The Evaluation of Agricultural Production Information and Sources of Local Farmers in Rural Areas of Cambodia

科研費 KAKENHI

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Abstract: The main object of this study was to quantitatively grasp the relationship between agricultural production information and information sources, which local farmers attach great importance to in order to realize stable and sustainable agricultural management. A questionnaire survey of local farmers was conducted in Kampong Cham, Cambodia, and received 437 responses. The results of the analysis are summarized as follows. 1) According to the results of Multiple Correspondence Analysis, it was confirmed that the relationship between the information source and the agricultural production information necessary for improving the agricultural management of local farmers, specifically, agricultural production information related to daily farming is obtained from familiar sources such as other farmers in the village and parents. In addition, the same tendency is seen in the expected information sources. 2) According to logistic regression analysis, the current sources of information and the expected sources of information were identified for the four agricultural production information sources that local farmers consider the most important. It was confirmed that local farmers have high expectations for Government officers (DDAFF officers) in addition to familiar sources such as other farmers in the village and parents. However, the results suggest that they are not aware of specific sources of information regarding market information and agricultural production information related to new technologies, which are assumed to be necessary information for improving the current agricultural management..

INTRODUCTION

Recently, with the economic development in Cambodia, the demand for various agricultural products such as vegetables and fruits has increased along with the staple food, rice. Despite these changes in domestic demand for agricultural products, the current situation in rural areas is that many local farmers only want to expand rice production. Producing a variety of agricultural products in addition to rice production, for which demand is expected to increase in the future, will enable sustainable and stable agricultural management and is expected to improve the poverty problem in rural areas. In order to shift from traditional farming to sustainable and stable farming, it is necessary for local farmers to clarify their evaluation of important agricultural production information and sources. The main object of this study was to quantitatively grasp the relationship between agricultural production information and information sources, which local farmers attach great importance to in order to realize stable and sustainable agricultural management.

OBJECTIVE

The specific analysis of this study has the following two issues. 1) According to Multiple Correspondence Analysis, it was confirmed that the relationship between the information source and the agricultural production information necessary for improving the agricultural management of local farmers. 2) According to logistic regression analysis, the current sources of information and the expected sources of information are identified for the four agricultural production information sources that local farmers consider the most important. Furthermore, The research site was in Kampong Cham Province, Cambodia. The total number of respondents is 437.

RESULT AND DISCUSSION

The relevant of agricultural production information and sources of local farmers

Firstly, Table 1 shows agricultural production information that local farmers consider important. These are the results from multiple answers.

Table 1 The Agricultural production information that local farmers consider important

Index	Agricultural production information									
Number of response	Information about seeds	Information about machinery	New technology information	Information about chemical	Information about organic	Market information	Information about training	Price information	Information about harvest	Planting information
437 (n)	194	26	135	32	199	113	117	32	15	138
(%)	0.44	0.06	0.31	0.07	0.46	0.26	0.27	0.07	0.03	0.32

Source : Survey Date

Secondly, Multiple Correspondence Analysis confirms agricultural production information and its source Relevant that local farmers consider important. Specifically, Figure 1 shows to whom local farmers are given agricultural production information. In addition, Figure 2 shows who local farmers are conscious of wanting to receive agricultural production information.

Fig.1 Results of required agricultural information of local farmers and response patterns of information sources-Correspondence analysis-
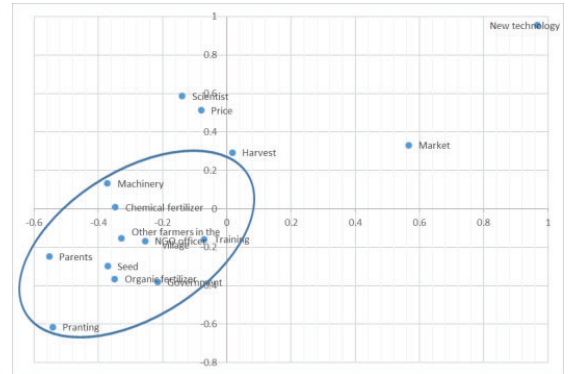

Fig.2 Results of response patterns of required agricultural information of local farmers and expected sources-Correspondence analysis-

According to the results of Multiple Correspondence Analysis, it was confirmed that the relationship between the information source and the agricultural production information necessary for improving the agricultural management of local farmers, specifically, agricultural production information related to daily farming is obtained from familiar sources such as other farmers in the village and parents. In addition, the same tendency is seen in the expected information sources.

Identification of current and expected sources of agricultural production information by logistic regression analysis

Table 2 Predicted results of logistic regression analysis

	variable	n	%	Who do you think should give you information and skills for agricultural production?					How do you get market price information?				
				partial regression coefficient	standard error	Wald test	P-value	odds ratio	partial regression coefficient	standard error	Wald test	P-value	odds ratio
Organic fertilizer	Organic fertilizer=0	238	54.46	Government	0.3601	0.2241	2.5819	0.1081	1.4335	1.1893	0.2616	20.6690	0.0000 **	3.2849
	Organic fertilizer=1	199	45.54	Village leader	0.1394	0.2623	0.2824	0.5951	1.1496	0.0842	0.2582	0.1064	0.7443	1.0879
	Whole sample	437	100.00	Other farmers in the village	0.2730	0.2116	1.6638	0.1971	1.3139	0.1164	0.2819	21.8084	0.0000 **	3.7298
				Parents	0.5174	0.2288	5.1113	0.0238 *	1.6776	1.6094	0.5020	10.2777	0.0013 **	4.9999
				Scientist	-0.5759	0.7404	0.6050	0.4367	0.5622	0.9104	0.9729	0.8757	0.3494	2.4854
				NGO officer	0.4675	0.2640	3.1370	0.0765	1.5961	0.1532	0.2600	0.3473	0.5557	1.1656
				Other	-0.2684	0.5260	0.2603	0.6099	0.7646	-0.5078	0.6857	0.5485	0.4590	0.6018
				Constant	-0.7590	0.2175	12.1781	0.0005 **	0.4682	-1.3692	0.2574	28.2984	0.0000 **	0.2543
				likelihood function	587.3362					539.3848				
				AIC	603.3362					555.3848				
Seed	Seed=0	243	55.61	Government	0.5806	0.2261	6.5919	0.0102 *	1.7871	0.7626	0.2551	8.9340	0.0028 **	2.1438
	Seed=1	194	44.39	Village leader	-0.0735	0.2637	0.0777	0.7805	0.9292	-0.0941	0.2502	0.1414	0.7069	0.9102
	Whole sample	437	100.00	Other farmers in the village	-0.6939	0.2156	10.3566	0.0013 **	0.4996	0.7650	0.2642	8.3816	0.0038 **	2.1489
				Parents	0.4539	0.2338	3.7687	0.0522	1.5744	3.8138	1.0324	13.6453	0.0002 **	45.3213
				Scientist	0.1528	0.6975	0.0480	0.8266	1.1651	0.1632	0.9086	0.0323	0.8575	1.1773
				NGO officer	-0.3861	0.2675	2.0833	0.1489	0.6797	-0.6668	0.2666	6.2555	0.0124 *	0.5133
				Other	0.1473	0.4964	0.0880	0.7667	1.1587	-0.8490	0.6748	1.5829	0.2083	0.4278
				Constant	-0.2277	0.2164	1.1074	0.2926	0.7964	-0.8303	0.2470	11.3012	0.0008 **	0.4359
				likelihood function	579.517					540.8364				
				AIC	595.517					556.8364				
Pranting	Pranting=0	299	68.42	Government	0.2955	0.2399	1.5173	0.218	1.3438	1.1972	0.2887	17.4404	**	3.3110
	Pranting=1	138	31.58	Village leader	-0.2504	0.2928	0.7311	0.3925	0.7785	-0.6635	0.2811	5.5705	*	0.5151
	Whole sample	437	100.00	Other farmers in the village	-0.1516	0.2287	0.4392	0.5075	0.8594	1.0073	0.2729	13.6204	**	2.7383
				Parents	0.4396	0.2411	3.3245	0.0683	1.5520	1.2672	0.4519	7.8625	**	3.5508
				Scientist	1.0322	0.7196	2.0572	0.1515	2.8072	1.0682	0.8374	1.6273		2.9102
				NGO officer	-0.6587	0.3023	4.7484	0.0293 *	0.5175	-0.3361	0.2745	1.5109		0.7145
				Other	-1.4805	0.7653	3.7427	0.053	0.2275	-1.5216	0.1098	2.0613		0.2184
				Constant	-0.7991	0.2342	11.6413	0.0006 **	0.4497	-1.6632	0.2745	36.7165	**	0.1895
				likelihood function	526.6545					488.0116				
				AIC	542.6545					504.0116				
New technology	New technology=0	302	69.11	Government	0.0406	0.2385	2.8984	0.0087	1.5009	0.3347	0.2630	1.6193	0.2032	1.3975
	New technology=1	135	30.89	Village leader	-0.0523	0.2827	0.0342	0.8533	0.9491	0.2108	0.2522	230.0420	0.0000 **	3.3562
	Whole sample	437	100.00	Other farmers in the village	-0.0602	0.2271	0.0703	0.7908	0.9416	-0.1729	0.2925	0.3496	0.5543	0.8412
				Parents	0.2418	0.2460	0.9656	0.3258	1.2735	0.3146	0.4686	0.4505	0.5021	1.3697
				Scientist	1.3574	0.7259	3.4967	0.0615	3.8862	1.8008	0.8581	4.4038	0.0359 *	6.0547
				NGO officer	0.0798	0.2793	0.0817	0.7750	1.0831	0.3887	0.2737	2.0163	0.1556	1.4750
				Other	0.4095	0.5155	0.6311	0.4269	1.5061	1.8258	0.5555	8.5566	0.0034 **	5.0813
				Constant	-1.1072	0.2326	22.6671	0.0000 **	0.3305	-1.8025	0.2552	39.4236	0.0000 **	0.2014
				likelihood function	530.7896					501.0674				
				AIC	546.7896					517.0674				

note:*: P<0.05 **: P<0.01

According to logistic regression analysis, familiar sources such as other farmers and parents in the village are currently the main sources of four agricultural production information that local farmers consider important. However, it became clear that local farmers wanted to have an information source that matched the content of agricultural production information.

CONCLUSION

The results of the analysis are summarized as follows. According to the results of Multiple Correspondence Analysis, it was confirmed that the relationship between the information source and the agricultural production information necessary for improving the agricultural management of local farmers, specifically, agricultural production information related to daily farming is obtained from familiar sources. In addition, it was confirmed that local farmers have high expectations for Government officers (DDAFF officers) in addition to familiar sources such as other farmers in the village and parents. However, the results suggest that they are not aware of specific sources of information regarding market information and agricultural production information related to new technologies, which are assumed to be necessary information for improving the current agricultural management.