
**INFORMATION MANAGEMENT USING ICTs TO ACCESS
SUGARCANE PRODUCTION INFORMATION IN SWAZILAND:
PERCEPTIONS OF SMALLHOLDER SUGARCANE FARMERS AND
EXTENSION OFFICERS**

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ABSTRACT

The sugar industry of Swaziland has the greatest potential for improving rural livelihoods and at the same time eradicates poverty through increased productivity. This paper investigates the manner in which sugarcane information and knowledge is managed via ICTs within the sugar industry of Swaziland to improve smallholder farmer productivity. The study was a census involving all active smallholder sugarcane farmers (N=172) and their Extension officers (N=17). Quantitative data was collected through face to face interviews using structured questionnaires and the data was analysed using SPSS version 20 statistical software. The results of the study revealed that most of the respondents were middle aged, married males, with tertiary education levels and 1 – 5 years sugarcane production experience. Almost all the farmers owned mobile phones which they mainly utilized for accessing sugarcane production information. Most respondents highlighted that they frequently use their mobile phones to relay information via voice calls. The Swaziland Sugar Association emerged as the main source of production information and capable of relaying information on time. The study also revealed that the highest frequency of communication within the sugar industry is between farmers and extension officers and visits between the two are most frequently initiated by requests from farmers. All the sugarcane production information from land preparation, planting, irrigation, weed control up to harvesting were rated by all respondents as highly required. These findings are crucial in the development of an improved information management system that will empower smallholder sugarcane farmers in decision making thereby improving their productivity.

Keywords: Knowledge Management, ICT, Extension, Swaziland, Productivity, Sugarcane.

INTRODUCTION

Knowledge management refers to a process of understanding a phenomena with an acceptable degree of familiarity obtained through exposure, involvement or contact

(Seidman& McCauley, 2005). It involves processes and practices that have to do with the innovation, attainment, distribution and use of knowledge, skills and expertise. This then follows a circular non-stop process that continually updates itself. Knowledge is made of a number of attributes which include attitudes, experiences and skills that makes an individual to effectively perform a specific function (Ethiopia, 2012).

For farmers to improve their productivity and consequently maximise their profit margins, they need timely and relevant information and knowledge that is accessible to them, otherwise agricultural production and food security will remain low and agricultural households will remain trapped in poverty.

There is a need for farmers to be involved in the entire knowledge management process if they are to experience satisfying outcomes. This is important because it will allow a better alliance of both tacit and explicit knowledge. The reception of the information that has been innovated out of this process is more likely to be high amongst the farmers as it would have included knowledge and practices developed and passed on to them through generations. Through the sharing of experiences, farmers can also enhance their current indigenous knowledge which is also very crucial for improved productivity. To improve knowledge amongst the farmers, the information must be codified, made explicit, and upgraded or modernized with research based evidence (Ethiopia, 2012).

A number of organisations are involved in the generation and improvement of information and knowledge. Different intermediaries are also effectively involved in forwarding information and knowledge to end users. Agricultural knowledge is generated from modern and traditional sources. Traditional sources refer to the indigenous knowledge and practices of rural communities and this type of knowledge is generated outside the formal school system. Modern knowledge on the other hand is developed through scientific research by research organisations and institutions of higher learning (Ethiopia, 2012).

Ethiopia (2012) noted that agricultural information and knowledge generated from various origins is first kept in different formats including publications, audio visuals and websites before it is distributed for adoption by users. The end users of the stored knowledge and information include rural farmers who receive it via trainings, demonstrations, media and many others.

ICT can play an important role in the development of a fast and less costly knowledge management. Effective improvement in agricultural needs full exposure to information and knowledge in all aspects of production, processing and marketing. ICT shows potential to play that role in the [two-way] delivery of information in both developed and developing countries (Zijp, 1994). ICTs can be used as a tool for contributing directly to agricultural productivity or an indirect tool for enabling farmers to develop informed and quality decisions, for improved productivity.

2.0 PURPOSE

The main purpose of the article was to investigate how information and knowledge is managed through the use of ICTs, specifically cell phones, as perceived by smallholder sugarcane farmers and extension officers within the sugar industry of Swaziland. The study was guided by the following research objectives:

1. Explain the demographic variables of respondents.
2. Determine the type of information required by respondents and its degree of requirement.
3. Identify reliable and accurate sources for sugarcane production information.
4. Establish which source has the ability to relay information timely and accurately to farmers
5. Establish the type of ICT that is commonly used to relay information among the sugar industry stake holders.
6. Determine how frequent do farmers communicate with other stakeholders using their mobile phones to access sugarcane production information.

3.0 METHODOLOGY

The study was conducted in the year 2015 within the loved region of Swaziland where sugarcane is mainly grown. The methodology used in this study was the survey method using the interview technique. This study carried quantitative research to investigate how information is managed within the sugar industry stakeholders as perceived by sugarcane farmers and extension officers. Four enumerators who had recently graduated from the University of Swaziland were hired and trained on how to collect the data. The study was a census and a structured questionnaire was used to interview all the smallholder sugarcane farmers (N=172) as well as all the sugarcane extension officers (N=17) actively growing sugarcane in Swaziland during the year of data collection.

A total of 201 survey instruments were administered to respondents and only 189 (172 famers and 17 extension officers) produced the desired results and that translated to an effective response rate of 94%. Data were collected with a pre-tested schedule. Descriptive statistics were applied to analyse the data using SPSS 20. Frame-error, selection-error and non-response error were managed in line with suggestions by Miller and Smith (1983). An updated list of all current and active smallholder sugarcane farmers was obtained from the Swaziland Sugar Association (SSA) extension services, thereby managing frame-error. Farmers who appeared on the list yet were no longer growing sugarcane were removed to control selection error. A group of experts consisting of two extension managers from SSA, one extension manager from FAO (Swaziland) and four academic staff members from the University of Swaziland, Department of Agricultural Education and Extension were requested to check the instrument for content validity. The content validity of the instrument was approved by the experts. To determine the reliability of the instrument, a pilot test was conducted involving smallholder sugarcane growers from Vuvulane Sugar Estates who did not participate in the study. To compute the reliability coefficients of independent variables, the study employed Kuder Richardson (KR21) and Cronbach Alpha procedures.

4.0 THEORETICAL FRAMEWORK

Extension exists to make agricultural information accessible to farmers and other stakeholders who need it to improve productivity (Salau, Saingbe, &Garba, 2013).

Unfortunately, extension currently does not meet this goal. The public extension service, especially in the Sub-Saharan Africa region, has not been effective enough in conveying agricultural information to farmers. Farmers sometimes resist a much-needed improved technique not because they do not want it but because they are ignorant of the practice (Salau et al., 2013).

Masuki et al. (2010) argues that agricultural information plays an important role in the development of smallholder farmers towards increased production. He noted that most smallholder farmers are located in the rural areas; therefore an increase in their production automatically leads to more desirable lifestyles for the rural people, food security and national economies of the countries where they operate. When reliable and accurate information is availed on time to smallholder farmers, they can reduce their production costs, improve their productivity, have collective bargaining with buyers and input suppliers, thus maximising their profit margins (Ikoja-Odongo&Ocholla, 2004; Masuki et al., 2010; Richardson, 1997).

A conceptual framework was developed to demonstrate the differences between smallholder farmers and large-scale famers with regard to accessing information via ICT – highlighting the influence of barriers, information management and preparedness for ICT introduction.

Figure 1 demonstrates how information management influences access to information by smallholder farmers which ultimately affects their yield. This fosters poor-decision making about the production and other operations of their farming enterprises which then leads to lower than possible yields. Conversely, Figure 1 also shows how, for larger-scale farmers, information management improves access to information. The framework proposes that the factors affecting information management include: Reliability and accuracy of information; Type and degree of information requirement; Timeliness of relaying information; Mode of information communication; and Frequency of information exchange.

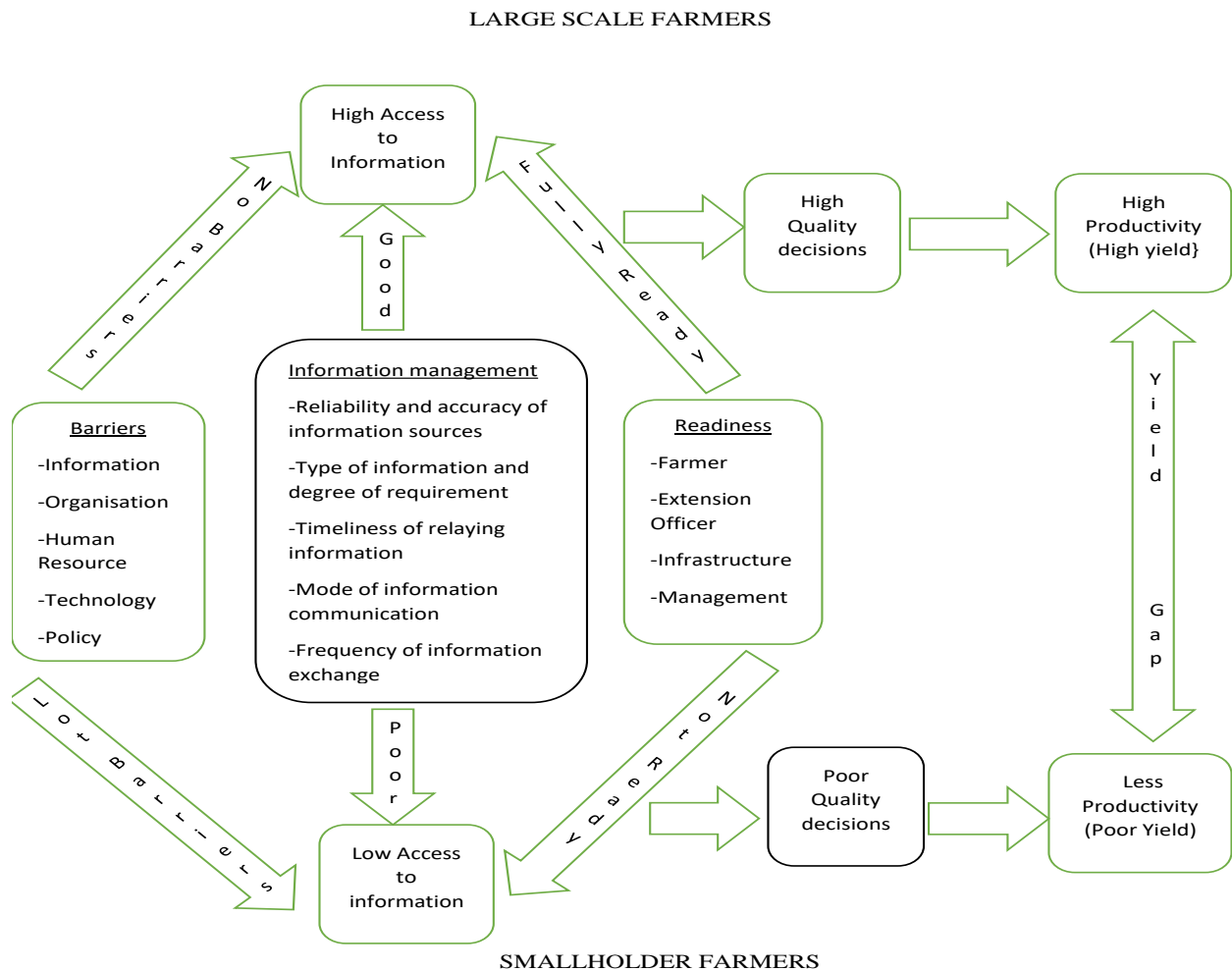


Figure 1: Diagrammatic representation of how information access influences the productivity gap between smallholder and large scale farmers.

5.0 LITERATURE REVIEW

The attainment of effective knowledge management requires a logical and comprehensive engagement among stakeholders which include farmers, organisations, information generators, policy makers, extension officers and the private sector (Mchombu, 2009; Wen, 2009). Knowledge management is an important tool that can be used by different stakeholders in sugarcane production to achieve success through competitiveness, innovativeness, and responsiveness (Alavi&Leidner, 2001; Gao et al., 2002; Liao, 2003; Marouf, 2004; Nonaka& Konno, 1998; Quintas& Ray, 2002; Zheng, 2009). Kiessling, Richey, Meng, and Dabic (2009) defined knowledge management as an on-going process that leads to the identification and exploitation of current knowledge and opportunities and the creation of new knowledge and opportunities. An effective system of information management identifies clearly the type of information needed and its reliable and credible sources. It also establishes the degree of requirement and the communication mode, the storage, accuracy and reliability of information (Quintas, Lefrere, & Jones, 1997).

5.1 Reliability and accuracy of information sources - Smallholder farmers are limited by a variety of constraints, many of which are caused by lack of reliable and accurate information to make good decisions. Increasing the value of ICT resources available to farmers is crucial in making smallholder agriculture highly productive. The correct placement and utilisation of ICT is central to this improvement and the basic function of extension as explained by Christoplos (2010) remains that of transferring and exchanging of practical information for the farmer to improve his outcomes. McNamara (2009) noted that smallholder farmers encounter higher information costs, due to their isolation as well as the poor state of their ICT infrastructure. To realise benefits of reliable and accurate information, it is essential that farmers and extension officers put in place a knowledge management system that relates to the nature of their work and what they intend to produce (Ndoro, 2011).

5.2 Type and degree of information requirement - Burton-Jones and Hubona (2006) argued that the challenge with most underdeveloped communities is that the farmers are not aware of what type of information they need. They further do not know what information is at their disposal to help them solve their challenges. The strengthening of linkages by extension among the sugar industry players also enables the free flow of vital information for improved productivity especially among the disadvantaged smallholder sugarcane farmers.

5.3 Timeliness of relaying information - Timely dissemination of critical information to different stakeholders for quality decision-making is very important and this could be facilitated through the use of ICT. According to Meyer et al. (2011) information is one of the most valuable resources for improving productivity among smallholder sugarcane farmers and extension is ideally positioned to facilitate its free flow within all the sugar industry stakeholders. Correct and timely information can help smallholder sugarcane farmers to make quality decisions and take appropriate action. To facilitate development and hence improve productivity, important information needs to be made available on time and made accessible through the use of ICT particularly to the smallholder sugarcane growers.

5.4 Mode of information communication - The availability of communication infrastructure, especially in the rural areas where most of the smallholder growers are located should be a priority for the government if productivity is to be improved. One of the ways through which extension can reach a large number of farmers is to use ICT and that includes mobile telephony, cutting edge television and radio programs, video shows, information kiosks, web portals, rural tele-centers, farmer call centers and video conferencing. It will also reduce the costs associated with the way in which they disseminate information (Masuki et al., 2010).

5.6 Frequency of information exchange - The introduction of ICT has improved the way in which information can be shared among individuals. It has provided better ways to share and integrate information. Information sharing within and between organizations has become an important factor in the effort to improve productivity in many organizations (Newcomer & Caudle 1991). Agricultural extension builds upon information exchange and this has been diagnosed as an area in which ICT can have a great impact (Masuki et al., 2010). It is widely acknowledged that extension officers, who are a crucial connector between farmers and other actors, in the dissemination of agricultural knowledge and information are well located to use ICT to access expert knowledge that will in turn be used to improve smallholder farmer's knowledge (Adebayo & Adesope, 2007; Omotayo & Adedoyin, 2005).

6.0 RESULTS AND DISCUSSION

6.1 Respondents Demographic Variables

To present a better insight into the participants, respondent's demographic variables on age, gender, education level, sugarcane production experience, marital status and job category, a summary is presented in Table 1. Findings from Table 1 indicate that most of the respondents fall in the age group category of 30 – 39 years (38.6%) followed by those in the range of 40 - 49 years (19%) of age for both farmers and extension officers. With respect to gender, both farmers and extension officers had a majority of male respondents (74.6%) than the female counterparts. It is evident that the sugar industry of Swaziland is still male dominated when it comes to leadership of the small holder farmer groups.

Worth noting again is that all (100%) of the sugarcane extension officers were male. This observation opens the need to encourage women to tap into this industry. The educational status of the farmer respondents show that the majority (30%) had gone up to tertiary education followed by those (29.6%) who went as far as high school and the rest never finished secondary school. Regarding the extension officers, all had gone through tertiary education. This is mainly due to the minimum requirement set by SSA for one to be employed as an extension officer. With regards to the number of years of service, both farmers and extension officers had most of the respondents (38.69%) with 1 – 5 years of service in the sugar industry. These were followed by those respondents (22.8%) who had 11 – 15 years of experience. Very few were above 20 years of experience. The marital status of respondents indicates that the majority (86.8%) were married and the rest were single.

Table 1: Respondents' demographic profile

Characteristic	Category	Farmer (N=172)		EOs (N=17)		Total (N=189)	
		F	%	F	%	F	%
Age	19 – 29	24	13.9	3	17.6	27	14.3
	30 – 39	64	37.2	9	53.0	73	38.6
	40 – 49	32	18.6	4	23.5	36	19.0
	50- 59	25	14.5	1	5.9	26	13.8
	> 60	27	15.8	0	0	27	14.3
Gender	Males	124	72.1	17	100	141	74.6
	Females	48	27.9	0	0	48	25.4
Education	None	8	4.7	0	0	8	4.2
	Primary	30	17.4	0	0	30	15.9

	Secondary	38	22.1	0	0	38	20.1
	High school	56	32.6	0	0	56	29.6
	Tertiary	40	23.3	17	100	57	30.2
Experience	1 – 5	69	40.1	4	23.5	73	38.6
	6 – 10	28	16.3	7	41.2	35	18.5
	11 – 15	40	23.3	3	17.6	43	22.8
	16 – 20	14	8.1	2	11.8	16	8.5
	21 <	21	12.2	1	5.9	22	11.6
Marital Status	Married	151	87.8	13	76.5	164	86.8
	Single	21	12.2	4	23.5	25	13.2

Conclusively, results from the demographic variables indicate that most of the study respondents were middle aged, married males, educated with 1 – 5 years sugarcane production experience.

6.2 Reliability and accuracy of information sources

The third objective of the study aimed at determining reliable and accurate sources for sugarcane production information and the results are presented in Table 3. The results indicated that the Swaziland Sugar Association (97%) was perceived by respondents to be the main information source that always provides the most reliable and accurate information for the Swaziland sugarcane industry followed by the farmers themselves (76%), Input suppliers (71%) and financial institutions (61%). This implies that sugarcane farmers and extension officers have trust in information from these outlets. Researchers and other information generators can use these outlets to disseminate information that could assist sugarcane farmers improve their productivity. The library, University and NGOs were perceived as the worst outlets for reliable and accurate information source. Although the association is somewhat oblique, that the farmers show this level of discernment, these findings suggest that the farmers, in keeping with Ndoro (2011) are managing information as it relates to their farming operations.

Table 2: Reliable and accurate Information sources for sugarcane production

	Not at all		Rarely		Sometimes		Always	
	F	%	F	%	F	%	F	%
SSA	2	1.1	2	1.1	37	19.6	148	78.3

Farmers	11	5.8	33	17.5	97	51.3	48	25.4
University	91	48.1	77	40.7	16	8.5	5	2.6
SWADE	46	24.3	43	22.8	36	19	64	33.9
Government	73	38.6	49	25.9	43	22.8	24	12.7
Suppliers	20	10.6	33	17.5	86	45.5	50	26.5
Financiers	25	13.2	47	24.9	76	40.2	41	21.7
NGOs	89	47.1	66	34.9	28	14.8	6	3.2
Researcher	85	45	77	40.7	25	13.2	2	1.1
Library	126	66.7	44	23.3	14	7.4	5	2.6
Internet	97	51.3	36	19	29	15.3	27	14.3

6.3 Type of information and its degree of requirement

Objective two sought to identify the type of information that is required by the sugarcane industry as well as the level of requirement for such information as perceived by the respondents. Different types of information related to sugarcane production were presented and respondents were requested to rate their level of requirement for each type. Results are shown in Table 2.

Table 3: Type of sugarcane production information and their level of requirement

	Not at all required		Less Required		Required		Highly Required	
	F	%	F	%	F	%	F	%
Land preparation	1	.5	2	1.1	7	3.7	179	94.7
Planting	2	1.1	6	3.2	0	0	181	95.8
Pest & disease control	0	0	2	1.1	10	5.3	177	93.7
Plant nutrition	0	0	2	1.1	6	3.2	181	95.8
Irrigation	0	0	2	1.1	5	2.6	182	96.3
Harvesting	0	0	2	1.1	7	3.7	180	95.2
Postharvest operations	0	0	2	1.1	10	5.3	177	93.7

Market Information	0	0	5	2.6	21	11.1	163	86.2
Financial Information	0	0	5	2.6	18	9.5	166	87.8
Human resource management	0	0	3	1.6	16	8.5	170	89.9
Technology Information	0	0	8	4.2	17	9.0	164	86.6
Economical information	0	0	5	2.6	15	7.9	169	89.4
Weather forecast	0	0	1	.5	11	5.8	177	93.7

Results indicated that respondents perceived all the sugarcane production information as highly required. This perception of respondents indicates an existing information gap between what the farmers know versus what they need to know in almost all the sugarcane production activities. If this information gap could be effectively addressed, smallholder sugarcane productivity could be improved. Contrary to the argument of Burton-Jones and Hubona (2006), the respondents appear to be very clear about what type of information they need and know what information is available. The results of the reliability and accuracy line of questioning confirm the value of strengthening linkages among the sugar industry players.

6.4 Timeliness of relaying Information

Relaying accurate information at the right time for use by farmers is very crucial and has a huge impact on the productivity of a farmer (Meyer et al. (2011). Objective four of the study sought to determine which sources are perceived by the respondents to be very efficient in disseminating information at the right time. The results are presented in Table 4 and again the Swaziland Sugar Association (96.3%) came out to be the best source to relay information timely for use by smallholder farmers followed by farmers themselves (84.2%), Input suppliers (67.2%) and financial institutions (66.2%). These results suggest that the current arrangement in Swaziland meets the view of Meyer et al (2011) about the importance of correct and timely information to help smallholder sugarcane farmers with decision-making. These findings further suggest that although farmers perceive that information is relayed timeously, this could be through the use of ICT.

Table 4 Timeliness of sources to relay Sugarcane production information to other stakeholders

	Not at all		Rarely		Sometimes		Always	
	F	%	F	%	F	%	F	%
SSA	1	.5	6	3.2	24	12.7	158	83.6
Farmers	12	6.3	18	9.5	98	51.9	61	32.3
University	103	54.5	63	33.3	16	8.5	7	3.7

SWADE	49	25.9	41	21.7	35	18.5	64	33.9
Government	80	42.3	47	24.9	30	15.9	32	16.9
Suppliers	23	12.2	39	20.6	59	31.2	68	36
Financiers	27	14.3	36	19	66	34.9	60	31.7
NGOs	96	50.8	56	29.6	25	13.2	12	6.3
Researcher	103	54.5	56	29.6	22	11.6	8	4.2

6.5 Mode of information communication

The study also intended to determine the mode that is mostly used by the sugar industry to effectively circulate information among its stakeholders. The results are presented in Table 5 and they indicate that farmers and extension officers perceive cell phones (87.4%) to be the mostly used mode of communicating sugarcane production information followed by face to face (83.6%) and radio (53.9%). Respondents have confirmed that cell phone is the ideal technology that is currently in use to disseminate information within the sugar industry. This is also supported by the fact that almost all sugarcane farmers possess cell phones. This finding presents an ideal opportunity for the sugar industry extension service to introduce a formal communication system that uses mobile phones to facilitate information and knowledge exchange between smallholder farmers and other industry stakeholders. These findings are entirely consistent with the argument of Masuki et al. (2010) that one of the ways through which extension can reach a large number of farmers is to use ICT. The findings are inconclusive with regard to the impact on the costs associated with the way in which information is disseminated.

Table 5: Current means of communicating sugarcane production information to farmers

	Not at all		Rarely		Sometimes		Always	
	F	%	F	%	F	%	F	%
Radio	26	34.9	61	32.3	84	44.4	18	9.5
Television	66	34.9	71	37.6	46	24.3	6	3.2
Landline	147	77.8	9	4.8	18	9.5	15	7.9
Cell phone	14	7.4	10	5.3	43	22.8	122	64.6
News paper	37	19.6	82	43.4	56	29.6	14	7.4
Magazine	111	58.7	39	20.6	29	15.3	10	5.3

Fax	165	87.3	17	9	5	2.6	2	1.1
Internet	112	59.3	26	13.8	32	16.9	19	10.1
Face to face	28	14.8	3	1.6	34	18	124	65.6

6.6 Frequency of information exchange

Determining the frequency of information exchange between smallholder sugarcane farmers and the other sugar industry stakeholders is very crucial as it identifies those sectors that are effective in information exchange. Objective six of the study sought to determine this frequency. Respondents were asked to rate each sector and the results are presented in Table 6. Results show that smallholder sugarcane farmers exchange information more frequently with the Swaziland Sugar association extension agents (91%), followed by farmers (85.7%), extension agents from suppliers (81%) and extension agents from financial institutions (60.3%). This finding explains that information and knowledge is mainly exchanged among these four main sectors. These findings are consistent with the view that extension officers are a crucial connector between farmers and other actors in the dissemination of agricultural knowledge and information. They further suggest that the strength of this exchange would be enhanced through using ICT to access expert knowledge that can in turn be used to improve smallholder farmer’s knowledge (Adebayo & Adesope, 2007; Omotayo & Adedoyin, 2005).

Table 6: Frequency of information exchange among the sugar industry stakeholders

	Not at all		Less frequently		Frequently		Most Frequently	
	F	%	F	%	F	%	F	%
Extension	2	1.1	15	7.9	39	20.6	133	70.4
Farmers	2	1.1	25	13.2	91	48.1	71	37.6
Suppliers	0	0	36	19	112	59.3	41	21.7
Financiers	5	2.6	70	37	80	42.3	34	18
Researchers	42	22.2	116	61.4	22	11.6	9	4.7
MTN	71	37.6	91	48.1	19	10.1	7	3.7

7.0 DISCUSSION

The study has revealed that farmers and extension officers perceive the Swaziland Sugar Association followed by the farmers themselves as reliable and accurate sources of information for sugarcane production. The same observation was noted with regards to relaying information on time from the source to the end users. The frequency of information exchange was also found to be higher between farmers and the Swaziland Sugar Association.

These findings however are not in line with McNamara (2009) who concluded that rural smallholder farmers encounter a lot of challenges regarding accessing reliable and accurate information sources. He also noted that smallholder farmers encounter higher information costs, due to their isolation as well as the poor state of their ICT infrastructure resulting to a delay in relaying important sugarcane production information. In addition Meyer et al. (2011) noted that the absence of reliable and accurate information sources that can relay information on time to farmers was a major challenge for smallholder farmers yet it is one of the most valuable means for improving productivity among smallholder sugarcane farmers. With regards to the mode of communicating information among the industry stakeholders, the cellphone was rated high followed by face to face communication.

Farmers and extension officers perceived that all the sugarcane production information was highly required and this is an indication that they know what type of information they need and at what level, however, this finding is not in line with what Burton-Jones and Hubona (2006) discovered. They argued that most underdeveloped communities have farmers who are not aware of the type of information they need coupled with the level of requirement.

These results have indicated that the sugar industry of Swaziland is well coordinated by its mother body known as the Swaziland Sugar Association in as far as relaying accurate and reliable information on time among its stakeholders using the cell phone as the main mode of communicating information.

8.0 CONCLUSION

From the findings of the study, it can be concluded that almost all the information on sugarcane production stages from land preparation to harvesting is perceived by farmers and extension officers to be highly required, which implies the need for relevant information as provided by the key actors in the industry. This observation indicates an existing gap on information availability among smallholder farmers for improved production. It is no doubt that sugarcane production information is available but the challenge is on disseminating that information to those remote and rural smallholder sugarcane farmers.

Regarding the reliability and accuracy of different sources that could provide such highly required information, the study identified the Swaziland Sugar Association to be the best source of sugarcane production information for the farmers and extension officers. Relaying sugarcane production information to recipients on time is crucial as it enables farmers to implement accurate decisions at the right time hence improving their productivity.

The study also indicated that the most commonly used mode of communication as perceived by farmers and extension officers was the mobile phone, followed by face to face communication and the use of radio. The use of mobile phone among the Swaziland sugar industry stakeholders has increased with almost all of the respondents possessing and using them for sugarcane production information transfer. Almost all the sugarcane farmers revealed that they were using gadgets that they bought with their own personal savings. This is an indication that such a habit and attitude exhibited by the industry players towards this technology can be formally manipulated to improve information exchange within the industry.

The study has also shown that information exchange is most frequent between smallholder sugarcane farmers and the SSA extension officers followed by information exchange among the sugarcane farmers themselves then followed by input suppliers and financial institutions. Furthermore, and in the same order, these sectors were perceived to be the main sources that timely disseminate reliable and accurate information on sugarcane production.

Finally, the study also revealed that both sugarcane farmers and extension officers perceived themselves as ready for the introduction of this technology and the barriers associated with such a technology were not perceived as applicable to them. The clear implication is that the Swaziland's sugar industry players are ready for the introduction of ICTs to support them in growing sugar cane and producing sugar.

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