

Exploring the Roles of Agricultural Extension in Promoting Food Security in Kwazulu-Natal Province, South Africa

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Abstract

Received: 15 April 2013,
Reviewed: 20 May 2013,
Revised: 29 May 2013,
Accepted: 23 June 2013

Household food security remains a challenge in South Africa. The national government instituted the Integrated Food Security Strategy (IFSS) programme which identifies household agricultural production as an important element of improving household-level food security. Agricultural extension is well positioned to help achieve this aim, but its current contribution is unknown. This study identified the roles of extension in household food security in KZN by investigating, primarily from the perspective of state service providers, the current activities of extension to enhance household food security, and the factors impacting on effective delivery of extension services with respect to household food security. Data were collected through semi-structured interviews with 46 respondents, comprising of various national and provincial-level food security and extension managers and extension practitioners, and also food security/extension officers from two NGOs, as well as farmers. The study found that extension engages primarily in technology transfer and supply of farming inputs like seeds and fertilizers to the farming households. Three sets of factors affecting extension's capacity to promote food security emerged: household/community-level factors, social factors and service delivery factors. In the light of this, the study suggests the need for both food security and extension objectives to be consolidated into an extension policy that will explicitly charge extension to enhance household food security through a capacity development approach, while also providing for the accountability of extension to farmers.

Keywords: Agricultural Extension, Food Security, Household, Kwazulu-Natal

1. Introduction

Seeking appropriate solutions to challenge food security in South Africa remains a herculean task. The country is nationally food secure (FAO, 2008; Pereira et al, 2014) to the extent that should make it possible for all its citizens to be food secure. However, significantly large numbers of its households remain hungry (Altman et al, 2009; Eaton et al, 2014). About 21.1% of them are inadequately or severely inadequately vulnerable to hunger (Statistics South Africa, 2012). Table 1 provides another perspective of the extent of vulnerable households per province in South Africa.

Table 1 shows that Kwa Zulu-Natal (KZN) is the second most populous province, with an estimate of 10,632 million people. The province has above 2, 8 million households, of which 17.7% are food inaccessible. Apart from the food inaccessibility condition, the province also has the highest percentage of HIV/AIDS infected persons, whether measured by the population of the infected, the antenatal clinic estimate, or by the number of infected adults (between 20-64 years of age) (Nicolay, 2008).

Table 1. Population and extent of food inaccessibility in South Africa by province

Provinces	Population ('000s)	Number of households ('000s)	Food Inaccessibility (% of households)
Western Cape	5,565	1,581	23.4
Eastern Cape	6,657	1,820	25
Northern Cape	1,159	328	29.7
Free State	2,932	907	22.7
KwaZulu-Natal	10,632	2,802	17.7
North West	3,500	1,006	32.9
Gauteng	10,950	3,826	18.5
Mpumalanga	3,665	1,050	26.1
Limpopo	5,264	1,437	13.2
Total	50,325	14,756	

Source: Stats SA (2012); and adapted by Abdu-Raheem

Given the negative relationship between food security and HIV and AIDS (Piot et al, 2002; Human Sciences Research Council [HSRC], 2005; Drain et al, 2013; Aberman et al, 2014), it is submitted that food insecurity in KZN will continue to increase unless effective measures are quickly put in place (Cross, 2002; Drimie, 2003).

The location of a household can also impact on its food security status. Rural areas, characterized by fewer economic activities, poor structural and social infrastructure, and a high unemployment rate, predispose habitants to food insecurity (Stats SA, 2004; Aliber, 2009; National Agricultural Marketing Council [NAMC] 2009; Jacobs, 2009). This predisposition is, therefore, particularly true for KZN, which has about 87% of its poor people residing in rural areas (Aliber, 2003).

Rural families have high propensities to rely on farming for their livelihood. The majority of these people are in direct need of food, as well as monetary income. They have access to land, but lack the necessary skills and resources to profitably produce from farming. For these people to achieve food security they will need public agricultural extension services. Such services, particularly to small scale farmers, require significant improvement (FAO, 2009). About 804,174 households in KZN (28.7%) rely on farming for their livelihood (Stats SA, 2012). These factors are applicable to KZN, making it well-suited as a research area.

This study examined the roles which extension plays in household food security in KZN. It investigated the current activities of extension to enhance household food security, and the factors affecting effective delivery of extension services with respect to household food security and with particular emphasis on small-scale farming. The purpose of the study was to determine how and through what means public agricultural extension could contribute to household food security through its engagement with small-scale farmers.

2. Methods and materials

Data was collected through semi-structured interviews with forty-six respondents. Thirteen respondents comprising three provincial food security managers, two national food security managers, four provincial agricultural extension managers, one national extension manager, and three food security/extension officers from two NGO organizations were selected by purposive sampling. Twenty-five public extension officers and eight farmers were among the respondents selected by convenience sampling.

Purposive sampling allowed for selecting "information rich" respondents (Patton, 1990: 169), with specific characteristics relevant to the objectives of this research (Silverman, 2010). Convenience sampling allowed for the selection of respondents from a relatively homogenous population (Saunders et al, 2007) that were available and willing to participate at the time of data gathering (Onwuegbuzie and Leech, 2007). Convenience

sampling was suitable as respondents were sparsely distributed and difficult to track down, coupled with an anticipated low response rate to questionnaires and the limited financial resources of the researcher. Sample size was not pre-determined, but based on the principle of saturation (Glaser and Strauss, 1967). Hence, the researcher continued investigations until no new insights were gained from additional interviews.

Informed consent was obtained from each participant prior to data collection. The face and content validity of the interview questions was done with the assistance of experts in the fields of Agricultural Extension and Food Security from the University of KwaZulu-Natal, South Africa. Re-wording and re-structuring of the questions followed in line with suggestions and recommendations from the reviewers. All data collection took place between September, 2011, and September, 2012.

Interviews began with the national and provincial managers for both extension and food security and were carried out in venues convenient to the respondents. These were followed by the interviews with the field extension agents, private food security/extension personnel and farmers. The researcher exploited the opportunities of on-going Extension Recovery and Food Security programmes to interview the field extension agents, private food security/extension personnel and farmers. General invitations were given to all participants in the programmes, and those who responded were interviewed. To overcome some respondents' reluctance to participate, the researcher occasionally tried to make the interview process more casual by asking questions while walking together.

Notes were taken during each interview and discussions were simultaneously tape-recorded for further review and cross-checking. The questions were purposefully varied in wording to suit the English proficiency of individual respondents. Participants were given ample time to respond and, where necessary, to elaborate on answers. Responses were probed with follow-up questions to clarify responses and to evoke more detail. Reviewing and analysing data was done continuously alongside data collection. Post-interview clarification of unclear responses was conducted through follow-up telephonic interviews.

Policy and operational documents relevant to the study were examined using content analysis, as they contained qualitative text data (Hsieh and Shannon, 2005). Content analysis allowed for focusing on language-usage in the texts for contextual interpretations (Tesch, 1990), and gaining background knowledge and understanding (Downe-

Wamboldt, 1992) relative to the concepts under investigation.

3. Results and discussion

This section presents the results from the forty-six interviews and the analysis of documents.

National extension manager

The respondent was asked questions aimed at evaluating the general extension system in the country, and, more specifically, to explore the extent to which national extension policy indicates extension's role in promoting food security. The respondent could not effectively engage with all these questions, but did submit that:

The way the government of South Africa is structured, extension is only happening at the provincial level ...the implementation of the national extension strategies and evaluation of extension activities in relation to other sectors can only be done at the provinces At the national office, we only engage in developing and recommending policies, frameworks and approaches to guide on how to go about extension services in the provinces.

Responding to questions investigating national extension policy in relation to extension's role in enhancing food security, the manager indicated that the current policy, 'Norms and Standards for Agricultural Extension and Advisory Services', was developed and compiled in 2005 (Department of Agriculture, 2005). Prior to this, there was no national framework to guide extension and advisory services in the country. He stated that the framework document was developed to respond to a dual agricultural landscape inherited from the apartheid regime in 1994 and comprised in the main, on the one hand, of white commercial farmers with well-resourced extension support and adequate access to productive assets and commercial markets, and, on the other, of black farmers with restricted access to production assets (mainly land) and markets, and who were supported by a poorly-resourced 'homeland' extension system.

Furthermore, the manager noted that during the apartheid era, poor extension provided to the resource-poor black producers crippled the capacity of black farmers beyond the end of apartheid and well into the new democratic South Africa. As a result of this, poverty and associated food insecurity is deeply entrenched among black families and the current democratic dispensation is focused on empowering these families through well-resourced extension support systems to transform them into commercial farmers. The respondent noted that the Norms and Standard document was based on a

principle of 'Participatory Programmed Extension Approach' for an effective extension delivery system.

In addition, in 2008, an Extension Recovery Plan Framework was conceived and agreed to by various agricultural stakeholders to further enhance the effectiveness of agricultural extension in the country. To this end, the manager interviewed provided the following general account of extension in the country:

Extension is not really doing well at all ... the kind of extension we have in South Africa, I must tell you, is the weakest link ... and in response to this, we developed an Extension Recovery Plan which is meant at revamping extension services in 2008. Because of the problems that are still with extension services in South Africa, we are also planning to amend the national policy very soon to make it more suitable to respond to our current problems.

National food security managers

Two respondents were interviewed with questions investigating the general assessment of food security in the country and where the current gaps lay. They were also asked about the relevance of the current food security policy to extension and the importance and assessment of extension's contributions to food security efforts.

The respondents acknowledged South Africa to be nationally food secure and that security challenges mainly occur at household and individual level. It was gathered that the importance of agriculture to food security was nationally conceived, acknowledged and embodied in an 'Integrated Food Security Strategy' (IFSS) that specifically aims at increasing household food security through increased agricultural production and trading in rural areas. They further noted that although the programme also includes commercial farmers, it mainly focuses on subsistence and emerging farmers by facilitating their increased access to production assets, value-adding technologies, agricultural extension support, infrastructure and markets – the latter through suitable trade regulations.

Table 2 summarises the overall responses within three main themes: assessment of food security in the nation; the relevance of food security efforts to extension; and assessment of extension's effectiveness in contributing to food security and the factors affecting that contribution.

In their assessment of food security in the country, the food security managers noted that rural households have limited access to production assets, including good extension services; hence their productivity is very low.

Table 2. Thematic descriptions drawn from interviews with national food security managers

Thematic descriptions	Factors identified
Assessment of food security in the nation	There is national food security but many households are still hungry Food access is the key challenge for most households 50% of rural households' social grants are spent on commercially produced foods Poor rural infrastructure increases households' food expenditure Rural households possess inadequate production assets, including land and extension services Food wastages occur between harvesting and consumption
Relevance of food security extension efforts to extension	Positions extension to help households to enhance their agricultural production for own consumption Positions extension to enhance house-holds' capacity to produce for profit
Assessment of extension's effectiveness in contributing to food security and the relevant factors	Extension's effectiveness is not at its optimum Poor soft skills for extension Poor extension services Poor facilities for extension practitioners Inadequate number of extension and infrastructure for households Extension not trained in farm management skills Absence of seed banks in rural areas

The stipend they receive as social grants is therefore spent to acquire food produced by commercial farmers. The respondents strongly identified effective extension as the necessary agency that can improve the quality of rural household farmers to achieve enhanced productivity. They noted that the current extension in the country cannot bring about the desired change, as it lacks the necessary qualities ranging from soft skills (that is, personal attributes such as good communication ability, sense of humour, leadership quality and teaching capability, etc.) to facilities (such as internet connection, phones, transportation, etc.). They also noted that seed banks (facilities for storage and dissemination of seeds that are indigenous and mostly not sold in the market) need to be established in rural environments to afford household farmers access to environmentally

adaptable seeds and thereby reduce their production costs.

Provincial extension managers

Four provincial extension managers were interviewed individually to investigate the roles of extension in food security promotion and the challenges facing extension in this regard. Their responses were collectively analysed and are presented in Table 3.

Table 3. Thematic descriptions drawn from interviews with provincial extension managers

Thematic analysis	Factors identified
Main extension activities that influence household food security	<ul style="list-style-type: none"> - Visits farms to find solutions to farmers' challenges - Supervises extension projects in communities - Distributes farming inputs to farmers - Relates assistance needs of farmers to the Department - Teaches farmers on crop management - Writes and submits monthly reports to supervisors - Conducts area surveys to profile households for "Sukuma sakhe" (Intervention programme comprising various government departments dealing with rural development)
Challenges impacting extension's effectiveness in contributing to household food security	<ul style="list-style-type: none"> - Inadequate number of extension practitioners - No standard measurement indicators for extension's effectiveness - Poor agricultural education resulting in poorly-trained extension personnel - Dependency creation among households through social grants - Poor image of extension among households - Poor skills and facilities on the path of extension - Dependency creation among farmers, through extension farming for farmers - Poor relationships between academics, extension and NGOs - Governmental beliefs in quantity rather than quality

Extension managers noted that the government is only interested in the number of rural farmers that are served with production resources (e.g. seeds and fertilizer) to gain political votes, and not whether the resources are put to judicious use.

This situation results in the government paying lip service to ensuring achievement of quality extension service; hence, the reason behind under-funding of extension and its under-staffing. The extension managers also noted that the poor relationship between academics, extension and NGOs affects regular development of extension staff quality in terms of skills updates that correspond with the changing challenges for extension. All of these have resulted in reduced extension activities, mainly to the provision of production resources to farmers and advisory assistance for challenges in crop management.

Provincial food security managers

Three provincial food security managers were interviewed to investigate the roles of extension in promoting food security, and the challenges accordingly faced by extension. The responses are summarised in Table 4.

Table 4. Thematic descriptions drawn from interviews with provincial food security managers

Thematic analysis	Factors identified
Functions of extension in food security	- Extension introduces food security agents to households - Extension partakes in food security learning programmes - Extension assists with profiling of poor rural households
Challenges facing effective extension delivery	- Enervated attitudes of most extension workers to their duties - Inadequate technical, facilitation and communication skills of extension - Bureaucratic challenges in negotiating for extension's involvement in food security programmes

The food security section of the Department of Agriculture organises learning programmes around rural communities to train households in selected crop production, dietary quality and food variety mix, and accessing of markets to sell produce. For effective programming in terms of choosing localities and identifying households to invite, public extension is consulted for profiling of households. The food security managers noted that extension personnel are outsourced from NGOs for the training exercises, rather than making use of the public extension officers. They attributed this decision and practice to their lack of confidence in the quality of technical and soft skills possessed by the public extension officers and also to bureaucratic challenges (that is, the usual unresponsive attitude of extension managers to previous requests for extension support and the

unnecessary delays that this might cause) in bargaining for public extension's support.

Extension field agents

Twenty-five extension field agents were individually interviewed. Each respondent was initially requested to give his/her perception of food security. They were subsequently asked about their perceptions of: the causes of household food insecurity; the primary functions of extension to combat insecurity; effective extension approaches; the important rural stakeholders for effective extension delivery; and the challenges facing effective extension delivery.

Most extension officers could define food security, but were unable to contextualise its various dynamics when translating this into practical strategies to achieving it. The dominant view is that extension's role is limited to facilitation of household food production. Table 5 summarises the responses according to the three main themes.

Table 5. Thematic descriptions drawn from interviews with field extension field agents

Identified themes	Factors and perceptions
Perceived causes of food insecurity	- Household/community level factors of like: HIV/AIDS, teenage pregnancy, laziness among households, poor social capital, inadequate production resources, lawlessness, poor rural facilities, and over-reliance on governmental support including social grants - Land redistribution failure - Country-wide unemployment
Extension's primary functions	- Provision of technical production information - Technology transfer to farmers - Relate farmers' challenges to authorities for necessary assistance
Effective extension approaches	- Individual education - Commodity-group approach - Programmed extension approach - Needs-driven support services - White farmers mentorship
Important rural stakeholders	- Rural old women - Rural leaders
Factors affecting extension service delivery	- Extension and management factors, including: indistinct and inconsistent vision for extension; non-agriculturally skilled leadership; inadequate skills, facilities and number of extension practitioners; poor extension image; extension farming for farmers;

deprivation of scholarship opportunities; poor leadership at the Provincial Department; extension activities focusing on project identification and supervision; extension required to attend many meetings; and poor relationships among academics, extension and NGOs

- Governmental factors including: Poor collaboration and coordination among departments; top-down approach of interventions; dependency creation through support facilities; poor agricultural education in schools; and Governmental belief in quantity rather than quality

- Household/community level factors, including: "Laziness" among households, political interest conflicts occasionally resulting in poor support from rural leaders; lawlessness among rural people, unstructured rural layouts, poor rural education; and households' excessive reliance on social grants

Surprisingly, extension officers did not perceive their services as being significantly important in determining households' food security statuses, as they only and mainly noted household/community level factors and governmental factors as the causes of household food insecurity. They noted that governmental social grants are resulting in 'laziness' among rural households to the extent that many households are not prepared to be economically active for a living, particularly through farming. Furthermore, where households are involved in farming, teenage pregnancies and HIV/AIDS reduces the available man-power.

In addition, extension officers noted that extension is unable to become significantly involved in food security initiatives due to poor collaboration and coordination within the Department of Agriculture. In addition, they identified various factors some of which are related to management, under-resourcefulness and poor technical skills of extension, and occasionally poor cooperation from rural leaders and their communities due to political interest conflicts with the incumbent governmental party.

Private food security/extension providers

Three respondents collectively from two private organisations dealing with food security and extension services were interviewed. Interview questions covered their assessment of extension's

role in achieving household food security and their perception of the challenges facing extension in promoting household food security. Responses were analysed accordingly, with resulting themes and results shown in Table 6.

Table 6. Thematic descriptions drawn from interviews with private food security/extension providers

Thematic analysis	Identified factors
Extension's role in achieving household food security	-Extension only distributes farming inputs, such as seeds and fertilizers, during planting seasons -Extension promotes mono-cropping -Extension promotes unsustainable uses of scarce natural resources
Challenges facing extension regarding household food security promotion	- Extension-related challenges include: extension's disconnection from current agricultural trends and research; poor extension skills to secure farmers' confidence in their technical capability; unavailability of extension when needed for consultation; unsuitable extension approaches; poor communication skills among extension officers; and poor facilitation of extension. - Government-related factors, namely: poor understanding of food security by governments; wrong intervention programmes; huge social grants' budget as against lower budget for developmental programmes; and poor market structure that prevents new entrants - Household-related factors include: "laziness" among rural households; and increased households' reliance on social grants

The private food security/extension providers perceive public extension as being ineffective in service delivery. They attributed this situation to poor management and inadequate technical and soft skills of extension, poor perception of food security by the government which informs funding misplacement for social support rather than developmental programmes to improve household food security, and lack of will to significantly engage in agriculture by households.

Farmers

Eight farmers were individually engaged to investigate their perceptions about extension, functions of extensions to them and their perceived

challenges to extension. Responses were analysed accordingly and results are presented in Table 7.

Table 7. Thematic descriptions drawn from interviews with farmers

Thematic analysis	Identified factors
Depicting perceptions about extension	Some extension practitioners “have statements on poor attitude to work” Extension practitioners are “trying, but not too much” Extension practitioners “do not have solutions to our farm problems sometimes” “We don’t see them around mostly when we need them” Extension practitioners “don’t help us for grants” Extension practitioners “don’t listen to us, they just come with their plans”
Functions of extension	Extension helps establish community gardens Extension offers production advice Extension provides production resources, such as water tanks and fertilizer
Challenges facing extension	-Extension has poor technical and managerial skills -Extension's population is insufficient -Extension uses top-down approaches -Poor resources for extension activities

Farmers perceive extension as not engaging enough with them in their service delivery. They noted that extension agents are top-down in their approach, as they often visit them with a pre-planned agenda and motives that often do not address their needs (technical, financial and moral support). They further submitted that the population of the frontline extension is insufficient to cover the diverse and sparsely distributed farmer population.

This study is the first of its kind to specifically investigate the role of extension in promoting household food security in the KZN province of South Africa. The findings and the discussion centre on two themes: extension’s current contribution to household food security, and the factors influencing the effectiveness of the delivery of extension services with respect to household food security in the province. Many of the results obtained were anticipated; however, rather surprising contradictions and gaps were also discovered.

Extension’s current contribution to household food security

Extension operates within a particular context that influences its activities and actions. Understanding this context is critical to evaluating extension’s contribution to food security. The study found that food insecurity is mostly experienced among rural households that generally have inadequate access to infrastructure, productive assets, including extension services and employment opportunities. It also found that many of these households are challenged with a high prevalence of HIV/AIDS, teenage pregnancies and poor social capital. These findings are consistent with those of previous studies (Singini and van Rooyen, 1995; Machethe, 2004; Worth, 2006; Aliber, 2009; and Barrett, 2010). These conditions qualify the households for social grants, a large percentage of which is spent on commercially produced food products, noted as “tiger brands” by a national food security manager. Altman et al, (2009) submit that “rural households spend more on food but less per person than their urban counterparts”. It is within this complex setting that extension is expected to make contributions to households for food security.

The study found that extension activities include providing technical production information, establishing community gardens, technology transfer and conveying farmers’ challenges to the provincial Department of Agriculture for possible assistance. These activities are consistent with the dominance of the technology-centred approach noted by Worth (2006), and the arguments posited by Duvel (2001) and van Rooyen (2001), that solutions to farming challenges in South Africa would be found by developing technologies based on farmers’ needs. Innovations are said to be transferred in a people-centred way (through participatory methods), but with focus on overcoming barriers inhibiting adoption and adapting technologies to local circumstances (Düvel, 2001). However, training in participatory methods is mostly non-existent among South African extension practitioners (Worth, 2006, citing Stevens and Treurnicht, 2001).

The national extension manager confirmed that the Norms and Standard document is based on the principle of a “Participatory Programmed Extension Approach” which is consistent with the claim of Crase et al, (1999) that development in South Africa prioritizes a people-centred approach. Needs-based and deficit-based extension interventions result in dependency, contrary to a people-centred extension approach which, if implemented in compliance with its operational principles, develops farmers through their available assets and by building on indigenous strengths and

capacities (Kretzmann and McKnight, 1993; Ngomane, 2010). Extension interventions need to shift from being merely informative to being transformative, from adoption to learning (Worth 2002; 2006). There is a sizeable gap between the intent of extension policy and the reality of extension delivery, attention to which is urgent if extension is to be effective in contributing to household food security.

The results show that the current extension activities promote mono-cropping which has a known tendency to erode soil. Torquebiau et al, (2012: 314), from a study done in KZN on landscape maintenance, submit that: "The absence of extension services so far has probably played an important role in maintaining the landscape in its current form. Farmers tend to copy existing practices. This does not mean that extension is not desirable, but it should be targeting the right ecological agriculture practices, not just any agricultural intensification." Thus, any effort to resuscitate extension as an effective means for both agricultural development and household food security must necessarily include ensuring that extension policy and practice are aligned with "the right ecological practices".

Recent job descriptions and definitions of extension have transcended the basic services currently provided by extension in KZN. Extension is defined as "systems that facilitate the access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agribusiness and the relevant institutions; and assist them to develop their own technical, organizational and management skills and practices" (Christoplos, 2010:3). The current public extension approach needs to be urgently re-examined and amended for it to be relevant in the context of the present-day challenges of food insecurity and farmer empowerment. For such reconsideration to address the present challenges with farming in KZN and South Africa generally, Worth (2012) warns that the underlying principle must not be based on challenging the generally perceived duality of the agricultural landscape, as was the case when developing the current 'Norms and Standards for Agricultural Extension and Advisory Services', according to the national extension manager. Worth (2012: ix), however, argues that the duality perception as a concept:

"...homogenises a much more complex reality with a great diversity of agricultural systems and people – a continuum of farmers and farming. Duality was politically entrenched and led to separate extension services for white and black farmers as a part of the programme

against black peasant farmers ever advancing beyond surplus farming and State protection of white farmers and providing them with incentives to progress in farming. While it is important to remove the realities of this duality, duality should not be the mainspring for planning agricultural transformation, development and extension; the danger of focussing on duality as the problem limits the scope, range and nature of responses required to ensure that South African farmers and its agriculture advance equitably into the future."

Factors affecting extension delivery with respect to household food security

The front-line extension agents noted ambiguity in job descriptions for extension in the province. They perceive the extension service as lacking distinct focuses which greatly impact on its effectiveness. This may be the consequence of the non-comprehensiveness of the current extension policy, as stated by the national extension manager. Policy is very important as it specifies and prioritises services to be delivered by extension. It provides an official base for instituting government-based extension, its funding mechanisms and the extent of inter-institutional links it establishes and maintains with relevant organizations (Birmingham, 1999).

With reference to household food security, extension's role can range from technology and innovation transfer, human capital development and social capital development, to facilitating small-scale farmers' access to markets (Abdu-Raheem and Worth, 2011). In this context, for extension to be fully effective in promoting household food security, extension policy should be such that it enshrines food security as an important and prioritised extension objective.

The results also highlighted some challenges with the management of extension in KZN. Extension agents complain that their ineffectiveness to promote household food security is a consequence of the poor direction received from the leadership in the provincial Agricultural Department, who are often non-agriculturally trained. This submission echoes the findings of Düvel (2003) who, from the assessment of management efficiency of extension in the Northern (Limpopo) and the North West Provinces of South Africa, submits that: "only about 4 percent of all managers are classified as very good. What further contributes to the gloomy picture is that the efficiency significantly decreases with increasing rank or seniority." The impact of management cannot be overemphasized relative to extension's effectiveness. This suggests that the criteria used to appoint extension's managers should be re-evaluated to include possession of managerial skills and,

perhaps, agricultural training prior to making any new appointments, and that the current extension managers be trained through in-service programmes on agriculture. Extension can only significantly influence household food security if there are good managerial directives that consistently and effectively direct the frontline extension agents.

In addition to addressing extension management issues, infrastructure for extension also needs to be improved. Extension agents complained of inadequacy of reliable transportation, computer and internet access and telephone facilities. Extension cannot be productive without such support, particularly given the large scale of their clientele, and the complex household/community level circumstances in which they work. These deficiencies confirm the study results by Murphy and Bruening (2006) regarding extension in the Limpopo province of South Africa, upon which they assert: "without efforts made to address this issue, Extension's value to the farmers will likely diminish".

The system of remuneration, reward and incentive should also be revisited. Some extension agents complained of being deprived of scholarship opportunities for further education by their superiors. This may be discouraging, particularly for hardworking and results-oriented agents. Birmingham (1998) noted that terms for promotions, salary increases, awards, rewards and career prospects should be made very clear and be based on merits related to delivery on an appropriate job description, rather than just years of experience and academic records.

Rural socio-economic characteristics, such as those cited earlier, also constitute great challenges. For example, as household agricultural production requires active labour, an HIV or AIDS infected individual is frequently indisposed to working due to weakness or illness, thereby compromising not only household income (Sibanda et al, 2007; Obansa et al, 2014), but household food security status as well. Although some of these factors fall outside the control of extension, they must be contextualized and adequately factored into planning processes and strategies for extension services. They constitute additional challenges to extension, as much as they pose greater challenges to intra-household resource management dynamics, particularly in terms of labour, decision-making, and access to productive assets, technologies and agricultural services (FAO, 2004). Therefore, it is important that extension investigates and understands factors and issues that determine the dynamics of household resource management, most especially in terms of food security. Extension, apart from facilitating household production, can help households to diversify into

other agricultural-related businesses such as processing, providing households with nutritional information and best preparation techniques of their food, as well as guiding them towards the nutritional requirements of categories of household members. Paying adequate attention to household dynamics and the underlying factors can help reinforce extension agents' knowledge of the diverse client groups and their constrictions, prospects and requirements, consequently assisting them to assist all groups, including the most underprivileged, towards achieving food security.

While Samson et al, (2004), Leibbrandt et al, (2010) and Crush and Caesar (2014) note that social grants significantly promote food security for most poor households, this also demonstrates that households are becoming over-reliant on grants and less inclined or motivated to be actively productive, including in farming and food production. This raises questions about the long-term effect of social grants in their current form. This may explain why households' reliance on social grants has grown significantly from 15% to 73% between 1993 and 2008 (Liebbrandt et al, 2010).

The relationship between social grants to poor households in South Africa and the tendency of households to become less motivated to work needs more investigation. Supporting the findings of this study, Bertrand et al, (2003) conclude, utilizing cross-sectional statistics, that there is a considerably lower rate of participation in the labour force of prime-aged adults who live with grandparents receiving pensions. Conversely, employing the same data, Posel et al, (2006) could not establish any significant evidence confirming the labour supply multiplier effect of a social grant. Posel et al. note that the submission of Bertrand et al. may likely apply to household members who are resident in the same locality as the pensioners, but that these same households significantly tend to have members who may have migrated in search of work or are working elsewhere. Seekings (2007), however, notes that the disincentive to work or search for employment would likely be more relevant to the unskilled, whose marginal gains from employment are very low.

4. Conclusion and Recommendations

The study found that extension is generally not very effective on any front in KZN. It found further that it is not making any significant contribution to household food security in the province. Various household/community-level factors, social factors and service delivery factors all inhibit extension from making significant contributions to food security in the province.

This requires two sets of actions. The first is to ensure extension as a service is staffed with appropriately trained personnel, equipped with the necessary tools and resources, and managed and rewarded based on performance against clearly articulate objectives and job descriptions. Appropriate training includes training in all the facets of food security, ranging from facilitating food availability, to food access, food utilisation and food distribution. Second is to establish a single comprehensive policy for both food security and extension, whereby food security is enshrined within extension service delivery, in which extension is clearly directed towards building capacity among farmers (rather than merely transferring technology and delivering government projects), and in which extension is actually accountable to the farmers they serve.

Finally, this study provides a deeper understanding of the role that Agricultural Extension can play in fulfilling the aims and objectives of national agricultural strategy of South Africa. It equally proffers a foundation for reviewing Agricultural Extension itself, broadly in the context of general service delivery, and particularly within the context of enhancing household food security.

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