers has fallen far below what MAL’s extension program considers optimum. As is often the case around the world, vacancy rates in more urbanized districts are less than in the more rural districts. Chipata District currently has 8 vacant extension officer positions across its 58 Camps – a rate far lower than those in Lundazi and Petauke. All DACOs reported that in cases where Camp Extension Officer positions were vacant, the supervising Block Officer assumed responsibility for that Camp. DACOs also took Camp vacancies into consideration when advising NGOs and other EAS providers where to focus their attention.

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6 High vacancy rates in Camp Extension Officer positions create a big gap between potential coverage and actual coverage. Without a GOZ commitment to both address the vacancy issue and fund new positions associated with re-districting, one cannot assume that nationwide coverage actually exists or that redistricting will improve public extension services.
Transportation/mobility challenges, while significant for many Camp Officers, are comparatively greater for those posted in the most remote Camps. Budget allowances for fuel don’t account for the distance that officers must travel just to purchase fuel. Repair and maintenance budgets do not account for the harsher road conditions in many remote areas. Along with the comparative lack of amenities for officers and their families, these factors affect the perceived desirability of remote postings and, in turn, rural service delivery.

Camp Agricultural Committees (CAC) appeared to be active and effective in the Camps visited by the team. CACs were originally developed by a SIDA-funded Agriculture Support Program (ASP) as part of the Farming as Business Promotion Program. The project worked closely with MAL extension, and MAL later adopted this concept as a national strategy for facilitating better planning and coordination of camp activities. CACs are chaired by a local leader, the MAL Camp Officer serves in a sort of “secretariat” role, and NGOs and other organizations active in the Camp often serve as members. Some District-level MAL personnel noted that an important purpose of the CACs is to insure transparency in the local implementation of input supply programs.

It was reported that the majority of CACs across Zambia are active, but that where Camp Officer positions are vacant, some CACs are not functioning effectively. Though CACs are a construct of government, pluralism is evident in their membership and deliberations. This seems to be supporting greater voice and choice for CAMP residents and serves to increase accountability of all EAS providers working there.

In Petauke, camps are divided into 8 zones. Each zone has 2 representatives on the Camp Committees which meet twice monthly. MAL’s local work plans come out of Camp Committee discussions. District-level supervisors backstop Camp Officers in the execution of those work plans. Block meetings are held monthly. District MAL Subject Matter Specialists (SMSs) attend these meetings “to advise on problems”.

Work plan priorities were characterized as emerging from a combination of farmer demand and Ministry priorities. “Farmers come up with interest groups … for example, it could be around vegetable productions… and they might ask for trainings and help with pest and disease control for vegetables. We facilitate a participatory approach so farmers can tell us what they want. There are also some things that we sell to them…… like new technologies from the Ministry.”

The PACO stated, however, that while efforts to organize Camp Committees have been reasonably successful, there has been insufficient attention to building their capacity for sustaining initiatives launched as NGO projects.

Reputational Issues

A number of respondents said that public confidence in MAL extension services has deteriorated over time. ZNFU’s effort to strengthen extension and advisory services for its members appears based on a perception that government extension services have “slowly gone down……becoming less active than our farmer members want them to be.” “Farmers’ demand for advisory services is going up, and MAL can’t keep up with it. There is an information gap.” Acknowledging that ZNFU is not in a position to address this gap in a holistic way, it has chosen to focus on helping with certain aspects of the agricultural knowledge and information gap for which it is well suited.

Critics of public extension sometimes compare their work and outcomes with those of non-public providers. However, some of the most prominent NGO and private sector providers concentrate efforts and resources on a limited geographic area and for a period of time defined by project cycles/funding. Significant impacts can be visible and notable innovations in agricultural practices, EAS approaches, and
smallholder value chains can result. Scaling, and sometimes sustaining, impacts after funding ends remains a challenge.

Technology-focus

MAL’s official mission and vision statements suggest a strong focus on agricultural technology, and on the delivery or transfer of that technology, not unlike most other public extension services around the world. At the same time, MAL describes its approach as participatory, noting the prominence of Farmer Field Schools, farmer-led on-farm trials, and farmer to farmer dissemination among its extension methodologies. Insofar as “delivery” can be reconciled with “participation”, it appears that the participatory methods are largely designed to facilitate technology transfer rather than to develop farmer capacity for playing a more prominent role in innovation and local adaptation.

Camp Extension Offices are charged with much of the local administration, recordkeeping and logistical management needed for the Farmer Input Support Program (FISP). A 2010 World Bank report estimated that Camp Extension Officers spend 75 to 80% of the time on such logistics between August and January, pulling them away from their primary educational and information dissemination roles.7

Not surprisingly, given MAL extension’s technology-focused mission and Camp Officers’ FISP-related duties, the team saw little evidence that Camp Extension Officers are significantly engaged in rural development activities beyond agricultural productivity enhancement. Nutrition and health interventions, women’s livelihood programs, local resource planning and management, community development, literacy training, or other initiatives related to basic empowerment and poverty alleviation are more commonly undertaken by NGOs. Some Camp Officers do, however, provide education and training programs designed to improve governance within rural cooperatives.

Though livestock play an important role in the livelihoods of Zambian smallholder farm households, the team saw limited evidence that information/knowledge services related to livestock management, or to the integration of livestock into crop-based farming systems, are readily available. Rather, it seems that most MAL services related to livestock center around disease monitoring and the operation of breeding centers. Drawing on 2012 survey data, the Indaba Agricultural Policy Research Institute (IAPRI) reports that 82.5% of Zambia’s 1,417,992 smallholder farmers own at least one type of livestock or poultry. Although number of animals per smallholder is low, livestock and poultry represent an important asset category and generate a significant portion of household income. Moreover, the smallholder sector accounts for 80% of the total livestock in Zambia.

Currently the extension and advisory services available to support smallholder livestock production are inadequate. Public (MAL) extension practitioners charged with working directly with farmers, Camp Officers, devote the majority of their attention to crop production. Indeed, the organizational structure of MAL limits the Camp Officers’ engagement with livestock specialists at the District, Provincial or National levels. (While some Assistant Veterinary Officers are posted to Camps with high concentrations of livestock, their role is largely disease surveillance rather than advisory). In addition, current compartmentalization of livestock and agronomic specialists within the Ministry impedes needed efforts to support smallholder farming systems more holistically – e.g. promoting the potential synergies between crop and livestock production activities and considering household food security and nutrition with an eye toward the full range of production activities in the household. Many agricultural research and extension programs are designed to increase output of single crops or categories of crops. Some

have been very successful in doing so. There is a need, however, to complement crop-specific R and D efforts with those that are more systems-oriented. Failing to do so impedes progress on important goals that transcend management practices for a single commodity – goals related to human nutrition, soil health, system sustainability and resilience to climate change and shocks.

**Demand-driven Services**

Globally, the extension and advisory services of farmers’ membership organizations (FMOs) enjoy a reputation for high quality and responsiveness. This should be expected as such services are designed, evaluated and paid for by farmer member/users themselves. A high level of accountability to farmers is often evident.

In cases where the producer organizations is based on a single commodity (e.g. cotton, tobacco, milk, etc.) advisors often possess deep expertise in the relevant commodity, and strong networks in the relevant value chain. By comparison, most public extension personnel are trained and deployed as generalists and are ill prepared for the sorts of services that producer organization members have come to expect from their advisors. For example, a senior member of the Central Growers Association management team noted that member farmers see the MAL extension officers as having insufficient tobacco-specific training and expertise to meet their needs. They do, however, look to MAL extension for some training in more general agricultural production topics.

FMO advisory services are not without their challenges. Central Growers reported that sustaining the cost of providing high quality advisory services to its members has become increasingly difficult. Also, the Zambia Export Growers Association (ZEGA) discontinued their well-developed “in house” training and extension services after market conditions caused a marked drop in member income.

The Zambian National Farmers Union (ZNFU) initiated an e-extension program in May 2014 to leverage the efforts of its small cadre of district-based advisors (51) spread across Zambia. In addition, ZNFU’s new farmer-owned agricultural affiliate, ZLS, will likely be offering advisory services in farm management and other business services in the future.

**M & E and Impact Assessment for EAS: Selected Observations**

Discussions at District and Provincial MAL offices revealed concerns about processes and criteria for M & E and impact assessment. MAL management also shared some perspectives on the relative efficacy of governmental and private EAS.

Provincial MAL noted that periodic reports elicited little feedback from National MAL Headquarters, acknowledging that “persons reading the report have not been on the ground to observe.” A concern was expressed that there has been little checking to see if FFS are actually in place and functioning, or if Camp houses have been rehabilitated as reported. “This illustrates the need for M & E follow-up. In the MAL-EU supported M&E effort ....we all had orientation and input into this....we haven’t seen a follow-up.” Regarding the harmonization of information and reporting frameworks for the new more pluralistic network of EAS providers, the PACO stated, “we seem to generate too many reports. We need a point for assembly of reports and then (provide) access to reports by everyone.”

There was a widely shared perception among MAL personnel from Camp to Provincial levels that NGOs have been able to achieve significant impacts within relatively short project periods. One responded noted, “If we go to the Camps staffed by an NGO extension person, we find they have reached so many farmers. MAL extension officers reach less. It is an issue of resources. They have fuel and vehicles and the funds to do more training. Also, they are providing farmers with attractive technologies – sometimes giving seeds and other things. Farmers may see the implementation partners’ extension people as having more specialized skills (than Camp Officers).”
MAL personnel spoke admiringly of NGOs’ capacity for bringing about observable impacts in a short
time, and then scaling them. The complimentary observations were generally accompanied by one or
more caveats. For example, “Our (MAL) extension officers are more production-oriented. The NGO
extension officers are doing many things related to markets, but who will sustain that work (e.g. GAP
training, organizing product aggregation, developing/strengthening farmer cooperatives and linking
them to the private sector, etc.) when the projects end? We are ill prepared to carry on this work after
the program ends. When they do budgeting and planning they seek little input from us.”

Human Resource Development for Pluralistic Extension and Advisory Services

The most common pre-service educational pathway into camp-level public extension officer positions is
a three-year diploma program at a College of Agriculture. (In the past, 2-year certificate-level training
qualified candidates for the Camp Officer position). Taken together, the Natural Resource Development
College (NRDC) and the Colleges of Agriculture at Monze and Mpika have prepared the majority of MAL
Camp Officers in recent decades. All of the NGOs, farmers’ organizations, and private companies with
whom we met look to the same institutions for entry-level EAS staff, supplementing their training in
general crop and livestock management with more specialized training on the job.

Very few graduates enter extension practice having concentrated on extension education in college. A
majority of agricultural college graduates pursued a curriculum focused on general agricultural
production and, at most, take one course focusing on extension practice. Most diploma candidates
spend the mandatory “attachment” (internship) on a farm.

New hires for extension supervisory positions at Block, District or Provincial levels often hold a degree
requires a 5-year program of study) from the University of Zambia.

Relative “attractiveness” of government vs. non-governmental EAS employment – Many MAL staff
expressed envy that their NGO and other private sector EAS counterparts enjoyed greater opportunities
for in-service training, better transportation, and more budgetary resources for carrying out farmer
training and other extension activities. Nevertheless, when questioned in more depth about the overall
desirability of MAL positions, it was noted that many MAL Camp Officers often receive allowances on
top of their base salaries from non-governmental implementation partner organizations – sometimes in
the form of fuel, and sometimes as cash compensation.

MAL District staff noted that even when salaries and benefits (including access to a motorbike) offered
by NGO/private sector extension or advisory service providers compare very favorably to government
compensation, it is not unusual for NGO personnel to seek positions as MAL Camp or Block Officers,
attacted by the perceived long-term job stability and security.

Training and orientation programs for newly hired Camp Officers have historically been weak. (One
DACO described the process as a single day “micro-induction training”, after which new hires are
“turned over to Block Officers for ongoing mentoring until they are independent”. Representatives of
the RESCAP and PEP programs supported by JICA and the EU, respectively, noted that last year MAL
hired 300 new Camp Officers, but with no plan for serious induction training before deploying to Camps.
Both programs identified a need for more practical skill training. They also noted that although the
Districts in which they are working have farmer training centers, centers have been very poorly utilized
due to lack of government support, and limited capacity for planning and carrying out training.

Anticipating a major Government of Zambia initiative to increase the number of extension officers (from
approximately 2000 to 3000) RESCAP decided to use regional training centers for extension training, and
PEP is supporting induction and in-service training (training trainers to do this). PEP has cited a need for
extending this to fisheries extension.
Besides this induction and in-service training for Camp and District Officers, RESCAP activities have included:

- assessment of farmer needs and existing practices
- developing a national plan for extension officer training (and a Training of Trainers Manual)
- analysis of problems related to monitoring
- supporting coordination among multiple MAL departments and with external stakeholders

The Agricultural Colleges affiliated with MAL offer numerous short-term training programs aimed at extension personnel and the private sector. In addition, some private, non-governmental training centers maintain active in-service training opportunities for extension. Kasisi is one such institution mentioned often during our interviews. It is described in some detail in part because it is well known among extension officers and because of its multi-dimensional outreach and training program. It also serves as a reminder that the platforms for coordination, shared learning and innovation, if envisioned as being highly inclusive, will bring organizations together with very different perspectives on smallholder development and agriculture. For example, Kasisi’s message of organic production methods contrasts sharply with the message of PROFIT+

Kasisi Agricultural Training Centre (KATC) is a Jesuit run training institution founded in 1974. KATC aims to “empower rural communities to improve their livelihoods and facilitate holistic and democratic rural development through training, extension, research, market development, lobbying and advocacy and appropriate technologies in sustainable organic agriculture.”

KATC management described the institution’s original purpose as training farmers in “conventional” agriculture – largely through 2 year programs. However, in 1990 KATC changed its focus to sustainable and organic agriculture. Today’s training is mainly in the form of one week short courses, both at the Center and on farms. KATC’s 12 teaching staff, supplemented occasionally with outside instructors, offers training in several dozen topics related to sustainable agricultural and rural livelihoods. Participants, numbering over 1000 annually, are typically sponsored by NGOs. Besides training farmers, KATC has reached out to MAL Extension Officers (primarily Block-level). The World Food Program and numerous NGOs have sponsored many government extension personnel for training at KATC in recent years. The fee for a typical one week short course is 1900 K, including food, accommodations, materials, tuition and transportation. Close to 50% of participants are women.

KATC conducts a number of other outreach and training activities in addition to the short courses for farmers and extension officers. They include:

- Outreach and in-service training for high school agriculture teachers.
- Farmer field days (on farmers’ fields)
- Rural radio programming
- KATC Field Days
- Farmer Field Schools
- Training programs for “decision makers” (e.g. House of Chiefs)
- Study Circles (groups of 12-15 farmers organize for member-centered learning)
- Collaborative research with ZARI, universities and international organizations (on KATC farm and on participating farmers’ farms).
- Manage production units (Pus) in dairy, beef, sheep, poultry, rabbits, field crops and horticultural crops on about 130 Hectares of land at the center. PUs serve as teaching aids and models of sustainable/organic agriculture (including the integration of crop and livestock for improved soil health). In addition, KATC views production units as an increasingly important
source of revenue for supporting Center operations. Kasisi has depended on donor funding (CIDA, Norwegian Government, and the Scottish Catholic Development Fund, among others) throughout its 40 year history, but is trying to move toward becoming more financially self-reliant.

Kasisi staff noted that their training programs seek to respect and build upon farmers’ existing knowledge, and that their in-house research seeks to better document farmer practice and gain insights into why local practices work. KATC’s research partners -- ZARI, SCCI, and the University of Zambia -- are also researching the organic production practices being promoted.

Private companies that provide EAS through contract farming or outgrower arrangements conduct their own rigorous “in-house” training of new field staff, supplementing the technical knowledge acquired in diploma programs with company or value chain-specific training on the products, production protocols, and market quality standards to be conveyed to farmers and closely monitored.

EAS and Innovation

Research institutions are no longer viewed as the initiators and dominant contributors to agricultural innovation. Nor should extension systems be viewed simply as a pipeline for information dissemination. While national (and international) agricultural research and extension systems remain important contributors, innovation derives from the interactions between farmers, researchers, extension and advisory service practitioners, membership organizations and the private sector. A longstanding concern about the state of research – extension linkages is giving way to a more contemporary interest in how research and extension organizations add value to this less linear, more interactive and pluralistic process of innovation. Successful innovation systems depend on broad partnerships to share knowledge about constraints, opportunities, technology, production contexts, and market conditions.

Hall (2004) summarizes as follows: “Building capacity to deploy science and technology... should not only involve training scientists and building research infrastructure. (It) also should involve strengthening the capacity of local systems to promote learning and innovation and this usually involves building linkages and institutional developments that support learning, knowledge sharing, and stakeholder participation.”

Increasingly, the concept of innovation in smallholder agriculture transcends developments in technology, farm production management practices, and plant/animal genetics. Innovations in smallholder value chain arrangements may drive productivity-enhancing changes in technology and farm-level management practices. Value chains and technologies being introduced by FTF implementation partners are clearly expanding options for farmers/farmer organizations to test and improve upon. In the end, however, the contribution of these programs may be less about appropriate technology introduction and expanded market access, but about their potential for seeding a culture of creativity and innovation. Supporting a culture of creativity and learning, and optimizing the innovations that come from it, will require vibrant platforms for interaction. We believe MAL can lead the eventual transformation of coordination platforms (the District Development Coordinating Committees) to become platforms for higher level learning and innovation.  

Some private companies are sources of transformative innovations. For example, Parmalat Africa, a part of the French Lactalis Group (a 15 B euro group of dairy companies with processing in 35 countries and brand presence in 145) brings technology and value chain expertise to Zambia that will help smallholder

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8 A growing body of experience pertaining to multi-stakeholder innovation platforms is available to inform MAL’s efforts, including the FtF SIMLEZA-Africa RISING project.
and “emergent” dairy farmers produce milk with efficiency and quality standards that open up far more remunerative markets.

Though popularization of the innovation system concept has brought increased attention to the role non-research organizations and farmers play in innovation, the Zambian Agricultural Research Institute (ZARI) and the Golden Valley Agricultural Research Trust (GART) were both cited by farmer organizations, NGOs and extension professionals as much valued sources of new seed varieties and crop and soil management recommendations.

ZARI’s mandate is to conduct research on soils, crops and water that leads to development through the adaptation and application of improved, more productive soil, water and crop technologies for Zambian agriculture.

ZARI maintains 4 technical divisions:
- Crop Improvement and Agronomy (CIA)
- Soil and Water Management (SWI)
- Plant Protection and Quarantine (PPQ)
- Farming Systems and Social Science (FSSS)

Conservation farming is a priority in the Southern (800 mm or less annual rainfall) and Central (800 to 1000 mm rainfall annually) agro-ecological regions while soil acidity and leaching are foci of research in the higher rainfall North (1000 mm or more rainfall annually).

The FSSS unit is described as the link between ZARI research and MAL extension. Their charge is to test technologies on farmers’ fields across the 3 agro-ecological regions (differentiated based on average annual rainfall), and to report suitability and farmer acceptance back to ZARI researchers in the other three divisions. “The farming systems approach helps recognize and define problems and constraints. It provides a feedback mechanism that helps define a research agenda. When we get some promising solutions, we get farmers and extension involved to test and verify.” ZARI management team acknowledged the need for increased farmer participation. It appears that their version of Farming Systems Research includes, at best, a very limited consultative role for farmers.

ZARI invites extension personnel to meetings at the research station for introductions and trainings on new technology, and to gather feedback on field problems. ZARI also enlists extension to assist with management of field-based experiments and demonstrations. ZARI and extension also work together to produce brochures and newsletters and to organize seed fairs and exhibitions at the National Agriculture and Commercial Show.

ZARI characterized MAL Block Officers as “generally good; they have been to college…. most are diploma holders, and they communicate well with farmers.” In the past, ZARI organized farmer disease clinics at the ZARI research stations, but now these have given way to “mobile clinics”. Extension officers have been trained to become “plant doctors” for these mobile clinics.

Asked about ZARI’s views/position on pluralism and their connections with non-public extension providers, management responded “all the extension methods have a role to play. The appropriate approach depends on which problem and which context. We can try to harmonize with a district, but one approach won’t work for everything.” “There needs to be a forum for the various players to discuss and agree on approaches, messages and solutions. Government must drive this process and establish minimum standards to follows.” “We need to be mindful of socio-economic factors and culture.”
ZARI noted that some NGOs (including the CFU) have driven conservation farming in Zambia “with very little scientific backup.” “Some of what was disseminated was not working well across all agro-ecologies, so scientists needed to look at what is happening in the soil and where it might work and where not. Conservation farming was simply brought from outside with the expectation that it would be adopted. This has created problems. Where were the processes for adaptation and testing?”

Commenting on the emergence of NGO extension programs promoting market-oriented horticulture for smallholder farmers, the Head of ZARI’s Crop Improvement and Agronomy unit predicted that “if strong structures, associations and interest groups are built, these smallholder horticultural value chains can be sustained. Value added companies like COMACO can be inspirational models for other small grower groups.”

Management described ZARI’s greatest challenges as insufficient funding needed to support the rehabilitation of laboratories and other physical infrastructure, and to sustain ZARI’s human capacity. Providing ongoing professional development opportunities to scientific staff is essential for keeping them on the “cutting edge”. The absence of such opportunities leads to poor retention as trained scientists are in demand at international organizations.

The above may be more a description of ZARI’s mandate and vision than of their actual capacity and activities. A senior member of the Provincial MAL management team noted, “ZARI is supposed to generate technologies and extension’s job is to pass them on. There is a bit of a gap. We try to bridge the gap through annual field days (extension and ZARI working together with beneficiaries…..but there is not a systematic in-house structure (to keep one another informed). We need also to strengthen extension staff confidence in new technologies. ZARI commodity teams are working with extension to set up demonstration trials in the province. The ZARI Farming System teams are almost defunct. They don’t have a socio-economist or nutritionist. The idea is still OK, but staffing is a problem.”

When fully functioning, Farming Systems Research teams systematically documented and sought to better understand farmer practices and farmer-led processes of innovation. It is unclear to what extent farmer practice and capacity for innovation is factored into current public research and extension programming. The PACO observed that “isolated cases of capturing and documenting farmer innovations may exist. But Farmer Field Schools are few and far between due to lack of resources. I don’t see Farmer Field Schools as widespread across the Province.” MAL extension officers have not been fully prepared to recognize farmer innovation and to integrate this into extension programming. “We don’t upgrade their skill set. Technology is dynamic, but there is not structure for ongoing training. NGO officers have more opportunities for training, though some lack the foundation knowledge and skills.”

**Coordination/Harmonization**

Private extension and advisory services will forever be a part of the “landscape” in Zambia. Their visibility, creativity and aggressive efforts to address farmer demands will only increase in the coming years. This emergence of pluralism inevitably raises questions about the role, comparative advantage, sustainability, and even the need for traditional public extension. Publicly-funded, Ministry-based extension remains important to the functioning of Zambia’s pluralistic national “system” of extension and advisory services, but its role must change if it is to remain relevant.

There seems to be a genuine and growing receptivity on the part of MAL to the potential benefits of advisory service pluralism. In turn, many non-public advisory extension/advisory service providers appear to highly value the contribution of MAL camp and block officers to their “on the ground” work.
MAL is beginning to play an important role in convening and enhancing coordination among the large number of NGOs, FBOs, farmer membership organizations, research institutions and businesses engaged in extension and advisory services. We believe they can take an even more prominent leadership role, but it needs to find a way to do so that does not convey a regulatory or command authority.

Besides taking a lead in the coordination of work plans, broader sharing of results, and some harmonization of messages, a goal of MAL should be to facilitate learning among partners, and to promote the application of those lessons to meet broader national and regional development goals. It can champion the introduction of innovation platforms that go well beyond traditional research-extension linkages, engaging a wide range of non-MAL partners.

MAL’s 2013 document, “General Operational Guidelines for Agricultural Extension Service Providers for Small-Scale Farmers in Zambia” calls for coordination, not control and regulation among extension and advisory service providers. In several cases, private organizations are carrying out work through MAL Camp Officers. Coordination of activities and harmonization of “messages” would seem quite straightforward in such cases. Differing practices regarding supplemental salary, transportation allowances and other incentives among organizations serves as a continuing barrier to full coordination. It is expected that these guidelines will, in time, help reconcile these differences.

It is not clear that the inventory/profile template developed in the General Operational Guidelines are being used. We believe that support for them outside of MAL can be developed if promoted within a valued “community of practice” that conveys a sense of shared ownership. MAL needs to be open to modifying the guidelines over time as circumstances change and MAL and its EAS partners gain a deeper understanding of how to promote coordination. The fact that most parties, public and private, agree that a platform for coordination is needed is promising.

It appears that many organizations believe that neither the public nor the private institutions alone can fully serve the demands and needs of smallholder farmers because of limited human and resources available to them. Most speak of the benefits to collaboration flowing both ways.

To date, efforts to improve coordination have focused on issues of staff and farmer incentives, joint work plan development, shared reporting communications, and platforms for collaboration. Those are important preconditions for a potentially more meaningful form of engagement. Advisory service pluralism in Zambia’s Eastern Province represents a very rich reservoir of innovation! There is much potential for deep learning across organizations once potential collaborators get past these operational “bumps”.

In fact, not all differences can (or need to be) reconciled across organizations for effective collaboration and mutual learning to occur. Clearly the goals, extension approaches, and agricultural practices promoted will continue to vary among EAS providers. Some will promote fertilizers and pesticides, others organic production. Some will articulate one concept of conservation farming, while others will define and practice it differently. Different practices for promoting soil management, water conservation and use, or crop rotation will all be evident. This need not be a bad thing. In fact, deciding for farmers, which among many practices or messages to make available to them, is dangerous. Farmers need and benefit from having options to choose among. Their resource endowments, goals and livelihood strategies are far too diverse for an effective “one size fits all” approach. This does, however, place more responsibility on MAL Camp Officers to help farmers to assess and compare the options on their own farms. To the extent that “harmonization” of extension messages is possible, it should be limited to a few key principles and not specific practices. Even that level of harmonization may be difficult for EAS providers to agree upon, and has the potential for limiting options.
Coordination between MAL and non-governmental EAS providers was characterized by the PACO as essential but challenging. Noting the large number of Camps currently unstaffed by MAL, he stated “we need to work with partners….. NGOs and private providers..........and this requires coordination. This is a challenge. It requires joint planning... work plan development and resource budgeting..... but opportunities are there to work together on food security, livelihoods and other common objectives. In some cases we’ve worked very well. Government support is not adequate. But if we can partner properly, we can complement each other. “ The PACO noted that some single NGO projects have more resources than the entire Provincial-level MAL, but that some of those resources have been directed in ways that “complement MAL” and help offset MAL’s resource gap. An example cited was the effort by international NGO, PLAN, to rehabilitate Farmer Training Centers in Chadiza District of Eastern Province.

The PACO made clear that benefits of collaboration were mutual, citing that PLAN and other organizations “realize a capacity within MAL for training farmers in improved technology ....capacity that NGOs realize they lack.” He also reported a mixed record of success in terms of MAL’s efforts to strengthen coordination among organizations engaged in agricultural and rural development in the Province. “We would like to see the same situation with CFU, but due to lack of coordination and joint planning, and due to misunderstanding, each organization says ‘these are our farmers’. This stems from the fact that we have not sat down to share and harmonize what each organization can do. Each is focusing on its own targets, training its own extension staff separately ....in ways that are very specific to its own technology. They have the notion that they are better than MAL at training for their technology.”

The Provincial MAL staff described a “disparity in terms of skill sets” between MAL extension officers and CFU extension staff. “CFU is focused on a very specialized technology. They are well funded by donors (Government of Norway) for staff and on the ground operations. For us, the issue is seeing how CFU can better integrate the technology into the broader MAL extension approach and agenda. Of course, farmers are benefitting, but there is an issue of sustainability. Projects end, but MAL goes on.”

Prospects for coordination are, not surprisingly, much enhanced when personal relationships already exist between MAL and non-governmental project coordinators. In such cases, “these external project coordinators know what the ministry has to offer. They approached us and the partnerships are working well.” The partnership with MAWA was cited as an example of how strong pre-existing personal relationships (the coordinator or MAWA was previously with MAL) helped pave the way for meaningful collaboration.

DACOs’ characterizations of the “state of coordination” varied somewhat. The Petauke DACO reported that “in the past partner organizations never passed through the District MAL office. We would find out later that they were paying the farmers to attend trainings and that destabilized our programs. Now they come and explain their objectives. We have quarterly meetings with the Feed the Future organizations......they present plans and activities. As MAL we are required to monitor and review their plans and communicate that to Camp Officers. The partnership is much better than in the past, but still has a ways to go.”

The PACO offered thoughts on differences between Camp, District and Provincial levels when it comes to joint planning and coordination (including work plan development and budget harmonization). “Camp-level coordination tends to work quite well. At the District-level, there are some issues with NGOs’ and private companies’ ‘compliance’...... non-reporting or under-reporting so MAL doesn’t have all the information about what they are doing. The biggest problem is at the Provincial level. How is information reported to the Provincial coordinating committee which has oversight responsibilities? What kind of reporting at the Provincial level is needed? Provincial Development Committees have
focused on big tasks… policy priorities, like the role of the private sector. But seed companies were not there.”

Confirming this observation that communication among EAS implementation organizations increases as you get “closer to the ground”, the Chipata DACO shared highly detailed information on where in the District all the FTF implementation partners, plus others, were working and what they were doing. He stated that his familiarity with these other programs was the result of participation in the Agricultural Subcommittee of the District Development Coordinating Committee (DDCC). “All organizations present information and that information is reported to the Provincial Development Coordinating Committee.”

Provincial Coordinating Committees are convened by the Permanent Secretary (PS). Planning units that report to the Office of the PS serve as a sort of Secretariat, capturing issues and proposing adjustments to organizational structure. The PACO noted, however, that “this committee doesn’t have terms of reference to monitor what is going on in the Province.” Also, there are no agricultural subcommittees at the Provincial level. The PACO indicated that there were only limited, informal NGO efforts to inform and coordinate with Provincial MAL. “There has not been follow though from NGOs. If we don’t have a written mandate for all extension activities in the Province, and we don’t have full access to the reports of these other organizations, we need such a committee (i.e., an agriculture subcommittee).” Noting precedence for such committees at the Provincial level, the PACO mentioned a committee authorized to coordinate water resource use and management (including irrigation) across multiple organizations/ agencies.

Among the numerous challenges associated with EAS coordination is that of different budgeting and planning cycles among the partners. “MAL has its own budget and planning cycle and it is not synchronized with the implementation partners’ cycles.” Some organizations argue that frequent coordination forums/meetings are not in their budgets, and that the transportation and meals present a burden. The PACO observed that improvements in “field coordination” (District-level coordination) would require organizational culture, resources, skills sets and confidence to bring everyone together for a more coordinated effort. Some District-level MAL staff warned that scheduling coordination meetings too frequently would be counter-productive as non-MAL organizations might tend to disengage.

Organizational “presence” – Some District MAL staff acknowledged that not only have some NGOs been able to achieve significant impacts in a short time, but that they have done so with far fewer “on the ground” extension personnel. One DACO commented, “Where there is one COMACO extension officer, there will be 3 to 5 MAL extension officers. They (COMACO officers) are stretched over a bigger area.”

DACO’s also described significant differences among NGOs in the intensity of the field operations. In Lundazi District the Conservation Farming Unit (CFU) has the biggest footprint among all NGOs. CFU deploys staff to work in 12 camps, enlisting MAL to guide them toward underserved areas. CFU staff members participate in MAL trainings and MAL Camp Officers participate in CFU trainings. “CFU puts fuel in our tanks so we can attend these trainings.” By comparison, extension staffing was described as very “thin” in the Profit+ approach as they have only one extension officer covering the District. “Since that person travels by motorcycle, we can’t ride with him to attend their trainings and learn what they are doing.” Big differences among organizations in terms of the “stake” or the size of their “footprint” vis a vis other organizations can make more challenging MAL’s task of convening coordination platforms. Maintaining an effective voice for organizations whose program are dwarfed by those of others will require good skills in facilitation, team building and diplomacy.

**Information and Communications Technology (ICT) in EAS**
Non-public providers are leading adoption and adaptation of ICT for agricultural and rural development in Zambia. At the time of our scoping mission, MAL Camp Officers reported that ICT devices and applications were available for District and Provincial-level MAL personnel, but not to local extension officers. They noted, however, that some local NGO staff (COMACO was most often cited) were provided tablets for their extension work.

Visits to COMACO confirmed that they are at the forefront in using information and communications technology (ICT) in their extension program. They have recently begun collecting field data for their monitoring and evaluation program using Android tablets. Donated by Google (the donation facilitated by Wildlife Conservation Society), data is uploaded directly by lead farmers. All work plans, action plans and quarterly reports are also loaded onto the tablets. When fully implemented, all lead farmers and area managers will have tablets and be fully trained in their use for extension and for program monitoring and reporting. Connectivity is being enabled by providing mobile telephones with access to the main COMACO server that link wirelessly with the tablets. Two COMACO IT specialists working at headquarters are helping to develop the system, and will provide ongoing high quality technical support.

Emerging developments in digital communication are creating new opportunities for enriching farmer to farmer knowledge exchange through video. Digital Green (www.digitalgreen.org/) is an increasingly well-known program that makes possible the sharing of knowledge among farmers, often through practical demonstrations by farmers in their local languages. And it has been created so as to minimize barriers to access, including those associated with literacy, gender and limited rural electrification.

ICT applications that support farm management decision-making, increase market knowledge and access, and help solve production management problems are rapidly coming to market. Importantly, many ICT developers are working to minimize common access barriers (cost, electricity and literacy, among others). In addition, well developed applications for extension management and staff in-service development are now available. Finally, good tablet and smartphone-based learning resources are being developed for use in extension programs (for example, the CRS Skill Set series).

Equipping MAL Camp Officers with this technology is strongly recommended. MAL management at District and Provincial levels argued that the time is right to do so. Asked about enabling infrastructure, the PACO noted that Camp Officers have some access to digital data through phones in much of Eastern Province. Rural electrification is proceeding, and in the meantime Camp houses have solar electricity for charging phones and tablets.

Also, as MAL is better able to collect and analyze data on its own programs, the information made available to NGOs and other private implementation partners will be more valuable and more likely to elicit reciprocal sharing.

The most visible communication technology currently promoted by MAL at the local level is radio. Radio Farm Forum (RFF) is intended to enrich farmer group learning at Camp level. A MAL District Information Officer works with Camp Officers to prepare the RFF shows. Although designed for groups that meet every two weeks, many groups do not meet that frequently.

**Financing EAS**

The cost of public extension is largely borne by the Government of Zambia. Sustaining the full cost of salaries, infrastructure (field offices and Camp houses), and operating expenses (especially transportation) has proven challenging, as evidenced by the high staff vacancy rate and the many reports that Camp Officers lacked mobility due to lack of budgetary support for fuel and/or motorcycle maintenance and repairs.
Financing arrangements are highly variable among the non-public organizations providing EAS in Zambia. For Central Growers Association and the Zambia National Farmers Union EAS services are made available to members and supported through membership fees. The on-farm advisory services of CGA are more expensive per member, thus more challenging to sustain, than the web-based market information services and other forms information and advisory services offered by ZNFU.

Previous training and EAS provide by the Zambian Export Growers Association to its member growers was funded through some combination of membership and user fees, though a marked decline in ZEGA membership and export horticulture revenue have led to the elimination of most member advisory services.

Cargill’s cost of providing EAS to smallholder cotton farmers is embedded within its overall cotton outgrower program business model. Personnel assigned to manage logistics and transactions at the Cargill depots across Eastern Province also have responsibility for the Cotton Schools. The company’s investment in farmer training and advisory services is not only essential for maintaining cotton quality and uniformity, but for maintaining relationships with farmers. Even if strong, enforceable contract law existed in Zambia, contract farming or outgrower schemes based built around smallholder agriculture depends on personal relationships to work. Otherwise, small differences in prices at harvest time can lead to side selling and default on company-extended farm operating loans.

The Parmalat Extension and advisory services have proven important factors in many of the linkages developed to date. For example, in order to enhance prospects for success of the newly established linkage between small dairy producers and the international dairy company, Parmalat, farmers are trained to do quality control and to conduct business at the milk collection center. A Musika representative remarked, “As long as farmers can do these things, Parmalat will be there for a long time.”

Other companies that provide products or services to dairy producers have been attracted by the emerging commercial opportunities surrounding Parmalat’s investment. These smaller companies, including veterinary supply firms, have started training and extension programs of their own.

During the pilot phase of projects, costs associated with extension services are shared by Musika and the private sector partners. Beyond the pilot phase, private partners are expected to assume the full cost.

The EAS tied to most of the horticultural and groundnut value chains we observed remain largely donor subsidized. Value chains that are better established and involve some value addition (e.g., COMACO’s “It’s Wild” organic brand or the certified groundnut seed of EPFC) are presumably positioned to cover a larger share of the EAS cost through participant market premiums than the nascent value chains associated with Profit +, MAWA or CASH.

**Gender Considerations**

Almost without exception, organizations visited and individuals interviewed shared basic gender disaggregated data on program participation, and in several cases on program staffing. Gender considerations were evident in mission statements and program goals for the majority of organizations we met with. While women held prominent leadership roles in a number of the non-governmental agricultural and rural development programs, women are under-represented in middle and upper management roles at District and Provincial MAL in Eastern Province. Our limited interactions with National-level MAL (confined to the unit that administers extension nationwide) suggest that women may be underrepresented at the national level as well.
The percentage of women serving as Camp Extension Officers varies significantly from District to District. Female Camp Officers are clearly more numerous in less remote Districts. For example, approximately 40% of Camp Officers in Chipata District are women. However, the Lundazi DACO reported that of 68 MAL civil servants in that District, only 10 are women. A MAL manager from another area noted that the percentage of women serving above the Camp level was even lower, further commenting that “some women lack confidence for supervising.” As MAL initiates its plan to significantly expand the number of Camp Extension Officers over the coming couple of years there exists an opportunity to begin addressing this gender imbalance. However, this will require attention to the factors that have contributed to the current underrepresentation of women in extension – including factors that underlie the geographical differences noted above.

The rationale for increasing the number of females within the ranks of MAL extension officers and administration should be clear. It is, however, but one small aspect of what needs to be a more comprehensive effort to address disadvantages that women confront related to access to assets and services. Gendered household data reveal that women have less access to land, inputs, credit, off-farm rural employment and knowledge services (Tembo, 2013). The result of this gender-based asset gap is lower productivity and household food security, and a perpetuation of the poverty cycle, especially among women-headed households.
RECOMMENDATIONS

Governmental EAS

Role reorientation: Non-public EAS providers have rapidly assumed an expanded – perhaps dominant – role in the introduction of agricultural technology and in the creation and management of agricultural value chains in Zambia’s Eastern Province. In general, this development has been welcomed by rural people and MAL, alike. It makes available to farmers more EAS resources, and a wider range of ideas and options to test and consider. We do not, however, view this development as an opportunity to “thin” public investments in extension and advisory services. Rather, it suggests opportunities for a reorientation of public extension focus and roles. Not surprisingly, the institutional pluralism that characterizes EAS in Eastern Province, Zambia is accompanied by a rich pluralism in extension (and overall rural development) approaches. While the emergence of pluralism poses some challenges to public extension (including the challenge of coordination and harmonization addressed here), it also makes possible the development of robust innovation platforms and practitioner learning networks that draw on perspectives, expertise, resources, and networks of MAL extension and research personnel, NGOs, farmers’ membership organizations, private businesses and associations, and donor-supported project teams. MAL’s capacity for accelerating agricultural and rural development in Eastern Province is becoming less a function of staff size and technical expertise. Rather, its ability to convene willing agricultural and rural development partners for shared priority setting, coordinated work plan development, harmonized reporting and shared learning will prove a more meaningful determinant of impact.

Proactive convening at District level – MAL has already articulated its function in a pluralistic EAS system as that of convening, coordinating and facilitating, not controlling and regulating. The MEAS team strongly supports this role for District MAL. We do, however, believe that the intended broad participation will require DACOs to be very proactive. Non-public organizations (NGOs, businesses, membership organizations, etc.) need reasons, and sometimes direct invitations to join, and compelling reasons to stay engaged with what must be an ongoing, long-term coordination process. Strong networking, communications, team-building and facilitation skills are essential. While the DACO may in some cases assume this role her/himself, s/he should be prepared to delegate responsibility to an individual on the District team who possesses a high level of these skills.

Practitioner learning networks – If organized in a way that conveys a sense of shared ownership, these can be powerful catalysts for innovative EAS and rural development practice and lead to sustained engagement. The most robust examples of such networks are able to overcome differences in organizational mandates and approach by finding and focusing on a broadly shared objective(s). And while individuals represent organizations, the personal relationships that develop over time serve as the glue that helps the network meet its objectives (in this case, coordination of EAS activities). The most active and impactful networks don’t limit their interactions to periodic “sit down” meetings in Ministry offices. Rather, members take turns hosting or co-hosting field-based meetings that double as peer learning and constructive assessment sessions. These in turn often lead to mutually beneficial collaboration among subsets of the members. In summary, effective coordination becomes a natural outcome of the individual and organizational relationships that develop over time. (Additional thoughts and examples related to this recommendation can be provided, if interest warrants.)

Redefine the Camp Officer function – Camps officers’ comparative advantage is changing. Many private EAS providers can offer higher quality technical expertise for management of commercial crops. So too are private providers, on average, better positioned to help with value chain development, though
Camp Officers may have a role to play in basic skill development for farmer seeking to participate in such value chains.

If the intended purpose of Camp Officers remains largely that provision and coordination of knowledge services at the local level, they need to be unshackled from the high administrative time demands associated with the Farmer Input Support Program (FISP). Government’s commitment to explore ways to reduce inefficiencies and cost associated with FISP, perhaps by moving some functions to the private sector and/or implementing a system of electronic vouchers, offers some measure of hope that local extension practitioners will be freed to perform extension work throughout the year.

Consider a role for Camp Extension Officers that is less about technology-oriented content delivery and more about facilitating learning, helping to organize and strengthen local groups for decision-making and problem solving, and for serving as a “connector” between farmers and a wide range of EAS providers. (Consider alternatives to the current title, Camp Extension Officer. The word “extension” carries meaning that may not be in concert with the emerging role of the field-level personnel. The word “officer” implies some measure of authority – a connotation that may also not fit well the envisioned role.)

Fully fund reasonable operational expenses at Camp level – lack of mobility is currently a very significant issue.

Set a goal to increase the percentage of women in Camp Officer positions nationwide to 50% over the next 5 years. The plan to significantly expand the size of the national extension force offers an opportunity to address the current imbalance.

Invest in partnerships with non-governmental organizations and businesses with proven capacity for leading and supporting the development of broadly inclusive, pro-poor value chains.

Invest in ICT capacity and ICT applications that support farm management decision-making, increase market knowledge and access, and help solve production management problems are rapidly coming to market. Importantly, many of these developments have focused on expanding information access through low cost technology and in areas with limited ICT infrastructure. While some Zambia-based NGOs and farmer organizations have embraced ICT, the review team saw little evidence of its use among field-level public extension officers. It is recommended that MAL review ICT tools and approaches that have proven effective elsewhere with an eye to investing in those that best fit the Zambian context. Dissemination of market and production information through SMS services to farmers and extension officers with access to low cost cell phones is now widespread in Africa.

Camp Officers, Extension Methodologists and Principal Agricultural Officers all mentioned farmer to farmer extension and Farmer Field Schools as being central to MAL’s extension approach. These are well-proven approaches, both popular and effective in promoting farmer learning.

Pilot digital video - Emerging developments in digital communication are creating new opportunities for enriching farmer to farmer knowledge exchange through video. Digital Green (www.digitalgreen.org) is an increasingly well-known program that makes possible the sharing of knowledge among farmers, often through practical demonstrations by farmers in their local languages. And it has been created so as to minimize barriers to access, including those associated with literacy, gender and limited rural

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9 MAL might consider the title “Development Facilitator”.
10 Low literacy rates and gaps in rural electricity and communications infrastructure are acknowledged barriers to ICT access for many resource-limited households. There are, however, rapidly emerging ICT tools and approaches that are helping to address these barriers.
electrification. The result is a greater range of ideas, options and potential innovations— a pre-requisite for accelerated agricultural development, especially among resource-limited farmers in diverse, risk-prone environments.

**Train and equip Camp Officers for ICT** - ICT has also proven effective in efforts to better support and manage large, highly dispersed extension systems through more timely communications, expanded and convenient access to technical and market information, staff in-service and improved M&E and reporting systems. It appears that MAL’s current system provides good connectivity among national, provincial and district-level MAL personnel. While there remain significant infrastructural barriers to fully incorporating block and camp-level extension personnel into the system, providing field-level personnel with mobile devices and/or computers should be a priority. Good tablet and smartphone-based learning resources are already available for use in extension programs (for example, the CRS Skill Set series).

Consider the creation of a small number of high quality district or provincial specialist teams (generalist vs specialist orientation for field-level advisors need not be an “either-or” decision).

**Seek to influence curriculum at the Colleges of Agriculture that supply MAL with field personnel.** Assist them in developing experiential learning opportunities relevant to contemporary, pluralistic EAS systems and to the new roles/functions of public extension officers.

**Deploy public extension resources for advancing the broader rural development agenda** (beyond agricultural development) of Zambia. While acknowledging that small holder agriculture is an important driver of rural economic growth, broad-based improvements in health, nutrition, education and the status of girls and women, as well as expansion of non-farm livelihood options, could benefit significantly from a form of rural extension and adult education that more directly targets factors that perpetuate poverty.

**Farmer-controlled research grants:** Intended to insure that farmers’ priorities factor prominently into applied research funding decisions, a portion of public research funding is channeled through a semi-autonomous research institute where farmers sit on the Board of Directors and/or on panels to consider applied research proposals.

In Zambia, much of the research would likely be carried out by ZARI, GART and university-based scientists. However, the research priorities reflected in the requests for proposals and the ultimate decisions on which proposals get funded are made by farmers themselves. If researchers hope to gain additional funding in the future, they need to “deliver” on their previous grants.

**Farmer innovation mini-grants program:** Sponsored by government, sometimes with additional support from the private sector, such programs provide small grants for promising on-farm research/innovation activities. These activities may involve broad partnerships including individual or groups of farmers, researchers, extension officers, and private enterprises. Supported innovations extend beyond production technologies to include market/value chain innovations. Dissemination, farmer assessment of new innovations, and encouragement for further adaptation are all embedded strongly into such programs.

**Explore fuller integration of livestock extension/advisory services into MAL’s existing extension services.** Some organizational realignment within MAL may help to advance such integration of crop and livestock extension/advisory services.

**Study the feasibility of expanding Camp-level technical advisory services related to livestock preventative health, disease treatment, and production management.** Camp Officers could help connect farmers groups needing such services with District-level MAL veterinarians and para-vets as well
as livestock management specialists affiliated with private companies and national or regional livestock value chains. In time, selected advisory services could become at least partially fee-based.

**Incentivize and support the development of strong private sector livestock advisory services.** Cost recovery could be built into value chain arrangements, or into the membership dues or marketing fees levied on members of producer cooperatives or associations. In addition, MAL should consider offering technical training for agri-input/livestock supply dealers as they are often asked for livestock management advice by farmers purchasing veterinary supplies and other inputs.

**Evaluate the need for pre-requisite public investment in value chain infrastructure and organizing of smallholder animal producers.**

**EAS Training Programs**

Develop District, Block and Camp-level extension staff with the attitudes, knowledge and skills needed for MAL’s new role in a pluralistic EAS system (through pre-and in-service experiential training, improved hiring and placement practices). Skills include: creating high performing teams; working in teams; community organizing; participatory learning and action; facilitation; adapting extension approaches to more fully address various forms of marginalization (including those based on gender and socio-economic status); accessing expertise and other resources across sectors, including those related to health and nutrition.

For the DACO and her/his team, strong skills in M&E and program evaluation that take into account pluralism will be critical.

**Help EAS practitioners learn ways to engage farmers more fully in the process of innovation** – Farmer participation is clearly evident in both public and private EAS. This participation takes the form of group learning activities, lead farmers, on-farm demonstrations, farmer to farmer dissemination and Farmer Field Schools (FFS). Despite the integration of participatory approaches, however, the overall goal of Camp-level extension remains the transfer of new technology and improved management practices. Consider extension approaches that more fully engage farmers in processes of innovation. Examples for doing so abound. An example brought to the team’s attention by one of the Zambia-based FTF implementation partners is the Farmer Learning Center concept. This involves bringing small groups of the most innovative farmers together for experiential learning activities designed to strengthen their capacity for innovation. This is followed by the creation of “support links” to research and commercial actors. Examples of this approach exist in Malawi and Zimbabwe where they are organizationally embedded within universities, though in partnership with public extension.

**Initiate strong orientation and mentorship program for new extension staff.** While one could readily imagine curricular modifications at the agricultural colleges that would better prepare candidates for public extension practice, few students identify extension as a career goal until very late in their program. Therefore, an intensive, field-based pre-service orientation, supplemented by a period of mentorship drawing on the experience of the best performing Camp Officers should be undertaken by MAL. Experiential learning would focus on quickly learning the local context (social, biophysical and farming system dimensions), group organizing, facilitation, listening and learning from community members, supporting farmer field schools, and the “connecting” role important in a pluralistic EAS environment.

**Enhanced Private Sector and Civil Society Involvement**
Private sector and civil society engagement in efforts to better harmonize and coordinate EAS in Zambia should not be pursued through “command and control”. Mandating or regulating cooperation rarely works as intended. We believe it would be a disincentive for such organizations to carry out high profile (and often highly effective) EAS. Rather than playing the role of an enforcer of compliance, MAL should continue to promote itself as a valuable ally – available to help other organizations work effectively on the ground. In cases where non-public organizations providing EAS in the District make no effort to formally register or report their work, it is suggested that the DACO reach out, inviting their participation in the District’s agricultural development planning and reporting.

**Develop performance enhancement programs for agri-input dealers** - As a group, agri-input dealers are underprepared for their role as de facto agricultural advisors. It is recommended that MAL explore the possibility of partnering with business, trade associations, or IFDC to develop and implement a program to upgrade the technical agricultural knowledge and practical business skills of agri-input dealers across Zambia, coordinating with the current SNV program where appropriate. Examples of programs implemented elsewhere that may inform such an initiative in Zambia include AGRA-supported and IFDC-implemented programs in Burkina Faso, Ghana and Nigeria. Further information is available at: www.ifdc.org/about/ifdc_articles/agro-dealer_development_projects_increase_farmers/

The National Institute for Agricultural Extension Management (MANAGE) in India offers a One-Year Diploma in Agricultural Extension Services for Input Dealers (DAESI), which imparts education in agriculture to the input dealers. Weekly modules delivered through distance learning are supplemented by group experiential learning activities every Sunday throughout the year. The curriculum includes a wide range of agricultural topics and develops skills in soil and water sampling and testing, production of all major cereal and horticultural crops, plus livestock, IPM, animal health management, insect and disease identification, various extension education/adult learning approaches, and organizing field demonstrations, among other things. See the following for details on the curriculum. www.manage.gov.in/daesi/daesi.asp

Create and monitor adherence to high standards of professionalism and performance of private EAS providers. Although the team found that the extension staff working for MAL, farmers’ organizations, NGOs, private outgrower schemes, and donor-supported projects to be quite similar in terms of experience and basic educational credentials (most were certificate or diploma holders), some interviewees suggested that they had encountered NGO staff and agri-dealers who were extending poor advice to farmers – in some cases because of inadequate knowledge or practical experience, and in other cases because commercial interests or ideological views impaired their objectivity. Pluralism increases the need for professional standards. Standards serve not simply as evidence that an extension or advisory service practitioner possesses appropriate technical skills, but also that they have committed to upholding ethical standards. It is understood that the work of EAS providers who work for private companies is guided by commercial goals, but professional integrity demands that EAS providers not knowingly recommend products or practices that run counter to farmers’ best interest. There exist many organizations that certify farm advisors around the world. They typically offer extensive in-service training opportunities (required for periodic recertification) and demand adherence to a strict code of professional ethics. For an example, see https://www.certifiedcropadviser.org/.
ANNEX A. TERMS OF REFERENCE AND SCOPE OF WORK

Terms of Reference for the Proposed Scoping Mission of Zambia’s Pluralistic Agricultural Extension System
Prepared by Anne Toness, USAID/Zambia

Background
The economy of the Republic of Zambia is dependent on the productivity of its agriculture sector. Within the Government of the Republic of Zambia (GRZ)’s long term, plan (Vision 2030 - to become a prosperous middle-income nation by 2030) increasing food security and agricultural productivity are both key strategic priorities. GRZ has demonstrated strong commitment to agriculture-led economic growth, food security, and nutrition through the Comprehensive African Agriculture Development Program (CAADP) compact in 2011 and completion of the National Agricultural Investment Plan, 2014-2019 (NAIP) in 2013. The NAIP prioritizes and puts renewed focus on long-neglected sectors, such as extension, research and development, as well as institutional strengthening, monitoring, and evaluation processes.

Under both the NAIP, as well as the National Agricultural Policy strategy document (NAP), the Ministry of Agriculture and Livestock (MAL) recognizes inefficient extension service delivery, closely related to weak research and development, as well as monitoring and evaluation processes, as some of the sector’s key challenges. Historically MAL has depended strongly on NGOs and Private sector for delivery of extension services and continues to do so. Additionally, the development of extension materials such as pamphlets/booklets has been spearheaded by NGOs and donors, sometimes with and sometimes without the participation of MAL.

MAL is constrained by low resources and is understaffed, especially amongst field staff. In Eastern Province, the focus area for USAID’s programs, many field staff posts are vacant, and therefore those communities receive no extension services. While there might be new and appropriate technologies already available for farmers to use, the capacities to effectively and perhaps efficiently identify those and then disseminate such technologies remain a major. The connection between emerging research and extension has also been identified as a weak area, where clear processes are needed that allow MAL’s research unit, the Zambia Agricultural Research Institute (ZARI) to provide regular information to MAL that is incorporated into extension systems.

In 2011, USAID/Zambia’s Feed the Future strategy (FTF) was approved and the strategy is now under implementation, with most programs halfway through their five-year programs. There are 16 USAID/Zambia directly funded activities and organizations implementing FTF, all of them with local partners and sub-grantees, and another 12 that are funded and managed by USAID/Washington, all working in a focused and concentrated manner in Eastern Province. In addition, there are other major international partners that work in the same region, such as EU, Norway, FAO, WFP, and the World Bank, as well as strong local institutions and private sector that promote priorities under the NAIP, such as agricultural productivity, diversification, and market access. They each differ in their extension strategies and methods, and their partnership agreements and interactions with MAL – but almost all of them work closely with MAL and utilize MAL field staff for their operations. Because of the high level of overlap, with varying degrees of coordination and guidance, between NGOs, private sector and MAL.
there is often conflict and confusion surrounding extension delivery. This is true for both operational issues as well as content delivery. In particular, issues of provision of financial support for MAL extension officers and differing agriculture messages have been recognized as issues of contention between the players. There is clearly a need for an institutional framework and process, country-led that can better allow all actors to harmonize with MAL priorities under the NAIP, coordinate both nationally as well as locally, harmonize messages and technical information and overall, increase the efficiency and effectiveness of the public and private extension sector.

The USAID/Washington supported Modernizing Extension and Advisory Services (MEAS) has been doing assessment of pluralistic demand driven extension systems, principally to make recommendations as to how the systems might work better, in several other countries. USAID/Zambia has requested MEAS to assess the Zambia extension system in its FTF target areas (Eastern Province), and its linkages and alignment to national systems, to determine what can realistically be expected in terms of extension delivery and what can be done to harmonize differing extension expectations and methods between implementing partners (IPs) and MAL.

USAID has simultaneously been working with the Policy and Planning Department of MAL to strengthen their M&E unit, with a particular emphasis on aligning planning and reporting process from district to province to national, all within a shared system that has been recently developed under the NAIP. The extension system forms an integral part of that reporting system, and therefore combines two major USAID anticipated activities in terms of a government-to-government partnership into a possible partnership at district and provincial level that would strengthen the institutional frameworks that guide all partners in terms of research, development, and extension joint planning and reporting. This assessment can provide key recommendations on how to operationalize those processes.

**Objective**

The primary objective of the mission will be to assess the pluralistic extension system in Eastern Province at district, provincial, and relationships to national levels, in order to provide recommendations to both public and non-public actors, an institutional framework to guide the processes, and key areas for strengthening at local levels, highlighting processes to improve coordination, harmonization, planning and reporting between public and private extension delivery. The team will focus on contributions and constraints of these different advisory service providers, recommendations on how MAL or districts and provinces can provide greater guidance for planning and reporting to non-government partners, and while they will focus principally on improvements in coordination, it is hoped that the team will also look at how the individual institutions, can strengthen their extension services and coordination with MAL.

The assessment will concentrate on all the nine districts in Eastern Province; FTF’s zone of influence is five of those districts, but some of the key partners operate across all of them. Recommendations would be applicable to government institutions and provide information relevant to other provinces as well. It is assumed that although the assessment will focus on Eastern Province, results and recommendations will be applicable to the rest of the country.

**Methodologies, Approaches and Deliverables**

Specifically, the MEAS team will:

Meet with the directors and key staff members of the Ministry of Agriculture and Livestock at the national, provincial and district levels related specifically to research and development, extension, and planning and reporting. The purpose of these meetings will be to assess the current structure, capacity,
expertise, and recommendations of MAL staff at all levels (e.g. number, sex, educational qualifications and areas of expertise), especially the subject matter specialists and front-line extension staff. In addition, the team will determine how these front-line extension workers actually carry out extension/advisory services and their collaboration with other extension workers. In these meetings the team will focus on both institutional capacity of MAL as well as coordination efforts with NGOs and private sector in the area of extension delivery. In addition, the team will determine what these key leaders and front-line extension workers perceive as their primary achievements to date, as well as their human and financial resource constraints, as well as other structural or management constraints that may be limiting their capacity to provide improved advisory services to small-scale farm households. Primarily the team will focus on providing recommendations for how to best coordinate and harmonize services between MAL extension workers and other projects, including planning, messaging and oversight of any financial support. The same process would be repeated with key non-public actors that are involved in service delivery (USAID FTF projects and other major stakeholders - donors and private sector - working in agricultural extension in Eastern Province).

USAID/Zambia has begun to work with MAL to instigate quarterly joint district planning meetings to address these issues among all FTF projects and other stakeholders. Thus far, two quarterly meetings have been held and the goal has been to help institutionalize these as part of the District Development Committee (DDC)’s sub-committee on agriculture and environment, as an approach to guide actors working in this area. The team should assess how this is working, as well as areas for improvement.

For example, how do extension workers coordinate, plan, and report jointly with other stakeholders in the community/camp/block/district, particularly other donors, in order to ensure covering gaps, leveraging resources, extending extension workers coverage, and reducing burden on Government resources? How are these connected, and priorities planned and reported upon, at the different levels, from district to province to national? What is working, and not working? What are recommendations for methods to improve joint planning and reporting, who should lead or provide guidance, and how?

How do different donors, implementing partners, and other stakeholders support extension services financially or technically (training, fuel/transportation costs, salarial support, etc.), and how does the extension service ensure that this support is documented, harmonized, directed and planned, and monitored?

Are the field staff receiving in-service training from MAL, or relying primarily on NGO/private sector training provision? What mechanisms exist for dissemination and feedback on new recommended technologies, i.e., how strong are the links between extension and research? Are there mechanisms in place to ensure that camp officers are not receiving redundant trainings from different players, and some are not receiving sufficient trainings, and that time is well spent and well-balanced between receiving training and outreach to communities?

Do these MAL field extension workers have sufficient financial and other resources (extension/ training materials, transportation, etc.) to allow them to provide needed services to the different groups of farmers that need to be served (e.g. landless, small and medium size farmers, including both men and women farmers). Do MAL staff have the resources to work with NGOs and Private Sector without receiving ‘top-ups’?

How are new technologies, practices, innovations, varieties, and other information and emerging research coming from ZARI, as well as donors and other actors through research and development, shared with the extension staff and disseminated? What are current quality control methods and roles for ZARI and extension to ensure that the latest information, backed up by research, is shared with farmers and consumers?
Are there deliberate efforts to increase women participation in extension activities and how successful are they? What strategy and capacity is in place for MAL to recruit more female extension workers, especially at the post-secondary diploma or university degree level?

Who determines what extension workers should focus on? To what extent are participatory methods used?

Are extension workers primarily focusing on increasing the productivity of staple food crops (e.g. maize, sorghum, millet, pulse, and root crops) and/or are they also helping men and women farmers learn to diversify/intensify their farming systems so they can increase their farm income and improve household nutrition, which are priorities identified in the NAIP. Do extension workers have the capacity to help with diversification?

Meet with non-public extension and advisory service providers, including NGOs, to address similar questions as of the public service and to identify their constraints and performance achievements. Also, what is the level of participation of non-public extension service providers in MAL extension services, which is supposed to coordinate extension services providers at district level? To what extent do non-public extension service providers and farmers know about MAL extension services and what role are they expected to play?

Meet with the farmer associations that focus on Feed the Future priority products such as legumes, oilseeds, maize and horticulture, as well as, to the extent possible, with associations and export firms that are exporting key commodities, including tobacco and cotton. What extension mechanisms are these stakeholders using? Are they to some extent depending on public systems? Do MAL extension services deliberately also cater for these types of beneficiaries? To what extent do these stakeholders coordinate with MAL and NGOs in extension delivery?

Review Zambia’s National Agricultural Policy (NAP) and National Agricultural Investment Plan (NAIP) document and assess the capabilities of MAL and included NGOs to implement NAP and identify any capacity building needs of the Ministry, as well as identify gaps between the plan, the resources, and the extension support on the ground. The team will analyze how local MAL officials are implementing the NAIP, in particular around extension, but also how extension links with Research and Development, as well as roles in reporting back up from district level to national, following the new M&E guidelines based on the NAIP. They will provide recommendations on how to jointly plan and report across local MAL staff and units, as well as partners, to demonstrate NAIP implementation.

The team will review key extension messages, such as on conservation farming, climate smart agriculture, use of improved varieties, crop rotations, post-harvest storage and aflatoxin control, that is promulgated by both public and private actors to identify key areas where there is inconsistent messages between groups that are reaching farmers, and potential methods to harmonize those messages.

In addition, other issues will be addressed across these three major categories of extension service providers, including a) opportunities and challenges in meeting the non-formal education and advisory service needs of male and female farmers; b) how are these specific challenges being addressed; c) are these teaching-learning materials, which are being provided by these different groups of extension workers, appropriate in terms of the education/literacy levels of men and women farmers within the communities they serve?

Small-scale women farmers represent the majority of rural poor in many Sub-Saharan African (SSA) countries; therefore, is this true in Zambia? What efforts are the different extension/advisory service workers undertaking to target small-scale women farmers? Also, are these women farmers receiving advisory services from these different extension workers about producing more high-value agricultural
products (e.g. paprika, vegetables and fruit), especially to increase household income; or are most of these advisory services focusing only on subsistence crops? In addition, this assessment will look at other activities, such as who is organizing the producer groups for these different high-value crops, livestock and other products, and then in helping link these groups to markets.

To what extent can the current and emerging information and communication technologies (ICT) be enhanced by making both technical and market information more readily available to both the field extension staff and farmers. Also, do men and women farmers have equal access to available ICT technologies? Does the USAID supported Esoko market information system have applicability as an extension tool? What is the effectiveness in MAL and NGO investments in radio extension and community radio programs?

Finally, it is expected that nutrition is a very serious problem among the rural poor in Zambia, so an assessment will be made of the MAL, NGO and other service providers about the types of information being shared with these rural households about human nutrition. Are there opportunities for extension workers to partner with community health workers? This will require meetings with the National Food and Nutrition Commission (NFNC) and donors and actors involved in the Scaling Up Nutrition (SUN) efforts, 1,000-day campaign, and ZARI, in terms of research on nutrition-related topics.

In summary, this study will focus on:

1) Providing recommendations for how the USAID/Zambia FTF programs can improve their working relationship with the MAL extension service to more effectively provide services to priority value chains. Particularly addressing issues of expectations, financial support, FTF partner trainings, joint planning, and reporting, and ability of MAL extension workers to effectively work with FTF implementing partners.

2) Identifying the major gaps within MAL extension services, the NGOs and other extension/advisory service providers, including institutional capacity, human competency, sustainability, and policy limitations;

3) Recommending some near- and long-term investments that could substantially increase the effectiveness and sustainability of these different extension and advisory service providers (that GRZ, USAID, and other stakeholders/donors could support);

4) Providing recommendations on how the research and technology dissemination component of MAL’s extension services can be improved.

5) Providing recommendations on how extension delivery fits into the NAIP, institutional building, planning, and reporting loops that are being improved upon under the NAIP

A draft scoping report will be shared with the USAID Mission within one month after the team returns home. Then, after the USAID Mission members Anna Toness, Brian Martalus, and Harry Ngoma review these proposed, draft recommendations to strengthen the pluralistic extension system in Zambia, the report will be finalized and submitted to the USAID Mission within two weeks after receiving their comments and feedback. This report will contribute to potential pilot activities that will be undertaken by USAID/Zambia to support M&E systems, as well as potential work that the Policy Team in the Bureau of Food Security, may support to demonstrate CAADP activities at local levels (district and provincial).

Prior to the MEAS Team leaving Zambia, the team members will share and discuss their preliminary findings about how to create a more decentralized, farmer-led and market-driven extension system that is being addressed in other countries with USAID staff, as well as representatives from MAL, NGOs and farmer associations.
ANNEX B: EXCERPTS FROM “GENERAL OPERATIONAL GUIDELINES FOR AGRICULTURAL EXTENSION SERVICE PROVIDERS FOR SMALL-SCALE FARMERS IN ZAMBIA”, MAL, MARCH 2013

Pluralism of Extension Services and Need for Coordination
Currently, there are numerous extension service providers in Zambia which are government organizations including research institutions, NGOs, Private Sector organizations, which also include but not limited to agrochemical input suppliers, seed companies, farmers organizations, Public-Private funded organizations, and others. While the Government/public extension service providers are represented by extension officers who are mandated to provide broad aspects of extension services to as many small scale farmers as possible throughout the country with limited financial resources, NGOs and Private Sector organizations often have better financial resources but with a limited number of beneficiaries and the targeted commodities or preferred extension methodologies.

Pluralism in extension service is generally welcome as it provides farmers with more opportunities to choose among different alternatives as the various extension service providers may offer different services. However, proliferation of such extension service providers without any coordination at farmer/village level does not necessarily bring positive impacts on production and productivity but could lower production and create confusion at the cost of farmers.

Thus, it is necessary that the Government (Ministry of Agriculture and Livestock) facilitates coordination and collaboration among various extension service providers/stakeholders in Public, Private and NGOs sectors so that a unified service to farmers in ensured and duplication of services which lead to inefficient use of resources is avoided.

Harmonization Approaches with Pluralistic Extension Services
At the Extension Approaches Harmonization workshop in March 2011, it was unanimously agreed by the stakeholders that all service providers need to work more closely to deliver extension services effectively to small scale farmers. This does not necessarily call for a strict control and regulation by the Government but rather for an effective coordination among various stakeholders and joint supervision to make sure that services delivered by various players do not confuse target farmers.

With the recent on-going process of decentralization of the Government function and services, it would be more useful and practical to coordinate different extension services provided by various stakeholders at District level while Provincial Agricultural Coordinator’s (PACO) Offices will provide back-up support to District Agricultural Coordinator’s (DACO) Offices. While the coordination of extension services is undertaken at District level with participation of various stakeholders under the leading role of the DACO’s Office, it should not limit opportunities for farmers to decide which approach and service would be of best interest and benefit to them. All these initiatives, however, should primarily provide farmers an enabling environment to try their initiative, make their own decision to select their own choices.
As suggested above, the process of coordination and harmonization of extension services would be more practical and appropriate at district level. The following mechanism and procedures will be introduced and implemented.

Profiles of Service Providers
There is an urgent need to collate information on organizations/institutions which provide various forms of extension services in all the Districts. This exercise would help the EHC to better understand the types of organizations and services currently in existence. Inventory/Profile Format has been developed and introduced by the Extension Harmonization Committee to collect information on service providers. This
Inventory should fully be utilized at District level with back-up support of Provincial Office. (Attachment 1: Inventory/Profile Template).

This information will provide the stakeholders operating in a certain area with useful information and coordination to maximize sustainable and effective impact of service rendered by the respective service providers individually or collectively.

**Entry to Province and District**

1) Once an extension service provider intends to provide intervention among farmers with specific objectives/approaches and inputs, such an organization will be required to notify the Department of Agriculture of the Ministry of Agriculture and Livestock (MAL) of their intention. Entry to the Province should be through the Office of Provincial Agricultural Coordinator (PACO) while entry to the District should be through the Office of the District Agricultural Coordinator (DACO). While this requirement may not be seen as a “must” procedure prior to the commencement of their activities, it should rather be acknowledged by the service providers as an advantage so that they would not need to use resources ineffectively with duplication or in conflict with other service providers.

Instead extension service providers could complement each other to multiply outputs of different interventions

2) All information provided by the service providers should be entered into a data base with the MAL Headquarters or with the respective PACO’s or DACO’s offices where the extension service provider will be operating.

3) District and Provincial Offices through the Senior Agricultural officers (SAOs) and Principal Agricultural Officers (PAOs) will furnish the DOA HQ with updated information on new service providers regularly.

**Collaboration and Operation**

1) The extension service providers are free to work with extension officers as long as they notify and confirm their activities with the Offices of DACOs or the Offices of PACOs.

2) The extension service providers are expected to meet the Government conditions of service with regards to allowances for extension officers where and when applicable.

3) Reports and Work Plans of the Extension Service Providers should be availed to the Office of DACO or PACO in the area of operation. This is to avoid duplication of activities, coinciding of meetings with the same farmers/farmer groups and conflicting of reports coming from the same District.

4) Considering that most programs and projects of the extension service providers have a specific period of intervention, the government should be prepared to take over such activities. The phase out strategy of the extension service provider should be a well-documented process and inclusive of the collaborating partners to ensure the sustainability of the interventions.

5) The method of extension service delivery should be Participatory Extension Approach being mindful of the four (4) extension pillars of Technology Transfer, Problem Solving, Education and Human Development.

6) The use of lead farmers and demonstration plots should be encouraged and the incentives provided to these lead farmers but such incentives should not be excessive or full time pay as this will create problems for other extension service providers including the government who may not provide the same level of incentives and future interventions by other organizations.
7) The involvement of farmers in the activities and programs should not be based on handouts and excessive rewards as it is not sustainable but be based on the four (4) pillars mentioned earlier.

8) International, Local and Regional exposure visits should be encouraged to be provided by extension service providers.

9) The SAOs and PAOs through the Offices of DACOs and PAOs will convene regular meetings with extension service providers at least semi-annually at district and provincial levels where topical issues on agriculture can be discussed, and basic agricultural practices and definitions can also be shared among the extension service providers.

10) The extension service providers are expected to work closely with the Office of DACO and PACO to achieve the objectives of District and Provincial Agricultural Plans.

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**Figure 5. Function and Roles of MAL Offices at Different Levels**
ANNEX C: INDIVIDUALS MET DURING SCOPING MISSION

ASNAPP (Agribusiness in Sustainable Natural African Plant Products)
Ms. Chali Lushibashi, Provincial Coordinator
Regional Coordinator/Agronomist
Ms Natasha Mwila Regional Coordinator/ Agronomist

Cargill - Zambia, Ltd.
Emmanuel Mbewe, Projects Manager
Yobe Chibanga, Origination Manager

CASH Project (Chipata Office)
Ms. Florence Lushibashi, Regional Coordinator

Catholic Relief Services (CRS)
Mike Dillon, CRS, Publications/ Health
Dane Fredenburg, CRS Country Representative - Zambia
Geoffrey Heinrich, Senior Technical Advisor
Douglas Mwasi, Agricultural and Livelihoods Unit Manager

Central Growers Association (CGA)
Beriwick D. Mungabo, Projects Manager

Climate Change Secretariat, Republic of Zambia, Ministry of Finance
Carol Mwape-Zulu, Environmental and Social Inclusion Manager
Evans Mwengwe, Field Project Manager

COMACO (Community Markets for Conservation)
Richard Mumba, Deputy Director – Agriculture & Conservation
Extension Coordinators (Regional and District) and Area Managers (brief group meeting in Chipata). Mr Whytson Daka, Manager (Chipata & Mambwe districts) spoke on behalf of the group.

Conservation Farming Unit (CFU)
Lisa Sendwe, Extension Officer
Sinya Mbale, Chief of Operations CFU
Mizendo

Eastern Province Farmers Cooperatives
Whytson Sakala, Cooperative Team Leader
Mr Maimisa, Extension and Training

JICA - RESCAP (Rural Extension Service Capacity Advancement Project) Project
Masayoshi Ono, Chief Advisor
Takahiro Miyoshi, Monitoring/Feed Back Advisor
Goichi Sasaki, Agricultural Extension Advisor

Kasisi Agricultural Training Centre
Dr. Henrietta Kalinda, Deputy Executive Director
Robson Nyirenda, Extension/Training Coordinator

Lumuno Organic Farms
Namakau Kikando Mbewe, Finance & Admin Manager
Strengthening the Pluralistic Agricultural Extension System in Eastern Province, Zambia

MAWA
Margaret Mwenya, CRS Senior Program Manager for MAWA
Noah Simpasa, Technical Quality Coordinator for Savings and Internal Lending Communities

Ministry of Agriculture and Livestock, Republic of Zambia (National Office)
Martin W. Muyunda, Principal Extension Methodologist
Louis Chikopola, Principal Monitoring & Evaluation Officer
Kezia Kanyamba, Acting Director, Department of Agribusiness & Marketing.
Mr. Mwale, Principal Agribusiness & Marketing Officer

National Food and Nutrition Commission
Mofu Musonda, Executive Director

Ministry of Agriculture and Livestock, Republic of Zambia (Provincial Staff)
Eastern Province
Kennedy Kanenga, Acting Provincial Agricultural Coordinator (PACO)
Khosa Moffat, Acting Principal Agricultural Officer (PAO)

Ministry of Agriculture and Livestock, Republic of Zambia (District Staff)
Petauke District
Mwaba Lubasi, District Agricultural Coordinator (DACO)
Prisca Mutale, Senior Agricultural Officer (SAO)
Ernest Mupemo, Extension Methodologist

Chipata District
Alfonso Kahalawe, Acting District Agricultural Coordinator (DACO)
Female Members, Kadeka Village Cooperative
Theresa Chibangula, MAL Camp Officer at Nsanjika – a Camp comprised of 1720 households, 35 cooperatives and 10 women’s groups.

Lundazi District
Phillimon Lungu, District Agricultural Coordinator (DACO)
Mushane Simutowe, Principal Agricultural Officer – Acting (His substantive post is Agricultural Specialist)

Katete District
7 lead farmers of the Katete District
MAL District Extension Methodologist

MUSIKA
Pamela Hamasaka, Communications and Outreach Manager

Natural Resources Development College (NRDC)
Ziezo S. Nchimunya, Head of Department, Agriculture Education & Extension

Nsanjika Camp (Chipata District)
Theresa Chanda Chibangula, MAL Camp Officer
Kanduluka Women’s Multi-purpose Cooperative (group meeting with 18 women & 2 men)

Performance Enhancement Programme (EU-supported project in partnership with Zambian Ministry of Agriculture and Livestock)
Jim Parker, Chief Technical Advisor
Elizabeth Visser, consultant on evaluation assignment
PROFIT + (Production, Finance and Improved Technology Plus)
Botany M. Hang’ombe, Training Coordinator
Victor Himbayi, Aggregation and Quality control Specialist
David Matyola, District SILC Field Supervisor

Republic of Zambia – Zambia National Service
Capt P. Simusokwe
Lt BM Chanda

SIMLESA Program
Mariana Wongtschowski, Advisor - Sustainable Economic Dev., Royal Tropical Institute
Jens Andersson, Innovations Scientist, CIMMYT

SNV – Netherlands Development Organization
Chola Mfula, Project Manager, Agro Dealer Inputs Support Project
Chisenga Lupingulo, Marketing, Trade and Investment Officer for honey value-chain project

University of Zambia
Diana J. Banda, Lecturer / Consultant, Dept. of Agric. Economics and Extension Education
Twambo Kanene – Mwale, Information Officer, Institute of Economic and Social Research

USAID – Zambia
Anna Toness, Economic Growth Leader
Brain Martalus, Feed the Future Division Chief
Harry Ngoma, Food Security Specialist
Erin McConnell, FTF and Global Climate Change Initiatives Provincial Coordinator (Eastern Province)

World Vision
Saphster Chiposo, a lead farmer from Lwimba, Chongwe engaged in farmer to farmer extension and village savings and loan association.

Zambian Agricultural Research Institute (ZARI), Ministry of Agriculture and Livestock
Moses Mwale, Director
Dr. Samuel Phiri, Deputy Director-Technical Services
Godfrey Mwila, Chief Agriculture Research Officer (Crop Improvement & Agronomy)

Zambia Export Growers Association (ZEGA)
Luke Mbewe, CEO

Zambia National Farmers Union (ZNFU) – Head Office
Florence Phiri, Senior Manager, Gender & Environment

ZFC Limited (Zimbabwe-based fertilizer company; offers technical advisory services on agronomy and precision agriculture to Zambian customers)
Richard Gurira, Distribution & Exports Manager
ANNEX D: DOCUMENTS REVIEWED


CSO 2006: 2003/04 Agriculture Production and Pest for small and Medium Scale Farmers Harvest Data. CSO, P.O. Box 31908, Lusaka, Zambia.


Strengthening the Pluralistic Agricultural Extension System in Eastern Province, Zambia


Websites

www.conservationagriculture.org
www.acdivoca.org/site/ID/zambia-profit-plus
http://bit.ly/1lnfxWD
www.itswild.org
http://conservationagriculture.org
http://crs.org/zambia/projects.cfm
www.gartzambia.org
www.harvestplus.org
http://fsg.afre.msu.edu/zambia/
http://operations.ifad.org/web/ifad/operations/country/home/tags/zambia
www.urc-chs.com/project?ProjectID=269
www.musika.org.zm
www.pannar.com/overview/zambia
www.ifpri.org/book-741/node/8349