



Impact of Information and Agricultural Development

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ABSTRACT

Information has been considered to be wealth in modern globalized world. A wide information gap exists between the research level and practice. However, after the introduction of globalization it has played major role in promotion of agriculture. It has been found from the study that the impact of information is not same for all the farmers and it differs based on age education, crop type and source of information. Level of education, modern crop and modern sources of information have positive impact on efficient selection of crop and seed, cultivation, harvesting, and procuring and marketing. However, as age of the farmer increases, the impact of information is negative. Meantime, impact of information is highly significant on in all the activities of agriculture. Therefore, timely available and reliable information plays a major role in efficient and systematic development of agriculture.

Keywords : Agriculture, Information, education, agriculture marketing and Agricultural Productivity.

Introduction:

Information plays a predominant role in development of agriculture in particular and sustainable economic development in general. Lack of agricultural information is a key factor that has greatly limited agricultural advancement in developing countries (Oladeji J.O., Oyesola O.B., et. al., 2011). Indian agriculture is still facing multi-dimensional problems to maximize productivity. A wide information gap exists between the research level and practice. Farmers need timely expert advice to make them more productive and competitive decisions (Krishna Reddy P., 2004). Knowledge produced by the agricultural scientist must be transformed into computer understandable presentation. Establish communication between farmers, coordinators, agricultural experts, research centres, and community by information technology and it must be based on farmers need (Ommani A.R., & Chizari M., 2008). Rural population in country like India, still have difficulties in accessing crucial information in the forms they can understand in order to make timely decisions for better farming. Accordingly, information technology is playing an important and wide role in agricultural production and Marketing (Sunil Pought, 2006). Farmers need access to updated and exact information in order to improve the quality and quantity of the agricultural products marketing. ICT also have a moderate role in the improvement of agricultural products marketing. Information is the most important facilitator and main core of the marketing system, has an effective role in increasing the marketing system efficiency (Farhad Lashgararal, & Roya Mohammadi, et. al., 2011), and (Dhaka B.L., & Chayal K., (2010). There are great opportunities in applying information technology in agriculture so as to increase agricultural productivity and development of the sector (Janet Kaaya, 1999). There is a widespread belief that information and knowledge are vital for rural and agricultural development. According, today, generation of new and various information and knowledge sources need new information and communication channels. Information and communication technologies can decrease poverty by promoting rural people, access to education, health, government and financial services and leads to improve the living of poor rural families that will have significant direct and indirect effects on promoting the agricultural products, marketing and post harvest activities (Allahyari M.S, & Chizari M., 2010), and (Caroline Pade, Brenda Mallinson et. al., 2005). It was also

noticed from the literature that while making the agriculture more information based the emphasise should be given to younger generation (Deraman A.B., & Shamsul Bahar A.K., 2000). Information also helps for sustainable agriculture and development (Saravanan RAJ, 2010). Hence information plays a major role in promotion of agriculture. In this background, in the present paper an attempt has made to estimate impact of information on agricultural development.

Methodology:

The Probit regression model was used to estimate the impact of information on various aspects of agricultural development. While assessing the impact, several dimensions have been used; impact of education, age, type of crop and source of information on satisfaction of farmer in crop and seed selection, cultivation, harvesting, procuring and marketing. Primary data have been used, which collected from field survey in Southern part of Karnataka. The results are accepted at five percent level. Categorically the test was designed less educated verses technically educated, young verses elder farmers, traditional verses modern crop, and traditional and modern sources of information.

Results and Discussion:

The following probit model was used to estimate the impact of education, age, type of crop and source of information on satisfaction of farmer in crop and seed selection.

$$scss = \alpha_0 + \alpha_1 ed + \alpha_2 age + \alpha_3 crt + \alpha_4 inf + e$$

Where, scss = Satisfaction about crop and seed selection, ed = Education of farmer, age = Age of farmer, crt = Crop type, inf = Source of information, α = coefficient parameters

$$scss = - 0.85 + 0.27 ed - 0.38 age + 0.21 crt + 0.63 inf$$

$$Z: \quad (-1.64) \quad (2.41) \quad (-2.41) \quad (1.09) \quad (3.44)$$

$$P>|z|: 0.102 \quad 0.016 \quad 0.035 \quad 0.277 \quad 0.001$$

Number of observations: 270, LR $\chi^2(4) = 49.05$, Prob > $\chi^2 = 0.1396$, Pseudo $R^2 = 0.140$

It has been found from the results and constant parameter

that if there were no influence of independent variables the satisfaction of farmers in selection of crop and seed was absolutely negative, however it was not significant. The impact of education is positive and it is significant; as level of education increases, the level of satisfaction in selection of crop and seed also increases due to effective use of information. The impact of age of farmers is negative and it is significant; as age of farmers' increases, the level of satisfaction in selection of crop and seed decreases. Therefore, young farmers effectively use information than elder farmers in selection of crop and seed. The impact of crop type is positive but it is not significant; therefore type of crop does not influence the level of satisfaction in selection of crop and seed. The impact of source of information is positive and it is highly significant; the level of satisfaction in selection of crop and seed is quite high in the farmers those use modern sources of information. Therefore, information plays a predominant role in selection of crop and seed.

The following probit model was used to estimate the impact of education, age, type of crop and source of information on satisfaction of farmer about cultivation.

$$sc = \alpha_0 + \alpha_1 ed + \alpha_2 age + \alpha_3 crt + \alpha_4 inf + e$$

Where, sc = Satisfaction about cultivation, ed = Education of farmer, age = Age of farmer, crt = Crop type, inf = Source of information, α = coefficient parameters

$$sc = - 0.99 + 0.51ed - 0.63 age + 0.09 crt + 0.68 inf$$

$$Z: (-1.88) (4.51) (-3.43) (0.47) (3.59)$$

$$P>|z|: 0.060 0.000 0.001 0.641 0.000$$

Number of observations: 270, LR $\chi^2(4) = 83.27$, Prob > $\chi^2 = 0.000$, Pseudo $R^2 = 0.228$

It has been found from the results and constant parameter that, if there were no influence of independent variables the satisfaction of farmers in cultivation was absolutely negative, however it was not significant. The impact of education is positive and it is significant; as level of education increases, the level of satisfaction in cultivation also increases due to effective use of information. The impact of age of farmers is negative and it is significant; as age of farmers' increases, the level of satisfaction in cultivation decreases. Therefore, young farmers effectively use information than elder farmers in cultivation. The impact of crop type is positive but it is not significant; therefore type of crop does not influence the level of satisfaction in cultivation. The impact of source of information is positive and it is highly significant; the level of satisfaction in cultivation is quite high in the farmers those use modern sources of information. Therefore, information plays a predominant role in cultivation efficiency.

The following probit model was used to estimate the impact of education, age, type of crop and source of information on satisfaction of farmer about harvesting.

$$sh = \alpha_0 + \alpha_1 ed + \alpha_2 age + \alpha_3 crt + \alpha_4 inf + e$$

Where, scss = Satisfaction about harvesting, ed = Education of farmer, age = Age of farmer, crt = Crop type, inf = Source of information, α = coefficient parameters

$$sh = - 1.42 + 0.58 ed - 0.43 age + 0.19 crt + 0.52 inf$$

$$Z: (-2.69) (5.17) (-2.36) (1.02) (2.80)$$

$$P>|z|: 0.007 0.000 0.018 0.306 0.005$$

Number of observations: 270, LR $\chi^2(4) = 77.23$, Prob > $\chi^2 = 0.000$, Pseudo $R^2 = 0.209$

It has been found from the results and constant parameter that, if there were no influence of independent variables the satisfaction of farmers in harvesting was absolutely negative, and it was significant. The impact of education is positive and it is significant; as level of education increases, the level of satisfaction in harvesting also increases due to effective use of information. The impact of age of farmers is negative and it is significant; as age of farmers' increases, the level of satisfaction in cultivation decreases. Therefore, young farmers effectively use information than elder farmers in harvesting. The impact of crop type is positive but it is not significant; therefore type of crop does not influence the level of satisfaction in harvesting. The impact of source of information is positive and it is highly significant; the level of satisfaction in harvesting is quite high in the farmers those use modern sources of information. Therefore, information plays a predominant role in efficient harvesting.

The following probit model was used to estimate the impact of education, age, type of crop and source of information on satisfaction of farmer about procuring and marketing.

$$spm = \alpha_0 + \alpha_1 ed + \alpha_2 age + \alpha_3 crt + \alpha_4 inf + e$$

Where, spm = Satisfaction about procuring and marketing, ed = Education of farmer, age = Age of farmer, crt = Crop type, inf = Source of information, α = coefficient parameters

$$sh = - 0.72 + 0.08 ed - 0.07 age + 0.18 crt + 0.70 inf$$

$$Z: (-1.35) (0.67) (-0.39) (0.87) (3.63)$$

$$P>|z|: 0.177 0.503 0.697 0.385 0.00$$

Number of observations: 270, LR $\chi^2(4) = 26.42$, Prob > $\chi^2 = 0.000$, Pseudo $R^2 = 0.086$

It has been found from the results and constant parameter that, if there were no influence of independent variables, the satisfaction of farmers in procuring and marketing was absolutely negative, and it was not significant. The impact of education is positive and it is not significant; as level of education increases, the level of satisfaction in procuring and marketing significantly not increases. The impact of age of farmers is negative and it is also not significant; as age of farmers' increases, the level of satisfaction in cultivation significantly not decreases. The impact of crop type is positive but it is not significant; therefore type of crop does not influence the level of satisfaction in procurement and marketing. The impact of source of information is positive and it is highly significant; the level of satisfaction in procuring and marketing is quite high in the farmers those use modern sources of information. Therefore, information is the single efficient factor in determining level of satisfaction in procuring and marketing the agricultural commodities.

Conclusion:

There are positive linkages between information and agricultural development. However, the impact of information is not same for all the farmers and it differs based on age education, crop type and source of information. Level of education, modern crop and modern sources of information have positive impact on efficient selection of crop and seed, cultivation, harvesting, and procuring and marketing. However, as age of the farmer increases, the impact of information is negative. Meantime, impact of information is highly significant on in all the activities of agriculture. Therefore, timely available and reliable information plays a major role in efficient and systematic development of agriculture.

REFERENCES

- Allahyari, M.S., & Chizari, M. (2010). Potentials of New Information and Communication Technologies in Agriculture sector. *Journal of Agricultural Science and Technology*, vol 4, No.4 , 115-119. | Chayal, K. & Dhaka, B.L. (2010). Farmers' Experience with ICTs on Transfer of Technology in Changing Agri-rural Environment. *Indian Res. J. Ext. Edu.* 10 (3) , 114-118. | Deraman, A.B., & Shamsul, A.K. (2000). Bringing the Farming Community Into the Internet Age. *Informing Science Volume 3* ,No 4 , 207-213. | Farhad Lashgararal, and Royal, M. (2011). Identifying appropriate information and communication technology in improving marketing of agricultural. *African Journal of Biotechnology Vol.10* , 11537-11540. | Janet Kaaya. (1999 vol.4). Role of Information Technology in Agriculture. *Proceedings of FOA Conference* (pp. 315-318). Tanzania: Ministry of Agriculture and cooperatives. | Krishna Reddy, P. (2004). A Framework of information technology based agriculture information dissemination system to improve crop productivity. *Proceedings of 22nd Annual Conference of Andhra Pradesh Economic Association* (pp. 1-13). Andhra pradesh: Economic Association D N R College Bhimavaram. | Oladeji, J., Oyesola, O.B., & Raji, K. (2011). Agricultural Information Needs of Root and Tuber Farmers in the Atisbo Local Government Area of Oyo State, Nigeria. *Agricultural and Food Information* , 199-205. | Ommani, A.R., & Chizari, M. (2008). Information Dissemination System Based E-Learning in Agricultural of Iran. *Perception of Iranian agents* , 468-477. | Pade, C., Mallinson, B., & Lannon, J. (2005). The Use of Information and Communication Technologies for Rural Development and Specific Agricultural Development Poverty Alleviation in Developing Countries: An Investigation of Gender. *the southern african journal of information and communication issue 6* , 4-19. | Sarvan, R. (2010). Agricultural Knowledge Information System and Innovations for Technology Dissemination and Sustainable Agriculture Development. *Innovation and Sustainable in Agriculture and Food* , 1-8. | Sarvan, R. (2010). Agricultural Knowledge Information System and Innovations for Technology Dissemination and Sustainable Agriculture Development. *Innovation and Sustainable in Agriculture and Food* , 1-8. | Uplap, P.J. (2010). Role of Mass Media in Agricultural Extension. *kissan world*, vol.37 no. 10. October 2010. |