Farmers' Experiences with Pluralistic Extension System in Promotion of Conservation Agriculture in Chinguluwe Epa of Salima District, Malawi

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Abstract

Malawi's current extension policy supports pluralism and advocates responsiveness to farmer demands. This article therefore investigates the experiences of male and female farmers in selected sections with pluralistic extension in promotion of conservation agriculture (CA). The key question addressed in this research is what changes has pluralistic extension system made in case of the farmers practicing conservation agriculture. Within a case study approach, four sections were purposively selected for in-depth qualitative analysis of available services and farmers' experiences. Focus group discussions were held separately with male and female farmers and key informants followed by semi-structured interviews with 150 farming households.

The findings have revealed that few farmers appreciate having access to a variety of sources of technical advice in conservation agriculture. However, most service providers continue to dominate and dictate what they offer such that most of the responses are not relevant to address farmers expressed needs. In addition, the study has revealed that poor coordination between service providers limits exploitation of potential synergies amongst actors. As a recommendation therefore, service providers can adapt their approach to engage farmers in discussion of their needs and work collaboratively to address them. At a system level, institutions that have a coordination function can play a more dynamic role in brokering interaction between providers and farmers to ensure coverage and responsiveness.

Keywords: Demand-driven, pluralistic extension, conservation agriculture, complementarity

Background

Investing in agriculture will foster economic growth and development and assist in attaining the aspirations of Malawians as stipulated in the country's Vision 2020.

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In Malawi, economic growth depends on agriculture such that 80 per cent of the productive labour force is employed in the agriculture sector (GoM, 2009; GoM, 2010a). It is also estimated that 70 per cent of Malawi's agricultural GDP comes from the smallholder sector (GoM, 2010a). Agriculture in Malawi is divided into estate and smallholder sectors. Masanjala (2006) added that smallholders are characterised by resource constraints although they are the main producers of food commodities and also complement the commercial sector in the production of high value crops for export.

However, recent shift towards adoption and the dwindling of government resources has made the practice of pluralistic extension service a realistic option for ensuring efficient and effective use of available resources for extension and sustainable development (Okorly *et al*., 2010). This shift in thinking has influenced, and has been influenced by, shifts in policy towards supporting pluralistic provision of services which are more responsive to farmer demand (Garforth, 2011). According to the World Bank (2000), Pluralistic Extension Service (PES) is important because of the provision of complementary extension services that would reach and respond to diverse farmers' needs in different farming systems. Pluralistic extension recognizes the inherent diversity of farmers and farming systems and the need to address challenges in rural development with different services and approaches (Davis, 2008). Malawi Government therefore, decided to change its agricultural extension policy in 2000 to encompass pluralistic and demand driven services (GoM, 2002). This was designed to reform the extension system in order to make it more effective and efficient in responding to diverse farmer demands. Basically, the main objective was to promote the provision of decentralized, demand-driven services and encourage the participation of many service providers in agricultural extension so that farmers' demands are responded to and they have access to high-quality extension services (GoM, 2002).

Theoretical Framework

Demand-driven extension requires pluralism in service provision on the supply side. Pluralistic extension service means having various extension service providers in the provision and delivery of extension services in order to address farmers' diverse needs (Government of Malawi, 2002). Farmers can only exercise choice if there is a range of service providers to choose from since variety in services demanded is then matched with the existing variety of service providers all based on complementarity (Davis, 2008). Encouraging pluralism is a recurrent

feature of extension reform since 2000 (Rivera and Alex, 2004; Chipeta *et al*. 2008), for example in Uganda, Kenya and Malawi. In the case of Malawi, the main thrust of extension reform has been to promote pluralism and create institutions at the local level to enable farmer demands to be articulated and then met with a coordinated response. Also spelt out in the land resources conservation policy as a way of intensification is full involvement of the private sector, NGOs, Community Based Organizations (CBOs) and local communities as one way of complimenting government efforts to enhance continuity and cost-effectiveness of soil management programs (Government of Malawi, 2000). The objective for pluralistic response is for complementary extension services that would reach and respond to diverse farmers' needs in different farming systems since land degradation threatens future food production potential as well as export earnings (World Bank 2000 and Shiferaw and Holdenstein, 2000).

However, institutionalising farmer demand in extension reform has proved problematic. Several authors (Masangano and Mthinda, 2012; Jere, 2010; Rivera and Alex, 2004 and Hanyani-Mlambo, 2002) have raised the concern that PES presents a major challenge in coordination and collaboration among extension providers for unifying services and avoiding duplication and wastage of scarce resources. Interestingly, little empirical information is provided in the extension literature on how PES can be organized effectively so that stakeholders complement one another's efforts to avoid competition, duplication and conflicting messages. There is also interest among policy makers, service providers and academics in finding out whether PES has made any difference to farmers' access to complementary services in conservation agriculture. The purpose of this paper is therefore, to explore this question from the perspective of smallholder farmers of Salima district in Malawi. The paper also seeks to provide an understanding of key factors critical to ensuring an effective and sustainable complementary environment favourable for pluralistic response based on conservation agriculture. The research question addressed by this paper is whether PES in Malawi is in practice leading to farmers' experiencing more complementary services in conservation agriculture.

Agricultural Extension and Advisory Services in Malawi

Agricultural extension service has gone through many reforms for example; extension has been provided under different labels such as M'Chikumbi, Modified Training and Visit and Participatory Approach (Masangano and Mthinda, 2010). In particular, during the period of 1964-1980, Kabuye and Mhango (2006) noted that Ministry of Agriculture (MoA) adopted the conventional agriculture system

used in most developing countries. The conventional agriculture system relied most on the generation and transfer of technology by agricultural research stations without active participation of extension staff and farmers. In addition, the system was characterized by the emphasis on cash and export-oriented crops and a top-down communication process since it lacked participation in articulation of clients' demands (Kabuye and Mhango, 2006). As a result it did not achieve its intended objective of increasing productivity through transforming subsistence farming to commercial agriculture (Kabuye and Mhango, 2006); because it lacked a realistic planning process. Abesiga and Musali (2002) further reported that the system also failed because of its failure to reach farmers of all categories since it used more persuasive and educational individual approaches and methods which needed more man power, time and financial resources to be effective.

Later, the Block Extension System (BES) which is a modified training and visit extension system was introduced in 1981 in order to increase farmer coverage and reach out to marginalised groups which failed with the conventional system. The approach was also widely used in many Asian and African countries to improve agriculture (Anderson and Feder, 2003; Anderson and Feder, 2004; van den Ban, 2006). BES emphasized on group approach, scheduled field visits, systematic staff and farmer training and proper supervision of extension programmes. The area covered by each frontline extension worker was demarcated into eight subsections known as blocks which were visited at least once a fortnight (Kabuye and Mhango, 2005; Masangano and Mthinda, 2010). Reality revealed that T&V resulted in increased operational costs, denied extension officers creativity as they were expected to follow a fixed visitation schedule, left disadvantaged people such as women farmers unreached by extension and was considered not responsive to farmers' needs (Farrington 1995; Axinn 1997; Garforth 2005).

In addition to using top-down approaches that were heavily criticized by proponents of participatory and bottom-up approaches, this system failed to reach the required extension-to-farmer ratio so that it required recruitment of many extension staff. As a result the system became too expensive to sustain such that Malawi Government could not sustain the extension system on its own (Masangano and Mthinda, 2012). Masangano and Mthinda (2012) further reported that another problem with the system was its rigidity, in that it required fortnightly visitation schedules and fortnightly training sessions, as well as monthly research and extension workshops. These were in most cases not workable due to various unplanned activities such as funerals and other social events (Abesiga and Musali, 2002).

Disenchantment with T&V coincided with widespread moves towards more open democracy in sub-Saharan Africa in the 1990s. Provision of services began to reflect the new dispensation, as the need for involvement and participation in decision making platforms of people at grass roots level became increasingly recognised. Participatory approaches were therefore promoted in advisory services to address shortcomings of previous approaches. In Malawi, the decentralisation process of the public sector adopted in 1998 and pluralistic and demand driven agricultural extension services in 2000 (GoM, 2000) provided opportunities for improving provision of advisory services by allowing pluralism in service provision. The Malawi Government decided to change its agricultural extension policy in 2000 to encompass pluralistic and demand driven services (Malawi Government, 2000). This was designed to reform the extension system in order to make it more effective and efficient. Its aim was to promote the provision of decentralized, demand-driven services and encourage the participation of many service providers in agricultural extension so that farmers demand will be met and they will have access to high-quality extension services. Governance structures such as the Village Development Committee, Village Agriculture Committee, Area and District Stakeholder Panels were established to provide platforms for interaction among stakeholders in the process of demand articulation and responding, with a District Agricultural Executive Coordinating Committee responsible for overall coordination.

However, implementation of PES has met with mixed views among actors in Malawi. Studies by (Knorr and Gerster-Bentaya, 2007; Chinsinga, 2008; Masangano and Mthinda, 2010) acknowledge that diversity in sources and types of services provided is a result of availability of multiple players in agricultural advisory services. The authors have claimed that pluralism has also created competition amongst actors which has been manifested in coordination challenges. For example, Chinsinga's (2008) attempt to delineate functions of the public and private sectors in Thyolo and Dedza districts under a decentralized extension system reveals overlaps arising from inadequate policy articulation and enforcement by the public sector. However, these studies focussed on district and regional agriculture offices and did not articulate experiences of farmers from the village level perspective in Salima District. The present study was therefore undertaken to understand experiences of male and female farmers, in selected sections in Salima District, with pluralistic extension. The key question addressed in this research is what changes has pluralistic demand driven extension made from the farmers' perspective in terms of complementarity of efforts in conservation agriculture?

Research Methodology

This research article is based on a scholarly work conducted between 2012 and 2013 by the author. The article provides an in-depth understanding to an aspect of effectiveness of complementation of efforts in promotion of conservation agriculture among TLC, MLB and MoAIWD in Salima District. The research adopted the multi-stage (three stages) sampling procedure involving a combination of purposeful and systematic random sampling to have an in-depth understanding of the extent of complementation of efforts among service providers promoting soil and water conservation technologies.

The first two steps involved purposeful selection of Chinguluwe Extension Planning Areas, purposeful selection of the two sections from each EPA respectively which are Settlement Scheme and Kalambe Central. The selected sites are some of the areas where the Government of Malawi as well as Total Land Care (TLC) and Malawi Lake Basin (MLB) have intensive campaigns on soil and water conservation.

The third stage involved systematic random sampling of farmers from the list of sections under study ensuring that sections with a larger number of farmers receiving advice from TLC, MLB and Ministry of Agriculture, Irrigation and Water Development (MoAIWD) have a proportionally greater chance of being selected. To facilitate this final stage, lists of names of farming households in each section were obtained from the Agriculture Extension Development Officer (AEDO). The names of farming households were assigned numbers and using proportional probability sampling, random samples were drawn from each section using systematic random sampling to avoid bias such that every person on the list had an equal chance of being selected.

The data collection instruments in this study included semi-structured questionnaire, Focus Group Discussion, PRA and key informant interview checklists.

The sample frame was farming families who were living in Settlement Scheme and Kalambe Central where TLC, MLB and MoAIWD are promoting soil and water conservation practices**.** The sample size for the study was proportional to number of farm families living in Matenje North, Matenje Central, Settlement Scheme and Kalambe Central where TLC, MLB and MoAIWD are promoting SWCT. In total, the sample size was 75; consideration was made to ensure that a minimum of 30 should be allowed for each parameter where 19 per cent of the respondents were supposed to be female while 81 per cent were supposed to be male. This is because

in parametric analysis, any sample above 30 is statistically representative (Edriss, 2003). Distribution of the sample was proportional to the population.

Analysis of data was done using both descriptive and content analytical tools to avoid narrowing conclusions and findings of the study since both qualitative and quantitative methods were used to collect the data. Descriptive statistics was computed for categorical variable which involved calculation of frequencies and percentages to find farmers perception with PES in promoting CA in Chinguluwe EPAs of Salima District.

Results and Discussions

The results for the study are based on focus group discussions and interviews conducted with farming households from Chinguluwe EPA of Salima District, in particular, Kalambe Central, Settlement Scheme sections. In addition, data from key informant interviews, PRA and observations have also been presented to complement data from the household survey.

Extent of Complementarity of Efforts among Extension Service Providers

PES aims at complementary response among stakeholders so as to address diverse farmers' demands in a well coordinated manner. However, when the farmers were asked about the extent of complementarity of efforts to Soil and Water Conservation Technologies (SWCT) by TLC, MLB and Ministry of Agriculture, Irrigation and Water Development (MoAIWD), their responses varied as illustrated in Table 1. About 17 per cent said there is complementarity of efforts. According to the Focused Group Discussion (FGD) findings, complementation is done in terms of farm inputs such as agroforestry species, training and CA inputs such as herbicides which are provided on loan by TLC. About 39 per cent in Chinguluwe EPA said they experienced duplication of efforts. The best performing farmers during the FGD and interview revealed that they experienced duplication of efforts as well as competition among service providers. Highly duplicated by MoAIWD, TLC and MLB are farm inputs, trainings and demonstration plots and this happens to best performing farmers that is why competition and conflicting messages are evident.

In addition, 21 per cent in Chinguluwe EPA said there is competition among service providers. Further to that 23 per cent in Chinguluwe EPA experience conflicting messages. That is why (Rivera and Alex, 2004; Rivera and Qamar, 2003 and Hanyani-Mlambo, 2002) have raised the concern that PES presents a

major challenge in coordination and collaboration among both public and private extension providers for unifying services, and avoiding duplication and wastage of scarce resources.

Table 1. Extent of Complementarity of Efforts among Stakeholders

Chinguluwe EPA n=75

Status	Frequency	Per cent
Complementation	13.0	17.3
Competition	16.0	21.3
Conflicting	17.0	22.7.
Duplication	29.0	38.7
Total	**75.0**	**100.0**

Source: Household survey

The study findings align with the views of Qamar, (2000) that a major problem of decentralized extension systems in developing countries is their weak collaboration with farmer organizations, NGOs, and the private sector in service delivery. In Qamar's view, the absence of such coordination platform can lead to conflicting technical recommendations which can create confusion for farmers. World Bank (2000) therefore, emphasized on the need to have a coordination platform to ensure effective linkage and complementarity of efforts. According to Eicher (2004) the interactions provide opportunities for the organizations to build relationships and to understand each other's aims, roles, activities and capabilities. The presence of coordination platforms will ensure that the variety in services demanded are matched with the existing variety of service providers and in turn there will be regulation, all based on complementarity.

Farmers' Experience with PES

There were mixed views among respondents of the survey as well as the FGD on whether smallholder farmers' experience supports the assumption that access to multiple service providers leads to extension and advisory services that respond to farmers' demands in SWC. During FGD, farmers appreciated having access to a variety of sources of technical advice in soil and water conservation.

The perception of farmers on multiple service providers in promoting SWCT vary from very bad to good. As illustrated in Table 2, about 56 per cent of the respondents perceive PES in promoting SWCT as good, as they access complementary services. In addition, about 32 per cent perceive PES as very bad and 12 per cent in Chinguluwe EPA as somewhat good because of duplication of efforts, conflicting of interest among service providers and competition. Farmers during FGD expressed

concerns over poor coordination between providers which limits exploitation of potential synergies amongst actors leading to duplication, competition and conflict response. Farmers during the interview as well as during FGD also expressed their perception with the PES as outlined in Table 2. The findings of the study are partially different from the views expressed in the literature (Vannasou, 2006; Minoiu, 2003; Richardson, 2003 and World Bank, 2000) which suggest that multi-sector approach promotes increased and sustainable agricultural production.

Table 2. Farmers' Perception of PES

Chinguluwe EPA n=75

Farmers' perception	Frequency	Per cent
Good	42.0	56.0
Somewhat good	9.0	12.0
Very bad	24.0	32.0
Total	**75**	**100.0**

Source: Household survey

Therefore, farmers were asked about challenges experienced with multiple extension service providers in promoting SWCT and the results are illustrated in Table 3. About 25 per cent of the respondents mentioned duplication of efforts because they have been accessing extension support to soil and water by TLC, MLB and MoAIWD. That is why Birner *et al*. (2006) believe that the governance structures create enabling conditions for the emergence of advisory services and coordinate the roles of the public and private sector and civil society in financing and providing advisory services. About 15 per cent said competition among service providers, because despite accessing extension services from MoAIWD, TLC has been giving allowances to them for bicycle maintenance. During FGD it was found that demonstration fields for MoAIWD are also fields where TLC and MLB mount their demonstrations. Therefore, because of different techniques in SWC, the result was conflicting messages to host farmers. That is about 16 per cent in Chinguluwe EPA said conflicting, which is evident in conservation agriculture and permanent planting pits. The FGD revealed that TLC advise farmers to plant three maize seeds per planting pit while MoAIWD advise them to plant four maize seeds. In addition, FGD indicated that TLC advises farmers to apply any plant mulch as residue for mulching while MoAIWD advises farmers to use maize stovers.

Added to that is technical capacity which was mentioned by 7 per cent of the respondents. The FGD and key informant revealed that TLC and MLB do not have

staff on the ground. They utilize government staff and hence most responses are not timely. Further to that, there are variations in the CA and permanent planting are implemented due to knowledge gap and this in turn leads to confusion for farmers. The study findings are in agreement with (Munthali, 2003) that little or no collaboration can lead to conflicting interests which result in confusing farmers. Hence there is a need to have a platform for stakeholder interaction for the provision of extension services that reflects the needs, values and realities of stakeholders (Chambers, 1997 and Pretty, 1995).

In terms of PES in promoting SWCT, about 17 per cent of the respondents said that the responses are not relevant. That is why farmers also rated PES as somewhat good and bad because during FDG it was revealed that most service providers continue to dominate and dictate what they will offer because they implement their core objectives such that most SWCT are implemented without responding to farmers' demands.

The study results on untimely response are in line with what Anderson and Feder (2004) found, that NGOs are not accountable to farmers but their donor agencies while Klerkx *et al*. (2010) observed that stakeholders operate as disjointed elements rather than a synergistic system. That is why when Eicher (2004) noted that the problems are related to coverage; poor coordination; inadequate public funding; and insufficient appropriate and relevant technologies, there was a proposal to have coordination platforms.

Table 3. Problems faced with Multiple Service Providers

Chinguluwe EPA n=75

Problem	Frequency	Per cent
No challenges experienced	15.0	20.0
Competition	11.0	14.7
Conflicting messages	12.0	16.0
Duplication of efforts	19.0	25.3
Response not relevant	13.0	17.3
Technical capacity	5.0	6.7
Total	**75.0**	**100.0**

Source: Household survey

Conclusion

Pluralistic extension system has come to stay and presents a rich and complex picture that cannot be described as completely demand driven or responsive. Based on the article, therefore, complementation of efforts are evident through training, farm inputs and demonstrations. However, although farmers appreciate having a variety of technical advice and enterprise specific technologies in promoting CA, poor coordination between stakeholders due to non formal coordination structures limits exploitation of potential pluralism synergies among actors. Due to poor coordination, stakeholders operate independently and fail to address farmers' needs in a diversified manner leading to competition, duplication of efforts and conflicting messages.

Added to that, service providers are dictating and dominating what they want and leaving farmers at the receiving end such that continuity of interventions is affected due to inability of actors to empower farmers to take ownership from the onset of activities. In addition, service providers provide farmers what is in line with their policy objectives and strategies such that some of the responses are not timely and also not relevant to farmers' needs since they are not demand driven. Furthermore, complementation of efforts among service providers, is challenged by competition and duplication of efforts because stakeholders under study work with farmers who are committed. CA messages and technology packages are given to farmers from TLC, MLB and MoAIWD depending on the organization objectives and strategies which is leading to confusion at the expense of farmers.

Recommendations

The study recommends strengthening horizontal communication and coordination between actors to complement the provision of material inputs because this will encourage interaction and address conflicts that arise from differences in goals. The horizontal coordination forums are at different levels like Area Stakeholder Panels and District Agriculture Extension Coordinating Committees. In addition, with the introduction of multiple extension service system in promoting CA, MoAFS should strengthen coordination among the players in the system through the established structures of District Agriculture Extension Services System (DAESS). This is a platform where different sectors can meet and interact to build mutually beneficial relationships and to understand each others' aims, roles, activities and capabilities. This will assist in promoting the efficient use of human and financial resources thereby avoiding conflicting of interest and competition thereby promoting complementation of efforts.

With the coming of a demand-driven extension policy and having noted the top-down approach of some extension organizations, it is recommended that community empowerment be one of primary focus in promoting soil and water conservation technologies. As per the participatory approaches, the key principle is, farmers should be given a chance to participate in all stages of the extension programming of soil and water conservation so that the extension service responds to their needs and priorities. This will also assist in promoting catchment conservation.

The study suggests that service providers should facilitate articulation of demands by farmers so that the actors create an environment for change to flourish through enabling farmers to build their capacity on how and what to demand. In addition, considering that most civil society organizations do not have staff at the grass roots level and therefore rely on the government extension workers, it is recommended that these organizations increase their investments in human resources at the lower levels, that is, employ more field extension staff so as to bring their services closer to the communities and reduce the burden on public extension workers. In addition, they should increase investment in government extension workers who operate with minimal resources. Finally, the study recommends harmonization of conservation agriculture technology packages which entail synchronization of CA from the various stakeholders to address critical bottlenecks to agricultural productivity along the value chain. This will assist in reducing conflicting messages and will assist in providing pluralistic and complementary response to farmers' demands.

The study therefore concludes that efficiency of decentralized extension in Malawi can be enhanced with policy intervention to respond to farmers' needs and provision of funding for multi-stakeholder learning platforms that will encourage interaction and coordination of innovation system actors. In addition, there is also need to strengthen the role of local government bodies as intermediaries in decentralized extension so that actors are accountable for their actions.

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