Review Article

Communication, Extension and Smallholder Farmers in South Africa: Targeting the Poor in the Development Process

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Abstract - In 2008, the Government of South Africa declared its extension system as the weakest link in its agricultural development program and, with funding from The Netherlands Government, established the Extension Recovery Plan (ERP) to transform it. The ERP is entering its eighth year, and it may be too early to measure its impact. However, in 2011, our research group, called ExtensionAfrica, conducted extension surveys in nine African countries, South Africa included, aimed at understanding the training needs of extension workers. Our study found that in South Africa, as well as in the other eight countries, the primary need of extension workers is for training in development and communication, otherwise referred to the World Bank and the Food and Agriculture Organization of the United Nations as "Communication for Development" (C4D).

In their joint 2007 report, World Congress on Communication for Development: Lessons, Challenges, and the Way Forward, the World Bank and FAO reported that "communication is integral to the development and to achieving the Millennium Development Goals. For this reason, it must be built into development planning and embedded in strategies for poverty reduction, health planning, and governance" (p. xxvii). Similarly, it is noted that African governments have adopted integrated rural development programs (IRDPs) and, more recently, National Poverty Reduction Strategy Programs (NPRSPs) as a way of promoting holistic development [1].

However, he warned that while these IRDPs and PRSPs are becoming increasingly complex, extension workers charged with their implementation lack the sophistication to cope with this complexity. Thus, our study has concluded that C4D training is essential to transforming Extension in South Africa as well as in Sub-Saharan Africa and recommends a C4D framework for empirical testing and replication as a way to smallholder farmer productivity, reduce poverty, and achieve food security in Africa [2].

Keywords - Extension Recovery Plan, Information and Communication and Technologies (ICTs), Communication

for Development (C4D), Integrated Rural Development (IRD).

I. INTRODUCTION

The Government of the Republic of South Africa is fully committed to increasing agricultural productivity in the smallholder farming sector. It identified agricultural extension as the weakest link in the agricultural development process and, with support from The Netherlands Government, embarked on an Extension Recovery Plan (ERP) since 2008, aimed at strengthening its extension service. The ERP is in its eighth year, which is probably too soon to be evaluating its success or failure. This is not the intent of our paper. In 2011 our research team, called *ExtensionAfrica*, conducted a survey of extension workers in nine African countries, including South Africa, to determine extension training needs.

We were convinced that extension systems throughout Sub-Saharan were not only weak but faced common problems, such as an inability to mobilize smallholder farmers for participatory extension programming; failure to ensure the success of integrated rural development programs, a new focus of extension; and an inability to use mass and or social media to help narrow the farmers to agent ratio [3]).

We were particularly concerned that extension systems in Africa have operated on a trial-and-error basis with no attempt to apply a social scientific approach to it. We recalled sadly, the experience with the "Training and Visit System" (T&V), which was imposed on African governments by the World Bank, mainly as a loan condition, but which had to be abandoned after 30 years and at the cost of nearly \$5 billion [4]. We are not aware that T&V was empirically tested anywhere in Africa before its replication. Also of concern to us is the fact that extension systems vary from country to country and even village to village. A researcher [5] decried this practice, noting that as a science, it is possible to conceptualize an extension model or framework, empirically test it, and then replicate it as widely as possible.

Lastly, in our quest for a viable extension model for Africa, the team was energized by a 2007 policy report called World Congress on Communication for Development: Lessons, Challenges, and the Way Forward published jointly by the World Bank and the Food and Agricultural Organization of the United Nations (FAO). This report was the output of a World Congress on Communication for Development held in Rome, Italy, in 2006 and attended by over 800 participants. The goal was to determine how communication can assist in achieving the Millennium Development Goals (MDGs). In what became known as the "Rome Consensus," participants unanimously agreed that "communication is integral to the development and to achieving the Millennium Development Goals. For this reason, it must be built into development planning and embedded in strategies for poverty reduction, health planning, and governance" (p. xxvii).

Meanwhile, the United Nations Specialized Agencies, such as the United Nations Development Program (UNDP), FAO, UNESCO (United Nations Educational Science and Cultural Organization), and UNICEF (United Nations Children's Fund) had been holding bi-annual Round Table Meetings (RTMs) since 1988, aimed at demonstrating how communication supports development. The last three were in 2007 in Addis Ababa, Ethiopia; in 2009, Washington, D.C., USA; and in 2011 in Sidney, Australia [6,7,8]. These organizations concluded that a new type of communication called "Communication for Development" (C4D) in development practice was needed, and they further noted that establishing a degree program in Africa to train them was necessary because Africa needed these professionals most.

There was much discussion about the need for building professional communication capacity particularly for developing country practitioners—because at the moment, there is too much reliance on international experts [9], p. xxviii).

Other voices stressing the need for C4D in development came from The Rockefeller Foundation and academic institutions. A former Vice President at The Rockefeller Foundation [10] observed the need for a new type of communication professional in development programming yet lamented the absence of universities training in these graduates and said that while there is demand for a new type of professional communicator in social change, the supply of communicators for social change—those that [who] can apply strategic thinking in communication to issues of social development—is very limited.

She added: There are hundreds of universities in Europe and North America, as well as in Asia, Africa, and Latin America, where thousands of professionals graduate each year in journalism studies or public relations and marketing. There are, however, we believe, less than one per cent of schools that offer studies on communication for social change or communication for development (p. 1). [10]. A Malawian and a leading Communication for Development (C4D) scholar [11], educator, and practitioner expressed the need for a new curriculum for training this new breed of development communicators and went on to establish an innovative graduate degree program at the University of Iowa called Development Support Communication (DSC).

He argued that: Between good intentions [of donor agencies] and final results lies a gauntlet of unexamined assumptions, inadequate information, cultural misunderstandings, inappropriate strategies, and poor communication techniques, which must be overcome before any suitable development message can be acted upon. These social and communication factors, obvious as they are, have only recently begun to receive the attention that they are due. This is the area of social science inquiry called Development Support Communication, now known as Communication for Development.

It is noted that many managers of agricultural and rural development projects are often technocrats [15], such as engineers, agronomists, and medical scientists, often steeped in the technical disciplines but lacking in communication and human dimension issues, such as how to bring about participation, integration and capacity building. One researcher [16] observed that extension workers, often charged with issues of participation, facilitation, and integration, lack the communication skills to effectively perform these functions:

Most, if not all, extension agents are subject-matter specialists—agronomists, animal scientists, entomologists, horticulturalists, plant breeders, food scientists. Their appointment is based on competence in a particular area of inquiry, as demonstrated by the quality of their diplomas. The result is that agents unfamiliar with the nature of human communication are given an enormously complex communication task to perform (p. 163) [17] stressed the same point extension workers need training in communication for development:

The fact remains, however, that Extension is dominated by individuals with subject-matter expertise but with little or no formal training in education, communication, psychology, or other fields relevant to Extension's mission of education. The stark reality is that we have limited evidence to demonstrate Extension's effectiveness and, in this day of heightened scrutiny and expectations for governmental programs, we must improve in this arena" (p. 3).

Add to these is the fact that in 2000, many African governments adopted decentralization policies and "pluralistic and demand-driven" extension approaches aimed at making it possible for the extension worker at the grassroots to effectively promote participation and facilitation of integrated rural development [26]. A researcher observed that the first wave of integrated rural development programs (IRDPs) which came in the 1980s and 90s, had failed because local participation, which was to be the cornerstone for success, was not achieved because extension workers charged with the task lacked the communication skills to bring it about [1]. He also noted that the IRDPs and, more recently, the National Poverty Reduction Strategy Programs (NRSPs) are quite complex, and extension workers lacked the sophistication to cope effectively with the increasing complexity.

So, what is clear is that by 2008, the Extension Recovery Strategy was established, there was much discussion of the need for Communication for Development (C4D) as a strategy for strengthening extension programs in Africa and elsewhere in the developing world. The challenge was how to incorporate C4D in extension and poverty reduction strategy programming, with agricultural development as the springboard. According to researcher [7,8] identified four critical concerns. One is that top government officials in developing countries and top officials in donor agencies lack the familiarity of C4D and, therefore, fail to request it from the World Bank and FAO sources. Second, even at the World Bank and FAO, there are questions on what C4D is and who are the experts to bring it about. The third concern is the need for a conceptual framework or model on how C4D can be implemented. And, lastly is the need for empirical evidence that C4D works.

Thus, our study of extension workers in the nine countries was carried out as a baseline to understand issues and challenges facing extension, which could lead to a search for a strategy for dealing with them. Since the researchers had to rely on their own funding, the sample sizes for each country were naturally very small, which is a basic limitation of the study. However, we were convinced that the small samples still provided a bird' eye-view of issues and challenges and, therefore, very useful information. For South Africa, the study covered 30 individuals in three (3) of the nine (9) districts in the Limpopo Province, using an interview schedule. There were 12 respondents from Capricorn, 9 from Sekhukhune, and 9 from the Vhembe districts. The sample size is small and, therefore, cannot be generalized to extension workers in the Limpopo Province, let alone the whole of South Africa. However, the data offers significant findings with implications for extension development in the country [18, 19].

The specific objectives of the study were:

- To examine the demographic characteristics of the study;
- To examine the level of job satisfaction of extension workers;
- To examine extension workers' perceptions of goals and their levels of achievement; and
- To assess communication and development training needs of extension workers.

II. RESEARCH METHODOLOGY

The questionnaire covered demographic characteristics, such as age and the highest level of education attained; level of job satisfaction; exposure or information and communication access to new technologies (ICTs); perceived goals of extension and the extent to which these were being met; assessment of basic communication skills, such as public speaking, listening, and writing; assessment of strategic communication skills, such as facilitation, coordination, linkages and

empowerment; and knowledge and skills in development theory, policy and practice. The questionnaire was developed by one of the team members and circulated among the members who all agreed it was suitable for their countries. Members of each country that conducted the study entered the data in an SPSS, which was then compiled by the team coordinators.

III. FINDINGS AND DISCUSSION

The findings of the study are reported in four categories based on the objectives: a) demographic characteristics of the study; b) level of job satisfaction of extension workers; c) extension workers' perceptions of goals and their levels of achievement; and d) communication and development training needs of extension workers. Each of the findings is briefly presented and discussed below.

A. Demographic characteristics.

Understanding the demographic characteristics or profiles of extension workers is important because they can affect performance in a variety of ways. For example, extension workers who are advanced in age, have a low level of education, or graduated from formal education many decades ago without opportunity for refresher training may not understand recent extension policies and practices. The demographic characteristics of importance to us were: a) gender, b) level of education, and e) area of specialization. With respect to gender, the breakdown of males to females was 21 (70 per cent) and 9 (30%), respectively. This proportion is similar to the findings of [12] and suggests the need to recruit more women into extension. This is especially important as female farmers tend to learn better from female extension workers. Also, in some cultures, women farmers are not allowed by their husbands to talk to male extension workers when their husbands are not present [13, 37]. This taboo may be changing with the increasing empowerment of women, but it is still important to increase the number of female extension workers.

With respect to education, 6 (20%) had a Master's degree; 13 (43.3%) respondents had a bachelor's degree; 8 (26.6%) had diploma level education, equivalent to two years of college; and 3 (10.0%) had secondary level education. In short, about 60% of extension workers in South Africa have a bachelor's degree or higher. We asked respondents what level of education they would be satisfied with. Forty-six (46.6%) would like to have a doctoral degree; 13 (36.6%) a Master's degree; 4 (12.6%) will be satisfied with a bachelor's degree, and only 2 will be satisfied with a diploma. Thus, there is a yearning for higher education in extension, something which the ERP has recognized and is doing something about it as we will examine later [22].

Regarding the area of specialization, only two of the 16 who responded to this question were trained in extension and community development. The rest were all trained in agriculture subject matter areas, such as crop and animal production. A researcher [14] says it is an anomaly and blames it on the fact that extension education is not highly valued by the Department of Agriculture, Forestry, and Fisheries. The focus of extension training in South Africa appears unclear.

The Norms and Standards document stresses that the "minimum academic qualification for an agricultural advisor is a bachelor's degree in agriculture" and that any person with "lower qualifications can only function as an agricultural development officer" [22, (p. 3]. An article published [20] showed a highly informative article on the extension in South Africa called "Extension and smallholder agriculture: Key issues from a review of the literature," stated that, "overall, much agricultural education and training focuses largely on primary production rather than farming as a business" [20] (p. 13). They noted that the general call is for extension workers with general economic skills . . . agricultural business, farm planning, farm management, enterprise management, marketing, finance, credit, and risk management, and human resources management" (p. 13).

The Extension Indaba adopted by the Ministry of Agriculture in 2007 was designed to "propose the best approaches in making extension more visible and accountable to the farmers" [22]. The report further noted: The strategy argues for the concept of agricultural extension to be expanded to provide agricultural extension workers with capacity and the skills to assist communities and to deal with the effects of rural change, the impact of HIV/AIDS on the rural economic base, and the growing vulnerability of household livelihood systems (p. 13).

In general, then, the trend is for extension workers with a "generalist training" able to facilitate integrated rural development while having Subject Matter Specialists (SMSs) who can be called in where there is a need for a specialist. In fact, it was noted [20] that "63% of farmers judged that their extension worker had no advice of value to offer them, while only 37% conceded that they sometimes have information of some value" (p.14). Thus, while the trend is for extension workers as generalists, it is surprising that the ERP is going the other direction. It states: the minimum academic qualification for an agricultural advisor is a bachelor's degree in agriculture. Any person with lower qualifications can only function as an agricultural development officer" [21], p. 3). However, [22] also stated that: The extension personnel should be competent in the following areas: client orientation and customer focus, communication, project management, knowledge management, service delivery orientation, problem-solving analysis, people management and empowerment" (p. 3).

Our study found that virtually all extension workers with bachelor's degrees are trained in general agriculture, while increasingly they are being called to be facilitators of integrated rural development, agricultural development included. We believe that some of these generalists skills can be obtained through short courses. However, the training of development managers, for example, calls for post-graduate education in a development-related field, preferably in Communication for Development [9]. It was also noted that even at in-service training workshops, the focus again is in agriculture; only 8% of the in-service training covers communication skills [14].

B. Job Satisfaction

Job satisfaction is defined simply as the extent to which one is content with his or her work. Extension workers were asked to indicate their levels of job satisfaction with respect to 12 items, as shown in Table 1. This study was conducted in 2011, 3 - 4 years after the ERP went into effect. Again, three years may not be too short to expect many changes in the extension system, and again, our sample size was too small to make any generalizations. Nevertheless, it is worth noting that the one area respondents felt very comfortable about was their knowledge of agriculture. It is the only item (#11), next to Standards Report encourages extension workers to raise their levels of education through part-time sabbaticals and other forms of education. However, what degree areas they should study is left wide-open, which seems to suggest that no standard curriculum for extension training is needed. It was observed [23] that the basic training of an agricultural technician must include technical knowledge, a sound knowledge of people and rural communities, and agricultural processes and skills. It was reported [24] that between 2010 to 2013, out of 2,210 extension workers in South Africa, 1,768 extension workers benefitted from bursaries under the ERP policy of re-skilling. However, only 330 successfully upgraded their qualifications, which seems to suggest that the ERP must provide a more structured, long-term training program for extension workers. However, the program was halted in 2013.

C. Incorporating ICTs in Extension

The use of computer-assisted, Information and Communication Technologies (ICTs), such as the Internet, cell phones, and even community radio, has become almost standard practice in enhancing extension's reach and interaction with farmers. It is noted that ICTs are getting cheaper by the day, and mobile phones are becoming universal communication devices [25]. Our study found that many extension workers have access to ICT tools (Figure 1.0). Our study found that many extension workers did not have Facebook, and the majority of them do not use Internet cafes. However, virtually all of them have cell phones, landlines, and laptops. The ERP, in 2008, also offered extension workers a "package" of tools including subsidized vehicles, laptop or desktop computers, and cell phones compatible with the 3G facility so that they can have access to Internet services [24]. The Limpopo Department of Agriculture (LDA) has provided extension workers with Internet reference systems called Extension Suite Online and Agri-Suite, which give extension workers access to the latest developments in the areas of crop, animal, and marketing information. It will seem, therefore, that extension workers in South Africa are well equipped with mass and social media.

The question, however, is whether farmers have these technologies to ensure two-way communication with agents. Furthermore, it needs to be pointed out that the problem of innovation adoption is not so much a lack of access to information but rather a lack of access to material and allied resources, such as inputs, markets, and transportation [26].

D. Extension goals and levels of achievement

An effective agricultural extension system must lead to increased smallholder farmers' agricultural productivity, agricultural development, and, ultimately, national development. It is important. Therefore, extension workers understand the goals of extension and whether these are being met. In Table 2, to the left, extension workers identified the goals of extension. For example, 26 (86.7%) of respondents identified helping farmers adopt agricultural innovations as an important goal of extension. Other goals included promoting smallholder farmers' participation in extension decision-making; increasing agricultural Production; and promoting collaboration with NGOs, among others. It was surprising that only 46.7% of respondents felt that the goal of the extension was narrowing the farmers-to-agent ratio. Also, only 50% or slightly more than 50% of respondents agreed that the goal of extension should be: a) advising the government on extension policy; b) facilitating coordination across sectors; and c) making extension financially self-sustaining. It is surprising that the number of respondents to the statement on cost recovery is low given the general stress on privatization of extension.

To the right of the table, respondents were asked to indicate whether the extension goals presented on the left were being met. Surprisingly, their responses seemed candid. Virtually all of them, more than 80%, indicated that none of the extension (or development goals) was being met. Ninety percent or more of them said that extension goals, such as helping farmers gain access to credit, improving rural livelihoods, promoting farmers' participation, and ensuring gender equity, were not being met. Likewise, 80 to 86% of respondents felt that extension goals, such as narrowing the farmers-to-agent ratio, promoting collaboration with NGOs, facilitating coordination across departments in the Ministry of Agriculture, and increasing agricultural production, were not being met. In short, it was not only the South African Government that recognized the limitations of extension but also the extension workers did so themselves. Thus, the introduction of the ERP was an idea whose time had come.

E. Extension Agents' Communication and Development Training Needs

Since 2000, many African governments have adopted decentralization and extension reform policies aimed at giving their extension systems the opportunity to be successful. Recognizing that smallholder farmers cannot adopt innovations unless farm inputs, such as credit, fertilizer, and improved seeds, were made available to them, the governments assigned their extension workers with a new function—facilitating integrated rural development [27]. The goal of integration is to ensure the timely and simultaneous delivery of information and material and financial inputs to farmers in a timely manner so that they can take advantage of the increasingly unreliable rains [28]. In a nutshell, the new extension approach means bringing development partners together to work towards a common cause. However, our study found

that extension workers had a difficult time getting cooperation from NGOs, other departments in the ministry, and across sectors of government.

It suggested that they lacked an understanding of the nature of development and the communication skills to bring these partners together to work towards a common cause. As shown in Table 3, 90% of respondents noted that communication is necessary for integration, participation, decentralization, and for building linkages. More than 90% also noted that understanding development theory, policy, and practice is critical to effective extension. Eighty percent of respondents agreed with [1] that the development process is complex, and 66.7% admitted that they lacked the training to cope with the complexity of rural development programming. Over 60% of respondents also admitted that they had not been trained in how to implement integrated rural development tor poverty reduction strategy programs. Extension system being introduced in the country. Lastly, a small but significant number of respondents.

F. Assessment of extension issues

The last objective of our study was to assess extension workers' perceptions on a wide variety of issues, such as those listed in Table 4. For example, more than 90 percent of respondents agreed that (50%) felt that when the extension is located under the Ministry of Agriculture, agents in other sectors are reluctant to use it because they feel it does not belong to them, which raises issues with collaboration across sectors. This suggests that if the extension is to be a real facilitator of change, agricultural development included, then it needs to be located on a neutral ground. In some countries, such as Ghana, Malawi, and Tanzania, extension is not located under the Ministry of Local Government and Rural Development (LGRD) [26]. Extension as facilitation is recognized and is being promoted by advisory organizations [36]. Ethiopia is probably the first in Africa to have a Ministry of Capacity Building, stressing the importance of the human dimension in development.

IV. CONCLUSION

Our study set out to determine the training needs of extension workers in South Africa, specifically in the three districts of the Limpopo Province where the data were collected, and, based on a review of the literature, propose a strategy for addressing these needs. We examined the demographic characteristics of respondents, their levels of job satisfaction, their perceptions on extension issues, and lastly, their description of their training needs-all in an attempt to get a firm understanding of their training needs. For example, the demographic data showed that the training of extension workers is primarily in agriculture. The in-service courses they attend also focus primarily on agriculture. Also, under job satisfaction, they further stated that they know enough about agriculture to teach smallholder farmers. However, the areas they felt needed more pieces of training were communication and development, otherwise known as Communication for Development (C4D).

We feel this need is appropriate for two reasons. First, the function of the extension is more towards facilitating holistic or integrated rural development, not just agricultural education. This is especially the case because governments have noted that it is almost impossible to achieve agricultural development without addressing problems in other sectors, such as health, transportation, and gender. The second reason is that, particularly in South Africa, the large-scale commercial farmers often do not need extension advice—it is mainly the small-scale or subsistence farmers who do. And, for these farmers, we believe extension advisers know enough about agriculture to teach them. Besides, providing in-depth technical agricultural knowledge is the responsibility of the subject matter specialists [20]. It stands to reason, therefore, that what South Africa needs more are extension workers skilled in development facilitation, who can help farmers obtain the resources they need to be productive. The researchers agree with the administrators of the ERP that the extension process is quite complex or has many parts that must be addressed. However, we are convinced that a single model for extension is possible. Work towards a common cause. Aguanga's framework, described in Figure 2, includes a post-graduate degree program for training these C4D strategists.

Table 1. Level of Job Satisfaction

Item		Satisfied		Dissatisfied		
1. N	Iy work as an extension agent.	21	70%	9	30.0%	
2.	My salary and related incentives.	2	6.7%	28	93.3%	
3.	My level of education.	12	40.0%	28	60.0%	
4.	Opportunities for higher education.	12	40.0%	28	60.0%	
5.	My training in communication.	9	30.0%	21	70.0%	
6.	My achievement as an extension officer.	16	53.4%	14	47.7%	
7.	Cooperation from non-governmental organizations.	9	30.0%	21	70.0%	
8.	Cooperation from other departments in the					
	Ministry of Agriculture.	5	16.7%	35	83.3%	
9.	Cooperation from other ministries.	4	13.3%	25	86.2%	
10.	Resources I have to work with.	11	36.7%	19	63.3%	
11.	My knowledge of development facilitation.	9	30.0%	21	70.0%	
12.	My knowledge of agriculture to teach farmers.	17	56.7%	13	43.3%	
13.	The process of decentralization in my country.	7	23.3%	23	7.7%6	



Fig.1 Information Communication Technologies (ICTs) tools

Table 2. Extension	Goals and the D	Degree to Which	They Are Being Met
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Number/%		Goals of Extension		Not Achieved	
20	(66.7%)	1.	Promoting gender equity or women's participation in development	28	(93.3%
26	(86.7%)	2.	Helping smallholder farmers adopt agricultural innovations.	27	(90.0%)
25	(83.3%)	3.	Promoting smallholder farmers' participation in development		
			decision-making.	27	(90.0%)
22	(73.3%)	4.	Improving rural livelihoods.	27	(90.0%)
21	(70.0%)	5.	Helping farmers gain access to credit/farm inputs/markets.	27	(90.0%)
15	(50.0%)	6.	Advising government on extension policy.	27	(90.0%)

22	(73.3%).	7.	Increasing agricultural production.	26	(86.7%)
18	(60.0%)	8.	Promoting climate change education.	26	(86.7%)
25	(83.3%)	9.	Facilitating integrated rural development/ poverty reduction		
			strategy programs.	26	(86.7%)
19	(63.3%)	10.	Facilitating coordination across departments in the Ministry		
			of Agriculture.	26	(86.7%)
17	(56.7%)	11.	Facilitating coordination across other sectors of government.		
22	(73.3%)	12.	Collaborating with NGOs.	26	(86.7%)
19	(63.3%)	13.	Facilitating linkage between research centers and farmers.		
21	(70.0%).	14.	Mobilize the youth for agricultural and rural development.	26	(86.7%)
19	(63.3%)	15.	Reducing the HIV&AIDS pandemic.	24	(80.0%)
14	(46.7%)	16.	Narrowing the farmers to agent ratio.	24	(80.0%)
17 ((56.7%)	17.	Make extension financially self-sustainable/cost recovering.	25	(83.3%)

Table 3. Communication and Development Training Needs of Extension Workers					
Item	Number of re	espondents			
	who expressed the need				
1. Understanding development theory is essential for extension workers.	28	93.3%			
2. Understanding development policy is essential for extension workers.	28	93.3%			
3. Understanding development practice is essential for extension workers.	28	93.3%			
4. Virtually all development ministries have a need for communication.	28	93.3%			
5. Communication brings development partners together.	27	90.0%			
6. Development facilitators need communication training.	27	90.0%			
7. Extension workers need training in development.	27	90.0%			
8. Communication is necessary for participation.	27	90.0%			
8. Communication is necessary for building linkages.	27	90.0%			
10 Community radio spreads information not covered by the extension.	27	90.0%			
11. Communication is essential for decentralization.	26	86.6%			
12. I feel confident in my ability to speak in public.	26	86.6%			
13. Communication is necessary for coordination.	26	86.6%			
14. Communication is necessary for integration.	26	86.6%			
15. The development process is complex.	25	80.0%			
16 Extension workers lack the training to cope with the complexity of development	23	66.7%			
17. I was trained in integrated rural development implementation.	20	66.7%			
18. I was trained in poverty reduction strategy programming.	19	63.3%			

Table 4. Extension Workers' Assessment of Extension Issues

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Iter	n	No. & % of	respondents	
		who agree		
1.	Field extension workers should base their activities on proven research.	28	93.3%	
2.	Small farmers cannot afford to pay for privatized extension services.	23	76.7%	
3.	NGO extension is not more effective than public sector extension.	18	60.0%	
4.	When the extension is under agricultural ministry other agents are			
	reluctant to use it.	18	60.0%	
5.	I am not being told when the extension method is changed.	18	60.0%	
6.	Many extension workers feel inadequately trained to coordinate activities of their			
	counterparts in other sectors, such as agricultural economists and			
	environmentalists.	16	53.4%	
7.	Extension workers have no say on what extension system is			
	introduced in their country.	15	50.0%	
8.	To effectively coordinate activities across sectors extension must			
	be located in a neutral organization outside the Ministry of Agriculture.	15	50.0%	



Fig. 2 A Model of Agricultural Extension/Communication For Development (Agunga, 2012)

According to researcher [2] draws on general systems theory to show that the IRDPs and NPRSPs are complex systems; however, communication can be an effective tool for facilitating the functions of a complex system. Communication can be seen as the grease that makes the development wheel turn. The key to success is the presence of the communication/C4D strategist to facilitate the integration of development partners to our study also showed that NGOs and workers in other sectors of government or even within the Department of Agriculture, Forestry, and Fisheries (DAFF) are reluctant to cooperate with extension agents. The feeling seems to be that these external agents do not feel that extension does not belong to them or do not want the extension to get the credit for any success they might bring. If in the long-term of extension is to facilitate integrated rural development, then it is necessary to locate extension in a neutral ground, such as the establishment of a National Ministry of Development or Ministry of Capacity Building as is the case in Ethiopia. Other countries like Malawi, Tanzania, and Ghana have located extensions in the Ministry of Local Government and Rural Development (LGRD). However, the political implications are obvious and may curtail the smooth function of extension. For example, the

Cooperative Extension Service of various states of the United States is not under the U.S. Department of Agriculture (USDA), even though they receive funding from the USDA.

They receive from multiple sources, generating their own funding. However, given that the ERP is in progress, our recommendation is that extension remains under the DAFF and all that needs to take place is that the C4D Unit is added to the provincial extension systems. Researcher [2] offers a C4D framework, which is an effective way for incorporating communication in extension (see Figure 2). Again, the heart of the C4D model and its likelihood for success is the presence of the C4D strategist as head of the C4D Unit. There are so many C4D strategies out there, and so the proof is in the pudding. Aguanga's C4D framework takes a three-pronged approach to transform extension. The first is the establishment of a pilot provincial C4D center in the country to perform numerous communication for development functions, such as providing short-term or on-the-job communication and development skills training for practicing field agents, whether in public or nongovernmental areas. This includes training extension workers for community mobilization, participation, and empowerment. The Centers will also conduct social

science research to establish the impact of extension on agricultural and rural development. However, the primary function of the Provincial C4D Center (PC4DC) is to promote community-driven development whereby government and donors begin to listen and respond to demands from the grassroots.

The second arm of the C4D Center is to establish multimedia and print facilities to produce print and multimedia educational materials needed by development organizations, for which they are willing to pay. Many provinces in South Africa may already have these multimedia and print production facilities in place. The goal, however, is to make them income-generating, as was the case in Nepal [32]. A second objective is to use these educational methods as strategies for reinforcing learning. For example, a farmer who has adopted organic vegetable production gets a booklet on production methods as a reference manual. The communication goal is not so much promoting awareness of innovations but also ensuring the sustained adoption of innovations [33].

The third arm of the C4D approach is the establishment of a C4D post-graduate degree program at a university to ensure national self-reliance in C4D capacity. The goal is to produce professional Master's degree graduates to become provincial C4D strategists and, ultimately, provincial and district extension directors. Again, the ultimate goal is to transform extension into a national development arm—coordinating overall national development. The C4D curriculum needs to be examined based on each university's situation. However, there are model curricula that can be adopted and adapted [2]. This post-graduate program must be closely tied to the C4D Centers so that the students get practical field experience by serving as interns or researchers at these centers.

The success of the C4D model is measured in a variety of ways: First, the organizations acting as the stakeholders must find it beneficial to them, such as the provincial and district extension offices, the NGOs, and the extension workers themselves. The second is increased productivity in the smallholder farmers' sector. Pretest/post-test farm yields should show that farmers participating in the new farmer associations organized as a result of a collaborative effort between extension workers and C4D staff is working. Third, the administrators of the ERP, donor projects, etc., can observe for themselves the functioning of the C4D approach. The pilot project can be replicated in other provinces and ultimately throughout Sub-Saharan Africa.

In summary, it is worth pointing out that the researchers did not go into our study with the view of making recommendations for the ERP. However, we find the direction of the ERP to be exciting and hope that our recommendations might be beneficial. Clearly, the ERP is in its eighth year, and some observers might find it too early to evaluate it. However, there are concerns that the ERP may not be the ideal strategy. The following researchers [29] were perhaps the first to review the new extension system in their study in the West Coast District of Western Cape Province. They concluded that: a) nearly 78 percent of farmers are aware of the existence of the

extension services; b) that extension workers have contacts with entrepreneurs, and c) that smallholder farmers find "extension workers to be of less value to farming activities" (p. 1). Their recommendation is that "the training of extension workers should focus on impact subjects such as marketing, technology transfer and finances" (p. 1).

Likewise, [30] a report submitted [30] years ago was concerned with the quality of training of extension workers, noting that South Africa's significant skill shortage is one of the main causes of the problems of the agricultural sector. Also, a researcher [31] revealed that despite the comparatively high ratio of extension worker to farmers in South Africa, 1:487, the services provided by extension to farmers is far lower in quality than in other parts of Africa or in the developed world. Lastly, [34] and [35] question the direction in which extension in South Africa is headed: Is it providing logistics and services, or is it the education of farmers? They suggest that extension should focus on the human dimension, namely, development facilitation. In short, we feel that our recommendation is timely, and as the saying goes, a stitch in time saves nine.

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