

Research Application Summary

Marketing extension needs for sesame farmers in Sheikan locality of North Kordofan State, Sudan

Rawia, H. M. & Gaafar, B. S.

Department of Rural Extension and social Development, Faculty of Natural Resources and Environmental Studies, University of Kordofan, P.O. Box 160, El Obeid, Sudan

Corresponding author: rereelneel@gmail.com

Abstract

The main objective of this study was to determine marketing extension needs for sesame farmers in Sheikan locality in Sudan. Two stage sampling technique was used. The first stage was the selection of eight villages and the second stage was the selection of 150 headed households from a list of farmers in the Sheikan locality included all different administrative units. The study tested the negative hypotheses of relationship between marketing information and farmer's experience, and marketing information available to farmers. This study used two sources of data, primary data collected from target beneficiaries by using a questionnaire which was designed and randomly distributed among them while secondary data were obtained from scientific publications, books, previous studies, reports and available documents from relevant authorities, Data collected through interview were analyzed using statistical tools, frequency distribution and percentage and were used to indicate the proportion of responses to certain variables; chi square test was performed to test relationship between farmers Experience and marketing Information. The study findings revealed that 49.3% of the respondents were aged more than 50 years, 58.7% had no education, majority (92.0%) had farming as their primary occupation, 79.3% having farming experience of more than 11 years; 11.7% of the respondents had access to marketing information from other farmers, majority (84.4%) from traders and (3.9%) obtained information from the Extension agents. Also the study revealed that the majority (74.7%) of the respondents needed assistance in marketing information and on farm planning 48.0%. Chi square results showed significant ($p \leq 0.05$) relationship between farmers' experience and marketing Information.

Key words: Farmer experience, market information, sesame production, Sudan

Résumé

Le principal objectif de cette étude était de déterminer les besoins de vulgarisation commerciale des producteurs de sésame dans la localité de Sheikan au Soudan. Une

technique d'échantillonnage en deux étapes a été utilisée. La première étape a été la sélection de huit villages et la deuxième étape a été la sélection de 150 Chefs de ménages à partir d'une liste d'agriculteurs de la localité de Sheikan comprenant toutes les différentes unités administratives. L'étude a testé les hypothèses négatives de la relation entre les informations de commercialisation et l'expérience des agriculteurs, et les informations de commercialisation disponibles pour les agriculteurs. Cette étude a utilisé deux sources de données, les données primaires collectées auprès des bénéficiaires cibles en utilisant un questionnaire qui a été conçu et distribué au hasard parmi eux tandis que les données secondaires ont été obtenues à partir de publications scientifiques, de livres, d'études antérieures, de rapports et de documents disponibles auprès des autorités compétentes. Les données collectées lors des interviews ont été analysées à l'aide d'outils statistiques, de la distribution des fréquences et du pourcentage et ont été utilisées pour indiquer la proportion de réponses à certaines variables. Le test du chi carré a été effectué pour tester la relation entre l'expérience des agriculteurs et les informations commerciales. Les résultats de l'étude ont révélé que 49,3% des répondants étaient âgés de plus de 50 ans, 58,7% n'avaient aucune éducation, la majorité (92,0%) avaient l'agriculture comme activité principale, 79,3% avaient une expérience agricole de plus de 11 ans; 11,7% des répondants ont eu accès à des informations commerciales d'autres agriculteurs, la majorité (84,4%) des commerçants et (3,9%) ont obtenu des informations des agents de vulgarisation. L'étude a également révélé que la majorité (74,7%) des répondants avait besoin d'assistance en informations commerciale et en planification agricole. Les résultats du test chi carré ont montré une relation significative ($p < 0,05$) entre l'expérience des agriculteurs et les informations commerciales.

Mots clés: Expérience des agriculteurs, informations commerciales, production de sésame, Soudan

Introduction

Many developing countries are embarking on agriculture development strategies aimed at promoting market orientation of subsistence farmers and their eventual integration into the market economy (Gebremedhin *et al.*, 2012). Agricultural extension services are the major institutional support services playing a major role in commercial transformation of subsistence agriculture. However, most of the public extension services in developing countries still remain production - and subsistence-oriented (Gebremedhin *et al.*, 2012). The target remains improving productivity and production for food self- sufficiency and little attention is given to market oriented production planning, and the input and output marketing services needed by smallholders to promote and expand their market orientation and market participation (Gebremedhin *et al.*, 2012). Focus on commercial transformation of subsistence agriculture requires that the mandate of the extension officer should not be limited to promoting increased productivity and production (Gebremedhin *et al.*, 2012). It should also include provision of support services to rural households and their enterprises to earn better income from farming activities (Gebremedhin *et al.*, 2012). Facilitating market linkages and building marketing and agribusiness capacity of subsistence farmers goes hand-in-hand with promotion of appropriate production technologies and practices. Hence, agricultural extension services in developing countries need to shift from production-oriented system to more market-oriented service to

help farmers link and adapt to changing markets (Gebremedhin *et al.*, 2012). Sesame (*Sesamum indicum* L.) is considered as one of the important oil seeds crop besides being a food for human beings whether directly as a seed or oil as a main material for many food industries like different sweet industries. It is used for eating (food), medicine, soap industry and cleaning, washing oils and cooling cream. Fodder from sesame is also used as food for animals. Thus, there is an increase in international demand for more attention to be given to the commodity (Elamin, 2011).

Sesame is grown in many parts of the world on over 5 million acres (20,000 km²). The largest producer of the crop in 2007 was India, China, Myanmar, Sudan, Ethiopia, Uganda and Nigeria (Asghaer *et al.*, 2014). A large majority of sesame is marketed as seed. Sesame seeds contain 50% oil and 25% protein. They are used in baking and oil production. Sesame in Sudan is mainly produced under semi-mechanized and traditional farming systems. It is grown entirely under rainfed conditions, and is grown with little or no use of machinery or modern inputs under the traditional farming system. The major sesame growing areas in the Sudan are located in Kordofan, Sinnar, Kassala, and Blue Nile States (Imad, 2015). The State of North Kordofan has comparative and competitive advantages in producing many agricultural crops, especially oilseeds (Ministry of Agriculture North Kordofan State, 2007).

The extension system in the rural areas should be re-oriented to meet the challenges in the 21st century due to globalization (Singh, 2001). Also it has become necessity to shift extension focus from production-orientation to market-led extension which results in increased farm income (Srivastava, 2007). Market-led extension help the farmers to minimize the production costs, improve the quality of farm produce, increase the product value and marketability resulting in increase of income to the farmers (FAO, 2002). Marketing extension are activities which extension workers can carry out to assist farmers with their marketing (FAO, 2002). Farmers who plan their production according to the market earn better returns and profit (Kirishi, 2012). As such there is need to re-form extension services to the requirement of market -led extension (Kirishi, 2012). So the basic principle behind market extension is quality improvement with appropriate concern over price and this can be expressed by the following equation (Kirishi, 2012):

$$\text{Market led extension} = \frac{\text{Quality} \uparrow}{\text{Cost /price} \downarrow}$$

The roles of market extension agent. The main role of market extension agent is to serve as a facilitator for the identification of the production and marketing possibilities and problems in the area, promoter of the adoption of improved agricultural technologies for market oriented commodities, supporter and advisor of business plan developments, facilitator of linkages of farmers with input suppliers and credit service providers, transporters, commodity buyers, and processors; fostering farmer linkage with input suppliers, credit service providers and output buyers. Oftentimes, farmers lack information about the availability of suppliers and buyers, collectors, processors and for interpretation and dissemination of market information. Therefore market-oriented extension also serves to

facilitate provision of infrastructure and marketing support services (Gebremedhin *et al.*, 2012). Therefore, there is a need to avail such facilities and services through the public extension system, community organizations, NGOs or the private sector so as to enhance market- led extension development.

Focused points for extension officer. The following points are necessary for extension officers to support market development (FAO, 2002): What are the main crops and livestock of the area?; Where are their markets and what are they are being supplied with?; What are the sources of production/marketing information?; What are the local and regional current market opportunities?; What are the typical prices that the farmers obtain for his/her product and what the prices at the market?; What agricultural products in their area have some comparative or competitive advantage?; What are the major problems that farmers experience in marketing?; And, what problems do the traders, transporters and agribusinesses in the area face?

According to FAO (2002), the role of an extension officer is to: Lobby for opportunities (e.g. request local miller to buy from farmer and request information on supply demand); Provide and organize farm training on markets and marketing; Help farmers form groups to transport products to market; Provide market information to farmers or explain how they keep themselves up to date with the market; Provide contact for farmers such as names and addresses of traders, Agribusiness transport companies and suppliers of packaging and transport; Assist farmers and local agribusinesses to lobby local Government for market infrastructure; and Help farmers calculate their costs and possible returns.

Due to lack of a special unit for marketing extension in the Department of Agricultural Extension and Technology Transfer in the State Ministry of Agriculture and Rural Development in Kordofan to provide farmers with marketing information related to supply and demand, market indicators and market sites to help them make the right decisions to determine what he/she grows, what the market needs (consumer desires), what is the required variety and quality specifications, and the post-harvest processes to improve the crop quality to be able to compete in the local and international markets, these aspects needs to be prioritized and budgeted for. Because the farmers lack the knowledge and skills to access crops marketing information, this research highlights the marketing extension needs for farmers especially sesame producers in Sheikan locality in North Kordofan State. Based on the above mentioned arguments, this study focused on the determination of marketing extension needs for sesame farmers in Sheikan locality. Specifically, it aimed at identifying personal characteristics of respondents, investigating information sources available to farmers, assessing the capacity of the farmers to obtain marketing extension needs (marketing information, farm planning, production cost and post -harvest process) and knowing the relationship between farmers' experience and marketing information.

Methodology

Study area. North Kordofan State lies between latitudes 16° 38" N and 12° 14" N and longitudes 26° 46" E and 32° 22" E. The State total area is 185,302 km² and is divided into eight localities: Sheikan, Um Rowaba, Bara, West Bara, Um Dam Haj Ahmed, Um Kraidim, Sodari and Gabrat El Sheikh. Sheikan locality is composed of four districts. These are Kazgail,

Abu Haraz, Khor Tagget and Umashira, Omsemiama. In addition it has a non- demarcated rural council for nomads, which represents the nomadic people who move within the previously mentioned demarcated rural councils. Sheikan locality is located in the central part of Kordofan region. The population of Sheikan locality is about 1,430,000 inhabitants of whom 42.2% are women (Department of Statistic, 2003). Elobeid city is the capital of North Kordofan State and the center of the area councils. The main crops grown are Gum Arabic and sesame.

The study was conducted in the Sheikan locality and included all different administrative units which are: Khortagat, Aboharaz, Kazgial, Omoshiara and Omsemima. A multistage sampling technique was used to select respondents. The first stage was the selection of villages, the available records indicated that there were 173 villages in the targeted administrative units. Eight villages were randomly selected with sampling percentage of 5%. These villages were: Lewiab, Memsoka, Omarda, Ebnoya, Ryash, Omashiara Abusaadianom and Gorafi. The second stage was the selection of households in each selected village, 10% of total number of household in the villages (1505) were randomly selected making a total sample of 150 households. Data collection was via structured questionnaires which were randomly distributed among 150 farmers. The collected data were analyzed using statistical tools for (i) frequency distribution and percentage were used to indicate the proportion of responses to certain variables and (ii) chi square was used to test relationship between personal characteristics and farmers marketing extension needs.

Results and Discussion

The socio-economic characteristics of the respondents. The study findings showed that 62.7% of the respondents were males and 37.3% were female (Table 1). Also majority of the respondent (80.7%) were married and only 5.3 % were single. About 49% of respondents fell in the age category of more than 50 years which indicates a middle age of economically active population in the study area (both males and females). It might also indicate more dependency and a potential for high agricultural production and income, less likelihood to accept change or adoption of innovations, and less interaction in development processes. About 22.0 % of the respondents fell within the age group of 41-50 years (Table1). The finding revealed that about 58.7% of the respondents were not educated; the other 42.3 % received education at different levels, including, Khalwa, basic, secondary, and higher education (11.3%, 14.7%, 13.3% and 2.0%, respectively). The study results show the high level of illiteracy in the area among the respondents in North Kordofan State, which matched the results of CBS (2009) which indicate that the level of illiteracy was 51.7%. Majority of the respondents depended on rain-fed farming and 87.3% of the male sample members were practicing farmers. As reported by Rahama (1997), other minor occupations practiced by 8 % of the sample included work as merchants and labourers. This result confirms the fact that agriculture is the main economic activity in the rural communities, and all the family members depend on it to ensure the household food security. Regarding the farmer experience in agriculture production activities with emphasis on sesame, Table 1 reveals that 79.3% of the respondents had more than 11 years of experience, 10.6% had an experience ranging between 6 to 10 years while 10.0% of respondents had 5 years

of experience. Therefore, this result implies that the respondents have good experience in sesame production. Considering distribution of the respondents based on their membership in the cooperative, the study result revealed that 70.7% were not members of the cooperatives while 29.3% of them were members in cooperative societies. Also, the majority (90.6%) of the respondents used funds for sesame production.

Table 1. The Personal characteristics of their farmers

Characteristics	Frequency	Percentage
Sex		
Male	94	62.7
Female	56	37.3
Marital status		
Single	8	5.3
Married	121	80.7
Widow	6	4.0
Widower	7	4.6
Separated	8	5.3
Age		
20-30	18	12.0
31-40	25	16.7
41-50	33	22.0
More than 50 year	74	49.3
Education level		
No Education	88	58.7
Khalwa	17	11.3
Primary	22	14.9
Secondary	20	13.3
universal	3	2.0
Primary occupation		
Farming	138	92.0
Trading	12	8.0
Experience		
>5years	15	10.0
6-10 year	19	10.6
<11years	119	79.3
Status of cooperative membership		
Not member of cooperative	106	70.7
Member of cooperative	44	29.3
Farmer Sources of finance		
Self financing	136	90.6
Bank credit facilities	6	4.0
Cooperative society	1	0.6
Traders	7	4.6

Source: Field survey (2018)

Sources of marketing information and marketing extension needs from view point of respondents. Table 2 shows that 11.7% of the respondents accessed marketing information from other farmers, majority (84.4 %) from traders and only 3.9% obtained information from Extension agents.

Table 2. The sources of marketing information

Marketing information	Frequency	Percentage
Other farmers	9	11.7
Traders	65	84.4
Extension agent	3	3.9

Source: researcher (2018)

Table 3 shows that majority (74.7%) of the target group were in need of marketing information implying that sesame farmers need help to access market information to enable them make right decisions about what to grow, what the market needs (consumer desires), required variety and quality specifications. Respondents indicated need for information on farm planning (48.0%), costing in production costs (66.0%) and 78% needed information on Post harvest management. Previous studies indicated that losses in agricultural crops production was very high due to lack of attention towards post harvesting handling processes, and the losses ranged from 20 to 30% (Mohamed, 2015).

Table 3. Distribution of the respondents by marketing extension needs

Marketing extension needs	Large extent	Some extent	Not at all
Marketing information	74.7%	21.3%	4.0%
Farm planning	48.0%	39.3%	12.7%
Production costing	66.0%	22.0%	12.0%
Postharvest process	78.0s%	5.3%	13.3%

Source: researcher (2018)

Relationship between farmers experience and marketing information. The results of the chi square analysis in Table 4 which tested relationships between farmers experience and marketing information showed significant relationship between the variables at P (0.60).

Table 4. Relationship between farmers experience and marketing information experience/years

Level of marketing information	Excellent	medium	Weakness	No	Total
≥5	1.3	2.0	2.7	4.0	10.0
6-10	0.	4.7	2.0	4.0	10.7
≤11	2.7	14.7	21.3	40.7	79.3
Total	4.0	21.3	26.0	48.7	100.0

Source: Field survey results (2018)

Conclusion

The study concluded that marketing extension techniques in terms of marketing information, farm planning, production costing and post-harvest process should be incorporated into extension packages to help sesame farmers market their crops and maximize their benefits.

Acknowledgement

Our thanks go to the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) for supporting this work via offering the lead author scholarship for a Master degree training. Our thanks are extended to the University of Kordofan for academic support. This paper is a contribution to the Sixth African Higher Education Week and RUFORUM Biennial Conference.

References

- Asghar, M. A. 2014. A review on the utilization of sesame as functional food. *American Journal of Food and Nutrition National* 4 (1): 21-34.
- Central Bureau of Statistics (CBS). 2009. Census. Elobied, North Kordofan State, Sudan
- Efadil, I. 2015. Analysis of factors constraining the competitiveness of sesame export in the Sudan. FAO TCP/SAF0065 No. 1 Pg1-24. <https://WWW.nda.agri.za/docs/GenPub/AgriMarketExtension>.
- Krishi, Indira Gandhi. 2012. Training Manual of Model Training Course on Market led Extension. Ministry of Agriculture, GOI, New Delhi, India.
- Mohamed, H. E. 2015. postharvest process
- Elamin, H. A. 2011. Report no. 18 on Management of promotion and studies and investment. Department of Studies. Sudan trade point.
- Gebremedhin, B., Jemaneh, S., Hoekstra, D. and Anandajayasekeram, P. 2012. A guide to market-oriented extension services with special reference to Ethiopia. IPMS (Improving Productivity and Market Success) of Ethiopian Farmers Project. Nairobi: ILRI. Editorial and Publishing Services, Addis Ababa, Ethiopia. ISBN 92-9146-284-5.
- Singh, J. P. 2001. Strategy for affective agricultural market extension to meet the challenges in 21st Century. *Journal of Agricultural Extension Management* II (2): 1-8.
- Srivastava, J.N. L. 2007. Recommendation of Working Group on Agricultural Extension for Formulation of Eleventh Five-Year Plan (2007-12). Working Group on Agricultural

Extension Constituted by Planning Commission. Govt. of India, New Delhi.

Suliman, G. B. 2005. The socio-economic impact of North Kordofan Rural Development Project. PhD Thesis, University of Khartoum.