

Analysis of Information Needs among Land Redistribution for Agricultural Development Beneficiaries in Waterberg District, Limpopo Province, South Africa

T. M. Moagi and O. I. Oladele

*Department of Agricultural Economics and Extension, North-West University,
Mafikeng Campus, South Africa
E-mail: oladele20002001@yahoo.com*

KEYWORDS Information Sources. Agricultural Inputs. Production. Credit. Market and Supply Chain

ABSTRACT This study analyzed information needs of Land Redistribution for Agricultural Development (LRAD) beneficiaries in Waterberg district, Limpopo. A simple random sampling technique was used to select 120 farmers and a structured questionnaire was used to collect data which were analyzed with SPSS using frequency counts, percentages, and regression analysis. The results showed that the respondents were predominantly married (52%), with household size of between 6-10 members (52.5%). The results showed high information need in the areas of pesticides (51.7%), agricultural equipments (50.0%), disease management (61.7%), market prices (79.2%) and collaterals (64.2%). Extension agents (96.7%) were the main information source. Farming experience ($t = -1.96$, $p < 0.05$), farmers group membership ($t = -4.03$, $p < 0.05$), farm income ($t = -2.10$, $p < 0.05$), extension contacts ($t = -3.29$, $p < 0.05$), farm size ($t = -1.74$, $p < 0.05$), labor sources ($t = -1.68$, $p < 0.05$) and information sources ($t = -2.69$, $p < 0.05$) showed significant relationships with information needs of farmers.

INTRODUCTION

In South Africa, land distribution, ownership and accessibility have largely been due to the influence of apartheid regime. The Native Land Act of 1913 formalized the distinction between African reserves and white farming areas, prohibiting Africans from acquiring, owning, and renting land in the latter. This limited their economic options so severely as to compel many to sell their labor to mines and white farms (Aliber 2003). Morris (2007) revealed that during the colonial times, only about 14% of the total land and 15.2% of the potentially arable land in the country was available to non-White farmers, mostly in the former Black homelands.

After the collapse of apartheid in 1994, land reform policy was introduced which was to ensure security of tenure for rural dwellers, eliminate overcrowding and supply residential and productive land to the poorest section of the rural population (Adams and Howell 2001). The land reform program of the South African government is conventionally described as having three sub-programs: restitution, tenure reform and redistribution. While restitution deals specifically with historical rights on land, and tenure reform with forms of land holding, redistribution is specifically aimed at transforming the

racial pattern of land ownership (Jacobs et al. 2003). Land reforms are therefore required to meet multiple needs in different situations, including people's needs for secured title to residential lands, access to land and related support services to engage in agriculture, and to provide historical redress and promote national reconciliation. According to van Zyl et al. (1996) the most obvious motivation for land reform is the unsustainability from a political, social and, economic and equity point of view of the present distribution of the ownership of agricultural land.

According to Jacobs et al. (2003), the government's redistribution policy has undergone a number of shifts since 1994. From 1995 to 1999, it was implemented largely by means of the Settlement/Land Acquisition Grant (SLAG), which provided a modest grant to poor people, usually in groups, to purchase land on open market. Mokhatla et al. (2000) opined that the SLAG approach was adopted by the Department of Land Affairs and this system allocated cash grants of R16 000 per household, to previously disadvantaged individuals, for farm purchases. The SLAG program was re-evaluated and in 2001, the Land Redistribution for Agricultural Development (LRAD) was introduced.

In terms of support given to farmers after they have received land, the LRAD has closely allied itself with the Comprehensive Agricultur-

al Support Program (CASP) which is aimed at providing post-settlement support to land reform beneficiaries and others involved in value-added agricultural enterprises in the following priority areas: (1) information and knowledge management, (2) advisory and regulatory services, (3) training and capacity building, (4) finance, (5) on/off-farm infrastructures, and (6) marketing. The National Department of Agriculture (NDA) disburses CASP funds to Provincial Departments of Agriculture (PDAs) for implementation (Mokhatla et al. 2000). Morris (2007) points out that recent prominent failure of group and individual farming enterprises on redistributed land have highlighted the crucial need for skills, training, and knowledge transfer, the provision of good information support to resettled communities and emerging farmers and, agribusiness entrepreneurs.

Majority of previously disadvantaged emerging farmers, especially land reform beneficiaries, are finding it difficult to make a success of their enterprises in the complex and risky agricultural sector. They are still experiencing poverty as they are only generating low income. Some are even leasing out their lands to White farmers and they believe that they will be better-off with the rental payments from the White farmers, and they commonly depend on the social grants or other sources of income. However, those that are still taking part in agricultural activities are only producing at a subsistence level and therefore opposing the LRAD mission of commercializing Black-owned farms.

This stagnation that is experienced by most beneficiaries is believed to be caused by their underutilization of highly productive lands. These land reform beneficiaries, are actually blaming the government for poor support services. They are complaining that they do not receive sufficient marketing information, training, financing and other important factors needed for the prosperity of their farming businesses. According to Oladeji et al. (2011), information is one of the resources required for the improvement of agricultural production that must be acquired and used to make informed decisions. Considering the roles played by farmers, it is important to provide information to them so as to boost their production and ensure their economic role in the South African economy. Hence, in order for these new agricultural entrants to succeed in

production processes, they need information on Operating capital, credit, marketing, training and skills acquisition, extension services and ICTs.

Objectives of Study

The main objective of the study is to identify and analyze informational needs of the LRAD beneficiaries. The specific objectives of the study were to determine the socio-economic characteristics, investigate the sources of information, determine the preferred sources of information, and ascertain the types of agricultural information needed by LRAD beneficiaries. The study also explored the significant relationship between socio-economic characteristics and information needs of LRAD beneficiaries

METHODOLOGY

The study was conducted in the Waterberg district, Limpopo. Limpopo province is located in the far north of South Africa and on its southern flank from east to west, the province shares borders with Mpumalanga, Gauteng and North West. Limpopo province also shares international borders with three countries: Botswana, Zimbabwe and Mozambique. The climate is hot and dry, with annual rainfall of about 60mm and a high evaporation rate. Rainfall is predominantly in summer with an estimated average range of 20.8 to 123.3mm between September and April, and 3.7 to 7.8mm between May and August. Average evaporation rate per day ranges from 3.6 to 5.5 between April and August, and from 6.0 to 8.0 between September and March. Average minimum temperatures range from 2.2 to 6.0 degree Celsius from May to August and 9.0 to 16.7°C from September to April. The average maximum temperatures range from 20.2 to 23.4°C from May to August and 26.7 to 29.6°C from September to April. The population of study consists of all crop farmers under LRAD programme in the Waterberg district, Limpopo. Waterberg district has six municipalities from which three municipalities were randomly selected. The list of farmers under LRAD obtained from DRDLR served as the sampling frame for the study and has 258 farmers. A sample of 120 farmers was selected randomly from three municipalities, with 40 farmers selected from each municipality by the use of the lottery-technique, that is, all names

of farmers were put in a box and only one name was picked at a time. Data was collected through a structured questionnaire developed based on the objectives of the study. Frequency count percentages, mean, and standard deviation were used to describe the data, while multiple regressions were used to identify the determinants of information needs among farmers.

RESULTS AND DISCUSSION

Table 1 presents the personal characteristics of LRAD beneficiaries in the study area. Majority of the respondents (60%) are males, with females being the minority (40%). Even though one of the objectives of the LRAD programme is to empower women the most, in terms of involvement in agricultural production, men are still dominant in farming. This agrees with Moloi (2008) who reported that despite the gains that have been made with respect to gender equality, the redistribution of resources and power has not shifted the structural forces. The study revealed that 33.3% of the respondents is within the age bracket of 51-60. This is supported by Moloi (2008) that farming is mostly considered as an alternative job for people who are retiring from their lucrative jobs and, the educated, young and active people migrate to the urban areas to seek better employment and they do not consider farming as a potential business.

Findings of this study revealed that 86.7% of the respondents' farming experiences ranged between 1 and 10 years and only 1.6% of the farmers have 21-30 years of experience. This can be accounted for by the fact that the LRAD programme was initiated in 2001. The table shows that farm sizes of most farmers (35%) ranged between 21 and 40 ha and 19.1% of them have 20 or less hectares of land. This contradicts the results of Oboh and Ekpebu (2011) who concluded that farmers in Nigeria had an average farm size of 2.8 ha. A large percentage of the respondents (42.1%) indicated that they fall under the income bracket of R500-R10 000 per annum whereas 6.6% falls under the income bracket of R30 001-40 000 per annum. Schwalbach et al. (2001) revealed that farmers earn income of R1000 or less per year from their farming activities.

About 52.5% of the respondents revealed that their households consisted of 6-10 people, and 13.3% of them indicated that their households consisted of more than 10 people and

these larger households are often poor and they have limited sources of income. A large number of farmers (47.5%) indicated that they use hired labor and most of these farmers (39.9%) have 1-3 workers and only 4.1% of them have 10-12 workers. One of the reasons for having few workers is that farmers cannot afford to hire more people or that the farm size is just not too big.

Table 1: Personal characteristics of LRAD beneficiaries

<i>Personal characteristics</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Gender</i>		
Male	72	60
Female	48	40
<i>Age</i>		
21-30	19	15.9
31-40	18	15
41-50	23	19.2
51-60	40	33.3
Above 60	20	16.6
<i>Farming Experience</i>		
1-10	104	86.7
11-20	6	4.9
21-30	2	1.6
Above 30	8	6.4
<i>Farm Size (Ha)</i>		
1-20	23	19.1
21-40	42	35
41-60	19	15.9
Above 60	36	29.4
<i>Farm Income</i>		
500-10000	51	42.1
10001-20000	27	22.3
20001-30000	11	9
30001-40000	8	6.6
<i>Household Size</i>		
1-5	41	34.1
6-10	63	52.5
Above 10	16	13.3
<i>Sources of Labor</i>		
Non response	2	1.7
Self	17	14.2
Family	44	36.7
Hired	57	47.5
<i>Number of Workers</i>		
Non response	19	15.8
1-3	48	39.9
4-6	35	29.2
7-9	13	10.9
10-12	5	4.1
<i>Extension Contacts</i>		
Yes	116	96.7
No	4	3.3

The results on personal characteristics further show that majority of the respondents (90.8%), were Christians, 37.5% had high school education and (9.2%) had no formal education. This finding disagrees with Mabe et al. (2011)

who revealed that majority of the farmers (65%) did not attend school. A large proportion (96.7%) of the respondents indicated that they do have contacts with extension officers whereas 3.3% do not have contact with extension agents. This can be attributed to the fact that the LRAD programme is a government initiative; hence most of the resources are from the government. Over half (66.7%) of the farmers indicated that they are not part of any farmers associations and only 33.3% of them are affiliated members of various farmer's associations. This contradicts Oladeji et al. (2011) whose findings showed that 83.3% of farmers belonged to farmers' associations.

Table 2 shows the sources of information used by farmers. Majority (95.8%) of the farmers highlighted that extension agents are their most common sources of information. The second most used source is television which is utilized by more than a half (51.7%) of the farmers. Pamphlets, internet and library were found to be the least used channels as they were only accessed by 19.2%, 16.7% and 5.0% of farmers respectively. The results of this study disagrees with Ozowa (2011) that majority of the farmers use radio as the most common information channel but agrees with him that the second most used channel is television.

Table 2: Information sources used by farmers

Information sources	Yes	No
Extension agents	115(95.8)	5(4.1)
Television	62(51.7)	58(48.3)
Radio	41(34.2)	79(65.9)
Newspapers	42(35.0)	78(65.0)
Pamphlets	23(19.2)	97(80.9)
Library	6(5.0)	114(95.0)
Internet	20(16.7)	100(83.3)
Other farmers/association	50(41.7)	70(58.3)
Friends/relatives	38(31.7)	82(68.3)

The information needs of farmers are presented in Table 3. These are categorized into agricultural inputs, production and market and supply chain. Most farmers 51.7%, 50.0% and 41.7% indicated high need for information on pesticides, agricultural equipments and agric-input companies respectively, while areas where low information was needed included seeds (46.7%) and fertilizers (38.3%). According to Okwu and Umoru (2009), the areas in agriculture where majority of Nigerian farmers needed in-

formation on, included pesticides, fertilizers and improved farm implements. A good proportion of farmers; 61.7%, 54.2% and 50.0% revealed that their information needs on disease management, insects and pests management, and technical knowledge respectively, is of great importance. This can be justified by their level of farming experience. The table further reveals that 54.2%, 52.5% and 40.0% of the respondents only need less information on weather and climate, weeding and sowing respectively. The findings contradict Narula (2010) who observed that information on weather and climate, and sowing practices was the most important. Majority (79.2%)

Table 3: Information needs of farmers on agricultural inputs, production and market and supply chain

	High	Moderate	Low
<i>Agricultural Inputs</i>	36(30.0)	28(23.3)	56(46.7)
Seeds			
Fertilizers	47(39.2)	26(21.7)	46(38.3)
Pesticides	62(51.7)	23(19.2)	34(28.3)
Agric equipments	60(50.0)	34(28.3)	25(20.8)
Agric-input companies	50(41.7)	28(23.3)	40(33.3)
<i>Production</i>			
Weather and climate	19(15.8)	36(30.0)	65(54.2)
Soil fertility	40(33.3)	37(30.8)	43(35.8)
Land preparation	42(35.0)	32(26.7)	46(38.3)
Sowing	40(33.3)	32(26.7)	48(40.0)
Fertilizer application	48(40.0)	31(25.8)	41(34.2)
Irrigation methods	49(40.8)	33(27.5)	38(31.7)
Disease management	74(61.7)	27(22.5)	19(15.8)
Insect/pests management	65(54.2)	27(22.5)	28(23.3)
Weeding	14(11.7)	43(35.8)	63(52.5)
Time and techniques of harvesting	54(45.0)	32(26.7)	34(28.3)
Post-harvest techniques (handling)	54(45.0)	33(27.5)	33(27.5)
Technical knowledge	60(50.0)	33(27.5)	27(22.5)
<i>Market and Supply Chain</i>			
Available agric markets	85(70.8)	22(18.3)	13(10.8)
Market prices	95(79.2)	16(13.3)	9(7.5)
Procurement (supply) companies	57(47.5)	24(20.0)	39(32.5)
Products' demand	60(50.0)	31(25.8)	29(24.2)
Products' supply	58(48.3)	27(22.5)	35(29.2)
Grading	70(58.3)	34(28.3)	16(13.3)
Processing	36(30.0)	19(15.8)	65(54.2)
Transportation	40(33.3)	33(27.5)	47(39.2)
Storage methods	43(35.8)	19(15.8)	58(48.3)
Export procedures	80(66.7)	26(21.7)	14(11.7)
Marketing companies	68(56.7)	29(24.2)	23(19.2)

of the farmers highlighted that their information need on market prices is high, followed by information on agricultural markets (70.8%). They

also reported a high information need on export procedures (66.7%) and grading (58.3%). The table also shows that processing (54.2%), storage methods (48.3%) and transportation (39.2%) score lowest as areas in which information is needed by LRAD farmers. Respondents commented that their marketing opportunities are limited. A study by Narula (2010) corroborates that information on commodity prices and agricultural markets is extremely important.

In Figure 1, collaterals (64.2%) and loan terms (59.2%) had highest percentage of information needs by farmers. This might be because most of the respondents are old, with limited education and language barriers, and therefore they cannot cope with the complexities of English language that is commonly used in the banking sectors. The result justifies Ozowa (2011) who opined that farmers need information on the terms of loans such as the interest rates, loanable amount and mode of repayment.

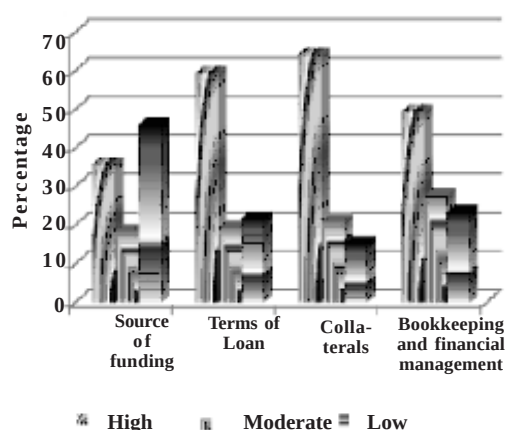


Fig. 1. Information needs of farmers on credit

The results of the multiple regression analysis of relationships between demographic characteristics and information needs of farmers on agric inputs, production and market supply chain and credit are presented in Table 4. For agricultural inputs, the independent variables were significantly related to information needs on agric inputs with an F value of 4.07. The R value of 0.59 showed that there was a strong correlation between the independent variables and information needs on agric inputs. The results further predicted 35% of the variation in informa-

tion needs of farmers on agric inputs. Significant determinants were farming experience ($t = -1.96, p < 0.05$), member of farmers group ($t = -4.03, p < 0.05$) and information sources ($t = -2.69, p < 0.05$). These findings imply that, as farmers gain experience, become members of farmers groups, utilize more sources of information, their information needs become less. In terms of the determinants of information needs on production, the independent variables were significantly related to production with an F value of 4.35. The R value of 0.61 showed that there was a strong correlation between the independent variables and information needs of farmers on production. The results further predicted 37% of the variables in informational needs on production. Significant determinants were farming experience ($t = -3.48, p < 0.05$), farm income level ($t = -1.10, p < 0.05$) and member of farmers' group ($t = -2.25, p < 0.05$). These findings imply that, as the level of farmer's experience and farm income increase, their information needs on production decrease. Also, as farmers become members of farmers groups, their need for production information decreases. Farmers' information needs on market and supply chain was significantly influenced by demographic characteristics with an F value of 2.85. Also, an R value of 0.53 showed that there was a strong correlation between the independent variables and information needs on market and supply. The results further predicted 28% of the variation in market and supply information needs. Significant determinants were farming experience ($t = 2.24, p < 0.05$), contacts with extension agents ($t = -3.29, p < 0.05$) and member of farmers' group ($t = -2.78, p < 0.05$). These findings imply that, an increase in farming experience will lead to an increase in information needs on market and supply. However, as farmers get fewer visits from extension agents and do not affiliate to any farmers' groups, their need for market and supply information will increase. For information needs on credit, the independent variables were significantly related to information needs on credit with an F value of 5.78. The R value of 0.66 showed that there was a strong correlation between the independent variables and information needs of farmers on credit. The results further predicted 44% of variation in information needs on credit. Significant determinants were educational level ($t = -2.76, p < 0.05$), farming experience ($t = 2.25, p < 0.05$), farm size ($t = -1.74, p < 0.05$), sources of labor ($t = -1.68,$

Table 4: Determinants of information needs on agricultural inputs, production, market and supply, and credit

	<i>Agric inputs</i>	<i>Production</i>	<i>Market and supply</i>	<i>Credit</i>
(Constant)	20.365 (3.630)*	30.623(6.355)*	44.963(4.583)*	14.506(2.960)*
Gender	-.682 (.540)	1.323(.945)	-.866(.681)	.036(.440)
Marital status	-.032 (.307)	.226(.537)	-.049(.387)	.313(.250)
Ethnic group	-.827 (.676)	1.594(1.183)	1.056(.853)	.230(.551)
Religion	-.336 (.274)	.339(.481)	-.066(.347)	.152(.224)
Age	.002 (.026)	-.047(.045)	-.048(.032)	.028(.021)
Educational level	.187(.248)	-.369(.435)	-.068(.313)	-.558(.202)*
Farming experience	-.055(.028) *	-.170(.049)*	.079(.035)*	.051(.023)*
Farm size	-.012(.008)	.008(.014)	-.010(.010)	-.011(.006)*
Farm income	3.21E-6(.000)	-2.283E-5(.000)*	3.309E-6(.000)	4.924E-6(.000)
Household size	-.030(.102)	.215(.179)	-.153(.129)	.076(.083)
Labor sources	.204(.389)	-.299(.681)	.780(.491)	-.535(.317)*
Contacts with extension	-1.286(1.484)	-.801(2.598)	-6.170(1.874)*	-1.163(1.210)
Member of farmers group	-2.666(.662) *	-2.608(1.159)*	-2.321(.836)*	-1.134(.540)*
Info sources	-.346(.128) *	-.115(.225)	-.252(.162)	-.147(.105)
R	0.59	0.61	0.53	0.66
R Square	0.35	.37	.28	.44
F	4.07	4.35	2.85	5.78
Sig.	.000	.000	.001	.000

*Figures that are in parenthesis are significant at 5%

$p < 0.05$) and member of farmers' group ($t = -2.10$, $p < 0.05$). These findings imply that, as the level of education decrease, information needs of farmers on credit increases. An increase in farming experience also results to an increase in the need of credit information. Furthermore, as the farm size increase, information needs of farmers on credit decrease. Farmers who have less sources of labor require more information on credit. And, as farmers become members of farmers' groups, their need for credit information decrease.

CONCLUSION

For farmers to succeed in their businesses, information support is vital. From the findings of the study, it can be concluded that majority of the LRAD farmers do not have access to necessary agricultural information or, the information they receive is just inadequate. The farmers in the study area have high information needs particularly in the areas of agricultural inputs, production, market and supply chain and, credit. These information needs were found to be influenced by various socio-economic characteristics of farmers; this justifies the variation in the types of information needed by individual farmers. The usage of information channels also varied amongst the farmers but, the most utilized source of information was found to be extension agents, followed by television. Even

though most farmers ranked extension agents as their most preferred source of information, it is imperative that they use other sources of information to enhance their agricultural knowledge and improve their farming businesses in every way possible.

REFERENCES

- Aliber M 2003. Chronic poverty in South Africa: Incidence, causes and policies. *World Development*, 31(3): 473–490.
- Adams M, Howell J 2001. Redistributive land reform in Southern Africa. In: *Natural Resource Perspectives*, Issue 64: 1-6. January 2001.
- Jacobs P, Lahiff E, Hall R 2003. *Land Redistribution. Cape Town: Programme for Land and Agrarian Studies*. University of the Western Cape, Cape Town, South Africa.
- Mabe LK, Antwi MA, Oladele OI 2010. Factors Influencing Farm Income in Livestock Producing Communities of North-West Province, South Africa. *Livestock Research for Rural Development*. Vol. 22, No. 8. From <<http://www.lrrd.org/lrrd22/8/mabe22142.htm>> (Retrieved on 10 November 2011).
- Mokhatla P, Maine N, Nell, WT 2010. Sustainable Farmer Settlement in South Africa; Agrarian vs Rural. From <http://www.ifmaonline.org/pdf/congress/07Mokhatla_et al.pdf> (Retrieved on 29 September 2010).
- Moloi MJ 2011. A Comparison of Socio-economic Characteristics that Determine the Farm Income of Emerging Livestock and Horticultural Farmers in South Africa. From < <http://ul.netd.ac.za/bit>

- stream/10386/100/1/modisefinalthesis.pdf> (Retrieved on 10 November 2011).
- Morris C 2007. Assessment of Agricultural Information Needs in African, Caribbean and, Pacific States. From< http://www.fara-africa.org/library/browse/Final_South_Africa-report_10_12_07_.pdf> (Retrieved on 02 October 2010).
- Mwakaje AG 2010. Information and communication technology for rural farmers market access in Tanzania. *Journal of Information Technology Impact*, 10(2): 111-128.
- Narula SA 2011. A Study of Prioritization of Information Related Needs of Farmers. From<<http://www.agricorner.com>> (Retrieved on 30 July 2011).
- Oboh VU, Ekpebu ID 2011. Determinants of formal agricultural credit allocation to the farm sector by arable crop farmers in Benue State, Nigeria. *African Journal of Agricultural Research*, 6(1): 181 – 185.
- Oladeji JO, Oyesola OB, Ogunleye KY 2011. Agricultural information needs of root and tuber farmers in the Atisbo Local Government Area of Oyo State, Nigeria. *Journal of Agricultural and Food Information*, 12(2): 199-205.
- Okwu OJ, Umuru BI 2009. A study of women farmers' agricultural information needs and accessibility: A case study of Apa Local Government Area of Benue State, Nigeria. *African Journal of Agricultural Research*, 4(12): 1404-1409.
- Ozowa VN 2011. Information Needs of Small Scale Farmers in Africa: The Nigerian Example. From<<http://www.worldbank.org/html/cgiar/newsletter/june97/9nigeria.html>> (Retrieved on 20 May 2011).
- Schwalbach LM, Groenewald IB, Marfo CB 2001. A survey of small-scale farming systems in the North West Province of South Africa. *South African Journal of Animal Science*, 31(3): 200-204.
- Van Zyl J, Kirsten J, Binswanger H 1996. *Introduction to Agricultural Land Reform in South Africa*. Cape Town: Oxford University Press.