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RESEARCH ARTICLE

Access to and use of agricultural information and technology in a sample of paddy farmers in the Hambantota district of Sri Lanka: a survey

K.N.Nadeeshani Silva*

Department of Agricultural Economics, Faculty of Agriculture, University of Ruhuna' Sri Lanka.

Abstract: This paper explores the access to and use of agricultural knowledge and information in a sample of paddy farmers in the Hambantota district of Sri Lanka and assesses the information receiving and sharing patterns among them, using the data gathered from a sample of 100 randomly selected farmers who participated in a questionnaire-based interview. Accordingly, it was found that the formal information sharing processes were dominant among paddy farmers and more frequently, farmers received and shared information with the Agricultural Instructors as they were the trusted and most accessible information source for farmers. Moreover, the study reveals that the farmer's age and farming experience show a positive relationship with the adoption of new technologies while technology adoption behaviour is not significantly affected by the social and demographic factors relating to the farmers. Against this backdrop, it attempts to make a few recommendations for the improvement of the information access and technology adoption practices among the paddy farmers, particularly, the mobilisation of the Agricultural Instructors as disseminators of new knowledge and technologies. Moreover, the study proposes a mechanism to mobilise the target groups or organisations to access and disseminate new knowledge about paddy production technologies among farming communities by means of social networking.

Keywords: Agriculture information, diffusion, information sourcing, paddy farmers, technology adoption

INTRODUCTION

The agricultural sector forms the backbone of the economy in most developing countries. In Sri Lanka, the economy is partly dependent on agriculture, which accounts for nearly 7 per cent of the gross domestic product. This accounts for approximately 24 per cent of exports and 25 per cent employs of the workforce (Central Bank of Sri Lanka, 2020). Various studies have revealed that there is a positive relationship between an increased flow of knowledge and information and agricultural development (Fawole, 2009).

Farmers acquire information from multiple sources such as neighbouring farmers, extension agents, and social media. It is well-known that knowledge about new technologies diffuses according to the local social networks used. For example, farmers share information with other farmers regarding new technology, cultivation, market conditions and subsidy programmes (Foster and Rosenzweig, 1995; Munshi, 2004; Bandiera & Rasul, 2002; Conley & Udry, 2010; Krishnan & Patnam, 2013; Yaseen *et al*., 2016; Odini, 2014).

However, out of the multiple sources of information available to a farmer, whom to approach for information is determined by many factors. Proximity (social, geographical, cultural), cost and reliability of information affect the information sharing pattern of farmers (Yamaguchi, 2005; Conley & Udry, 2003). Research has shown that typically farmers in developing countries cite certain farmers in the neighbourhood as their most trusted and reliable source of information (Bandiera & Rasul, 2006). Therefore, it is important to understand how social networks are constructed and used in information sharing (Magnan *et al*., 2015).

The present paper adds to this debate, differentiating the frequent sources of information and the most

*Corresponding author (nadee@agri.ruh.ac.lk https://orcid.org/0000-0002-8539-2490)

useful ones and analysing the farmers' behaviour in the adoption of new technologies, as prescribed by the relevant sources. Moreover, we take into consideration the farmers' adoption behaviour relating to the new technologies, using those information sources. Some farmers choose to be innovators (first users) while others prefer to be early adopters, late adopters, or non-adopters based on the information received and there are some other socio-demographic factors influencing their adoption behaviour.

Therefore, the general objective of this study is to investigate the information flow and knowledge sharing and adoption pattern of paddy farmers in the Hambantota district of Sri Lanka, where concerted efforts have been made toward the diffusion of agricultural knowledge and technologies. More specifically, we aim to study the farmers' interaction with other farmers in the neighbourhood, extension workers and the innovative farmers in their villages. Moreover, we intend to analyse the factors affecting the technology adoption process in relation to the socio-demographic characteristics of the farmers and their information access and usage patterns.

To analyse the information receiving and sharing pattern of the farmers, we make use of formal and informal information sharing methods. Typically, sharing information with other farmers in the neighbourhood and innovative farmers in their village is considered an informal information sharing method, and information flow from the extension workers and Agriculture Research Officers (AOs) is considered as formal information sharing method. Farmers in the study sample were asked to describe their information sharing behaviour with respect to the information provider on new technology and the frequency of visiting them. In contrast to many existing studies that have analysed the pattern of diffusion of one specific technology, we consider a wide range of paddy farming technologies introduced by the Department of Agriculture in Sri Lanka. Then we analysed the behaviour of a farmer who is confronted with all these different technologies and must decide which one to choose and whether to adopt any new technology at all in the first place.

This paper is structured as follows: Section 2 elaborates on the theoretical argument and derives the research hypotheses, Section 3 provides information on the empirical data and the specifications of the empirical approach, Section 4 presents the main findings, and Section 5 discusses them and concludes the paper.

THEORETICAL BACKGROUND

Information sharing and technology adoption behaviour

Farming is a knowledge intensive industry. Farmers need to obtain and process technical, climatic, marketing and financial information to manage a farm profitably. For many agriculture related activities, knowledge is needed. This has become even more important in recent years.

The utilisation of innovations is governed by the adoption and diffusion processes. Diffusion can be interpreted as aggregate (widespread) adoption. As mentioned by Atibioke (2012), technology is adopted when the decision is made for the full use of a new idea as the best course of action available. Further, the adoption of technology involves a change in the attitude and behaviour of the farmer from the time he becomes aware of the technology to the time of its adoption. Therefore, there is a significant time lag between the introduction of new technology and its adoption by farmers. Adoption behaviour with respect to new technology may be affected by many factors. The vast literature on this topic mentions several different factors that influence technology adoption (Chi & Yamada, 2002; Adebiyi & Okunlola, 2013; Adesina & Baidu-Forsen, 1995; Akudugo, 2012).

According to Hägerstrand (1967) as cited by Cliff *et al*, (1992), innovation diffusion has been related to two processes; social interaction and geographic proximity, which are interlinked. This is also true for farmers' knowledge distribution in developing countries. Accordingly, farmers in these countries mostly cite other farmers as their most trusted and reliable sources of information; that is, they rely on their social networks for information (Rogers, 2010). Young (2009) and Hogset & Barrett (2008) show that these social networks not only offer specific knowledge, but also impact the individual farmer's behaviour through social learning processes and influence. Muange *et al.* (2015) highlight imitation and mimicry as crucial learning mechanisms in this respect.

As in developed countries, farmers' social networks in developing countries are strongly shaped by the neighbourhood effect, *i.e.*, geographic proximity (Yamaguchi, 2005; Besley & Case, 1994; Foster & Rosenzweig, 1995; Munshi, 2004; Conley & Udry, 2010). Despite the farmers perceived trustworthiness of their social networks, these may not provide the best

and most recent knowledge. This new knowledge is much more likely to reside in public extension services, formal commodity groups, and a wide array of private providers. Also, public agencies such as the Department of Agriculture's Extension Service, private providers including commercial vendors, Non-Governmental Organisations (NGOs) and agricultural publications and media offer this type of information. However, this is more difficult to access and may not be easily available to many farmers.

Yet, in most cases, agriculture organisations are not located in close geographic proximity and few social ties are established between these and the farmers. Hence, their neighbourhood-based social network is the frequent source of knowledge. Inability to access reliable and adequate information, and consistently receiving information in an accurate and timely manner, are still the most challenging issues facing farmers (Just & Zilberman, 2002). According to Just and Zilberman (2002), farmers appreciated the accuracy and reliability of formal information. However, they also recognise that informal information is very timely in most cases, they are aware that it may be inaccurate and biased in some instances.

Besides farmers' preference for timely and accurate information, there are other factors that may influence technology adoption (Chi & Yamada, 2002; Adebiyi & Okunlola, 2013; Adesina & Baidu-Forsen, 1995: Akudugo *et al.*, 2012). Some of the factors that determine the extent of adoption of technology are; technology, the objective of the farmer, characteristics of the change agent as well as the socio-economic, biological, and physical environment in which the technology is introduced. Socio-demographic attributes of farmers such as their age, educational attainment, income, family size, tenure status, credit use, value system, and beliefs are positively or negatively related to adoption (Stunding & Zilberman, 1999). For instance, Atibioke (2012) found that certain socio-economic factors such as occupation, gender and level of education are the ones that affected the adoption of technologies significantly.

Additionally the personalities of the Extension Offices in the area too could influence the farmers' adoption behaviour. Their credibility, level of rapport with farmers, and communication ability, acting in combination with the effectiveness of the technology transfer mechanism, can affect the adoption levels. These adoption levels may be affected by the biophysical environment of the farming region; its infrastructure facilities and availability of essential resources to the farm can positively influence the farmers' technology adoption decision.

Research questions and hypothesis

The questions are used for collecting data under six themes and the hypotheses developed from the data formulated based on the answers received as outlined below.

Preferences

Question 1: What type of preference do farmers have when accessing and sharing agricultural information?

As pointed out above, farmers may prefer obtaining information in a quick and easy way, which usually implies getting in contact with other farmers, geographically and socially nearby. Yet, considering the potential deficits in terms of accuracy and reliability, we expect that farmers will opt for high quality knowledge sources, and the timelessness and accuracy of information. These factors of quality are frequently fulfilled by formal information sources rather than informal ones. Therefore, the hypothesis H1 is developed as:

Hypothesis 1: Farmers would prefer to obtain information through the formal farmer network rather than informal methods.

Farm size

Question 2: What are the factors affecting the information and technology adoption behaviour of the paddy farmers?

Farmers with larger farms are more likely to adopt relatively new innovations due to the benefits conferred by economies of scale; the rate of return on adoption is higher for larger farms. Furthermore, larger farms have a relatively greater capacity to bear risks since they have professional management systems within their farms (Diederen *et al*., 2003). Farm size is one of the first and most widely used parameters on which the empirical adoption literature has focused.

Hypothesis 2: Farmers who have larger farms are more likely to adopt new technologies.

Age of the farmers

Question 3. Does the age matters in the farmer adoption of new technologies?

On average, the older farmers have a lower level of education, which may be correlated with the ability to analyse the pros and cons and make an adoption decision. Sunding *et al.* (1999) argued that there is a correlation between age and farm experiences. Experienced farmers rely less on the external information and not interested in new technologies as compared to their younger counterparts.

Hipothesis 3: The younger the farmer, more likely he is to adopt new technologies.

Education level

Question 4. Does the educational level matter in the farmer adoption of new technologies?

The education level of the Sri Lankan farming community varies from primary school to graduate level. Better educated farmers are more likely to adopt new technologies and accordingly, education is expected to have a positive effect on adoption of production technologies (Strauss *et al*., 1992; Warriner & Moul, 1992). However, some researchers have found that education is an insignificant factor (Saltiel *et al.,* 1994; Clay *et al*., 1998), or correlate negatively with the adoption (Gould *et al*., 1989; Okoye, 1998).

Hypothesis 4: Educated farmers are more likely to adopt new technologies.

Farming experience

Question 5. Does their experience matter in the farmer adoption of new technologies?

Farming experience, which is assumed to become more extensive with age, has shown different results with adoption behaviour. Assessments of the experience in adoption reveal both positive correlations (e.g. Clay *et al.*, 1998) and no relation in some instances (e.g. Traore´ *et al*., 1998). According to Okoyo (1998), some of the more experienced farmers are less likely to use new technologies and behave as late adopters. At the same time, other more experienced farmers have recognised the importance of new technologies and thus the probability of adopting new technologies is comparatively high (Strauss *et al*., 1992).

Hypothesis 5: More experienced farmers are more likely to adopt new technologies.

Access to extension services:

Question 6. Does access to extension offices affect the farmer adoption of new technologies?

We examined the effect of the distance between the farmers and the extension office on adoption of new technologies. Farmers are much more likely to visit the Agriculture Extension Officers more frequently if the extension office is close to their farms. Further, Sanginga (1995) as cited in Atibioke (2012) found a significant positive relationship between contact with extension services and the adoption of technologies by farmers. Therefore, we developed a new hypothesis to analyse the impact of access to extension service on technology adoption. It was assumed that farmers who lived or worked within a short distance to the extension office are more likely to adopt new technologies.

Hypothesis 6: Farmers who have easy access to extension services are more likely to adopt new technologies.

Adoption categories of paddy farmers

To test these hypotheses, we used the adoption categories framework of Rogers (2003) and a similar study design by Diederen *et al*. (2003). Rogers (2003) draws attention to an adoption practice of farmers based on the innovation-decision period. The innovation-decision period is the length of time required for the innovation-decision process to be completed. The time that elapses between awareness – that is, knowledge of innovation and the decision made to adopt it by an individual can be measured in days, months, or years.

Based on the availability of information and social influences, farmers adopt new technologies at varying paces, with some doing it promptly while others take time. Rogers (2003) proposes five main adopter categories on the basis of innovativeness, and the degree to which an individual is quick in adopting new ideas compared to others in his community. They are Innovators, Early adopters, Early majority, Late majority and Laggards. Therefore, this study aims to analyse and compare the farmers by placing them in different adopter categories, based on their adaptation of innovations introduced by the Department of Agriculture in Sri Lanka. To be more precise, paddy farmers in the selected sample were given a short questionnaire and asked to answer two key questions: (i) whether they have adopted and implemented any important innovation that was introduced by the Department of Agriculture during the past two cultivating seasons, and (ii) whether they could indicate their position regarding the innovation in terms of its diffusion to the community. We then statistically analysed the relationship between these categories and the factors mentioned above.

Access to and use of agricultural information for technology adoption

The adoption of technology requires the availability of all information associated with the technology. Importantly, agricultural information makes farmers aware of agricultural technologies for improved production. Therefore, Agbamu (2002) suggested that information is the first and indispensable factor in an adoption process. Moreover, he argued that agricultural information provides all the information related to technical, commercial, socio-cultural, and legal, which accelerates the technology adoption process.

However, the technology adaptation process is highly dependent on effective communication with the information source as farmers seek good information sources which they can easily fulfil quality requirements such as relevance, timelessness, accuracy, cost effectiveness, reliability, usability, exhaustiveness, and aggregation level (Oladele, 2001). In addition, information is considered as the cognitive factor, helping to make a decision on choice of adoption (Shiferaw *et al*, 2015; Wang & Capareda, 2020). Therefore, access to and use of agricultural information have an important impact to adopt to the agricultural technologies.

RESEARCH METHODOLOGY

The empirical research was conducted among paddy farmers from ten Divisional Secretariat (DS) areas in the Hambantota district in Sri Lanka. These DS areas were purposively selected to represent the dry zone paddy farming community, based on an exploratory discussion held with the respective Agriculture Instructors in the Hambantota district. We chose Netolpitiya, Vitharandeniya, Udayala, Bandagiriya, Angunukolapelessa, Weeraketiya, Walasmulla, Modarawana, Beliatta and Katuwana *Grama Niladari* (GN) Divisions of the Hambantota district considering the similar paddy cultivation practices and land extent (Figure 1). A GN division is a sub-unit of a divisional secretariat (DS). The paddy farmers' registration lists were accessed through the Agriculture Instructors (AI) and used as the sampling frame of the study. One hundred (100) paddy farmers were randomly selected for the study with 10 farmers representing each GN division.

Two sets of data were collected to capture the sources of agricultural information. Firstly, we gathered detailed information on hypothetical information sources, based on the question, "*Who would you consult for advice if there were any problems with your farming activities?"* Secondly, information flows were explored by asking farmers about important paddy cultivation issues. The five issues were the result of a discussion, with the leaders of the farmers' organisation in each GN division. A farmer organisation is a group of farmers with special interests and concerns with a developed structure, formal membership, status and functions for its members and with a set of by-laws and rules. Those issues were termed cultivation problems, new technology, market information, subsidy information, and others.

Figure 1: Map of GS divisions of the Hambantota district in Sri Lanka
Source: Department of Census and Statistics (2004)

Firstly, we explored the way in which they primarily received information; through formal or informal communication channels. To be more precise, respondents were asked about their knowledge sharing activities with extension workers, training programmes, *etc.*(formal channel), and informal interactions such as group discussions and chats with neighbours and friends. We collected the answers with respect to five distinct issues (cultivation problems, new technology, market information, subsidy information and others).

Secondly, we analysed information channels farmers have used to access agricultural information. In this study, four types of information sources were considered: Agricultural Offices (AOs), Agriculture Instructors (AIs), neighbouring farmers and innovative farmers who always pioneer to access new knowledge.

Thirdly, farmers were asked about the factors that influence information access. Farmers were asked about five main factors that affect choosing information sources: social relationship with other information sources (social relations), physical distance to information sources (distance to information source), cultural barriers to access and share information (cultural factors), easiness to access information (easy to access) and availability of information. Farmers were asked to rank each factor according to their assessment of its importance in the information access.

Regression analysis for the analysis of farmers' adoption behaviour

Another important objective of this study was to assess the relationship between farmers' adoption behaviour and their socio-economic characteristics (age, farming experience, education level, farm size, formal communication channels and access to extension service). We obtained about 100 valid observations (farmers). In the first step, we categorised farmers according to the adoption categories of Rogers (2003). This study examined the farmers' adoption of novel paddy cultivation techniques introduced by the extension officers. The adoption categories were defined on the basis of the time when farmers needed to apply a new technology after being introduced to it and being made aware of its benefits. Here, we used the self-evaluation method to analyse the farmers' adoption behaviour. Farmers were asked about their adaption behaviour after being introduced to a particular technology. We have used five main statements to analyse the general adoption level of farmers using their perceptions: farmers who adapt technologies soon after introducing them were considered as "Innovators", farmers who wait some time and discuss with peers and finally adopt technologies were considered as "early majority", those farmers who adopt the technologies after careful investigations were considered as "late majority", farmers who take comparatively longer time to evaluate the technology and adapt were considered as "early adopters", farmers those who wait till all other farmers adopt to the technologies and adopt hardly to any technology were considered as laggards. All above adopter categories were assessed using multiple questions.

Based on their responses, we categorised farmers across different categories. Majority of farmers were included under the "innovators" and "early adopters" categories. Therefore, we assumed that farmers who act as innovators as the farmers who primarily adopt new technologies. The rest of the categories were considered as the non-adopters of the new technologies. The latter category encompasses all early adopters, early majority, later majority and laggards. Therefore, using those two farmer categories, we have use of binary regression analysis to establish socio-economic characteristics related to the technology adoption behaviour of the farmers. The adoption category of farmers was considered as a dependent variable and the socio-demographic characteristics of farmers were considered as an independent variable.

Table 1: Formal and informal information receiving and sharing patterns of farmers

	Cultivation problems		New technology		% of Farmers Market information		Subsidy information		Other information	
	Receive	Share	Receive	Share	Receive	Share	Receive	Share	Receive	Share
Formal methods	78	84	75	85	84	55	74	76	65	85
Informal methods	22	16	25	15	16	23	26	24	35	15

Source: Survey data

Research findings

In this study, we explored in what ways they primarily received information through the formal or informal communication channels. Table 01 shows how paddy farmers in the Hambantota district receive or access the necessary information and how they pass on agricultural information to others.

Research findings reveal that the majority of paddy farmers in the Hambantota district access and share all types of agricultural information mainly through formal channels. Anyhow, a considerable percentage of farmers use informal methods to access and share agricultural information. A similar research finding was reported by Just and Zilberman, (2002) on wheat farmers; a majority of them access the information through formal channels. According to Conley and Udry (2003) information about the use of new technology passes informally between farmers.

Secondly, this study focuses on the frequent and influential actors in the information sharing process, among the major providers of information. Though there are many disseminators of information, farmers tend to trust and rely mainly on the most influential source. Agricultural Instructors (AIs) are the most influential actors (scoring 81%) as far as farmers in the Hambantota district are concerned. Secondly, the neighbours (18%) have also assisted each other in the information and knowledge sharing process. Table 02 shows the above research findings.

Thirdly, farmers were asked about the factors that influence information access. Five main factors were considered. According to the study findings, Information availability is the most important factor for information access, and is followed by social relationship, easy access, distance to Agriculture officers and cultural proximity.

Table 02: Information source for paddy farmers

Information source	I% of farmers	Influential Actors
Agriculture Officers (AOs)	0	0
Agriculture Instructors (AIs)	63	81
Neighbouring farmers	36	18
Innovative farmers	1	1

Source: Survey data

Table 03: Factors affecting the selection of information/ source

Factor	Mean Rank
Social relationship	3.94
Distance to information source	2.14
Cultural issues	2.18
Easy access	3.22
Information availability	4.16

Source: Survey data

Binary regression analysis results for the farmer adoption behaviour

Another important objective of this study was to assess the relationship between adoption behaviour and socio-economic characteristics (age, farming experience, education level, farm size, formal communication channels and access to extension service). Using the above two distinct farmer categories (adopters and non-adopters), binary regression analysis was employed. Table 4 shows the farmers' adoption categories under adopters and non-adopters while the results of the regression model fitted with the data summarised in Table 05.

As indicated in Table 05, the did not support any of our study hypotheses. Only the farming experience and education level show a positive regression coefficient values. All other independent variables show negative coefficient value. Based on the research findings, all the hypotheses of the study are rejected. Thus, we conclude that the socio demographic characteristics of the farmers do not show any significant relationship with the technology adoption behaviours of paddy farmers in the Hambantota district. This result is supported by Huffman & Mercier, (1991); Mishra & Park, (2005); Fernandez-Cornejo *et al*. (2005). Meanwhile, literature also points to the insignificant effect of education level on adopting

Table 04: Percentage of adopter categories in the study

Class	Adopter category	Farmer percentage (%)
Adopters	Innovators	38%
Non-Adopters	Early adopters	46%
	Early majority	9%
	Later majority	7%
	Laggards	0%

Source: Survey data

Table 5: Demographic and behavioral characteristics as determinants of adoption behaviour: the economic results

	B	S.E.	Wald	df	Sig.	Exp(B)
Age of the farmer	-.026	.036	.518	1	.472	.974
Farming experience	.027	.033	.641	1	.424	1.027
Education level	.142	.332	.183	1	.669	1.153
Farm size	-.222	.178	1.555	1	.212	.801
Access to extension	-.104	.064	2.640	1	.104	.901
Formal communication methods	-.057	.452	.016	1	.900	.945
Constant	1.36	1.800	.571	1	.450	3.900

Source: Author's own data

agriculture technology (Khanna, 2001; Nyaupane & Gillespie, 2009).

Similarly, Samiee *et al.* (2009) and Bonabana-Wabbi (2002) did not find any impact on adoption by the farm size while Ghadim *et al*. (2005) show that farmers who own larger farms tend to adopt innovation. In regard to the access to extension services, Llewellyn (2006) shows the positive impact on adoption with the higher use of extension services.

DISCUSSION AND CONLCUSION

How do farmers acquire the necessary knowledge and information from different sources? Once they get information on technologies, how does it change their adoption behaviour? This research suggests that a farmer's access to external knowledge and his socio-demographic characteristics are critical to answering this question. We have established that the effect of formal and informal knowledge and information on the information sharing pattern varies depending on the access to the same and the trust is placed in the external information source. This study found that nearly all information types are accessed and shared by farmers through formal channels. Among those formal ways, most paddy farmers trusted the AI officers in their area mainly, and thus, visited them more often to the Agriculture Instructor for the knowledge and information they needed. Moreover, the Agricultural officer in the area is the influential actor who can persuade farmers regarding the adoption of new technology. Therefore, technology promotion programmes initiated by the government effectively transfer information and knowledge to the farmers through extension services. Furthermore, neighbours are the second most important information source for the paddy farmers in the Hambantota district.

In a farming community, farmers manifest varying socio-demographic characteristics that influence their technology adoption and knowledge sharing process. Paddy farmers in the Hambantota district are well experienced; having a mean of 26 years of farming experience and a mean age of 52 years. Further, the farmers have a mean of 3.14 hectares of land each, implying commercial scale paddy farming in the Hambantota district. The farmers have to travel a mean distance of nearly 7 km to meet Extension Officers to access knowledge and information regarding new technologies (Silva & Broekel, 2016). As for education level, all farmers meet the adult literacy standard; having acquired formal primary education. Therefore, farmers in the Hambantota district are sufficiently literate to understand information about technologies introduced by the extension services (Silva, 2020).

Further, a previous study on Sri Lankan paddy farmers in the dry zone (Siriwardana & Jayawardana, 2014) shows that their mean age, experience, and educational level are similar to those of the farmers in this study. This shows that paddy farmers in Sri Lanka are well experienced in farming due to it being the sole occupation for most of them and because their mean age is quite high. The age and experiences of paddy farmers might have some impact on the information sharing and technology adoption process.

This study determined the farmers' adoption category simply by analysing the self-perception of farmers towards their adoption, i.e., how they react to new technology once the technology is introduced to them. The results show that majority of the farmers in the study are early adopters who wait to see the outcome of the technological programme that has been put into practice by one or more of the innovative farmers. Importantly, the majority of the farmers in the Hambantota district in Sri Lanka are either innovators or early adopters who have shown a significant adoption rate for new technologies. Among the factors that affect the information and knowledge sharing pattern of the farmers, information availability and social relationships proved to be the most important, while the distance to the information source and cultural proximity were the least important factors.

These research findings have interesting research implications for the extension service that is engaged in popularising new paddy technologies and facilitating the knowledge diffusion process among paddy farmers in the Hambantota district in Sri Lanka. This study did not find any significant relationship between the demographic characteristics and the technology adoption of paddy farmers. Further, farmers were highly dependent on Agricultural Instructors for acquiring new knowledge and information, which they also obtained to a lesser extent from their neighbours. Therefore, the Agriculture Instructors in the area were the most influential actor in the technology adoption process and were regarded as the most important source of information. Hence, the Sri Lankan government can easily introduce agricultural technologies to rural paddy farmers through the services of Extension Officers. Moreover, paddy farmers in the Hambantota district tend to share information with the other farmers in the community when they have some useful information to impart, especially if they are in close proximity and linked to the same social network as the other actors engaged in farming. However, none

of the above factors was significantly associated with technology adoption of paddy farmers in the Hambantota district.

Finally, certain limitations of this study must be noted. All the analyses were based on a farmer group practicing the same paddy farming technologies introduced by Extension Officers. Therefore, this study might have a bias towards the extension agents and their adoption decision and knowledge sharing exercise as against the members of the community, who were also part of the same knowledge sharing network. Moreover, the farmers' adoption behaviours were assessed based on their perceptions; hence, this could conceivably limit the validity and reliability of the results.

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