

Research Application Summary

An analysis of language use and content in communicating agricultural technologies to farmers in Ethiopia

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Abstract

Since research findings often do not have direct or immediate relevance to farmers, extension workers are often called upon to develop ways to communicate and disseminate these findings to farmers. Two of the main problems limiting the effective communication and rapid dissemination of agricultural technologies are the content and the language. Evidence suggests that the importance and impact of language use and content selection and adaptation have been poorly understood in communicating and disseminating new technologies to farmers. This study aimed to improve technology adoption rates among farmers by improving the design and approach taken in communicating the use and application of new technologies to farmers. The specific objectives of the study were to indicate better ways of communicating new technologies to farmers in agriculture and to select and adapt important technologies for communication. To this end, data from two sources were collected for this study. First, survey data were collected from rural farmers in Welmera Wereda, Ethiopia where a research center that generates new technologies was located. The data were collected through questionnaire-based structured interviews of households using a systematic sampling strategy. Second, extension materials that were ready to be distributed to farmers were also collected and analyzed. Examination of the data based on both the analysis of descriptive statistics and the analysis of qualitative information yielded several findings on the importance and impact of both language and content in the study area. The findings will be useful in increasing agricultural technology dissemination and adoption by farmers in the rural area and improving awareness of the farmers, policy makers and other stakeholders on the better ways of communicating or packaging and disseminating agricultural technologies.

Key words: Communication, content, language, Welmera Wereda

Résumé

Depuis que les résultats des recherches n'ont pas de signification directe ou immédiate pour les agriculteurs, les vulgarisateurs sont souvent appelés à élaborer des moyens de communication et de diffusion de ces résultats aux agriculteurs. Deux des principaux problèmes limitant la communication efficace et la diffusion rapide des technologies agricoles sont le contenu et la langue. Les preuves suggèrent que l'importance et l'impact de l'utilisation des langues et le choix du contenu et de l'adaptation ont été mal compris dans la communication et la diffusion de nouvelles technologies aux agriculteurs. Cette étude visait à améliorer les taux d'adoption des technologies chez les agriculteurs en améliorant la conception et l'approche adoptée dans la communication de l'utilisation et de l'application des nouvelles technologies par les agriculteurs. Les objectifs spécifiques de l'étude étaient de mieux indiquer les meilleures façons de communiquer les nouvelles technologies aux agriculteurs, sélectionner et d'adapter les technologies importantes pour la communication. À cette fin, les données provenant de deux sources ont été recueillies pour cette étude. Premièrement, les données ont été recueillies auprès des agriculteurs en milieu rural dans Welmera Wereda, Éthiopie, où un centre de recherche qui génère de nouvelles technologies a été localisé. Les données ont été recueillies par un questionnaire basé sur des entrevues structurées de ménages utilisant une stratégie d'échantillonnage systématique. Deuxièmement, du matériel de vulgarisation qui étaient prêts à être distribués aux agriculteurs ont également été recueillies et analysées. L'examen des données basées sur l'analyse des statistiques descriptives et l'analyse de l'information qualitative a abouti à plusieurs conclusions sur l'importance et l'impact de la langue et du contenu dans la zone d'étude. Les résultats seront utiles en augmentant la diffusion des techniques agricoles et l'adoption par les agriculteurs dans les zones rurales et l'amélioration de la sensibilisation des agriculteurs, des décideurs politiques et autres parties prenantes sur les meilleures façons de communiquer ou de l'emballage et la diffusion des technologies agricoles.

Mots clés: Communication, le contenu, la langue, Welmera Wereda

Background

The agricultural sector in Ethiopia represents 45% of the GDP. About 85% of the population depends directly or indirectly on agricultural production including livestock. Therefore, in Ethiopia, agricultural research, and its impact on development, is vital

Literature Summary

(Efrem, 2006). However, the agricultural sector has failed to fulfill its standing role in the country's economy due to poor policy environment, agro-ecological factors, and institutional failures such as weaknesses in research and extension (Kebede, 2000).

Research is necessary to generate and develop technological packages and its components that are suitable to farmers' socioeconomic background and biophysical conditions of natural resources. However, research only is not sufficient to improve livelihoods. An effective communication and dissemination of research results as a means of transferring technology to end-users to adopt the new technology is also crucial (Sulaiman, 2002).

Even though many research works have been conducted and their results as technological packages have been published in scientific and semi-popular journals, the technologies have not been transferred successfully and as such, are not well implemented by farmers (Acoba, 2001). Too often, articles are littered with detailed statistics, formalized notations, jargon, difficult prose, and excessive references. The use of complex language serves only to conceal the message and lessens the likelihood that it shall be understood (Lang, 2003). For research to be useful, it must also be usable. Work that is highly relevant to practical issues might be rejected as being irrelevant merely because it is presented in an inaccessible style (Robey and Markus, 1998 cited in Lang, 2003).

The development of locally relevant content is the critical success factor in communication. There is a strong need to present locally relevant information intelligibly in local language. The local contents need to be developed by consulting at the grassroots levels. These inputs will help in providing information that people really need (Bansal *et al.*, 2007).

Study Description

The study area is located in Western Shewa Zone of Oromia Regional State at 44 km West of Addis Ababa. It is located along a tarmac road (the Addis Ababa- Ambo road), providing access to weekly markets at Holetta (capital of Welmera) and Menagesha (another small town in Wereda). Its geographical location is 38° 30' E, 09° 03' N. It is a highland area that has mean annual maximum and minimum temperatures of 23 and 6 °C, respectively. Its annual precipitation averages 1100 mm, most falling between March and October with peaks in July

and August. The Wereda is primarily dominated by Oromo Christians. It has one of the biggest national agricultural research centers where new technologies are generated, packaged and distributed to farmers (Mekonnen, 2007).

Findings

Effects of language use on farmers in communicating new technologies. As Table 1 shows, the type of language used by extension workers during technology communication activities was considered because it is medium, though there are a few difficult words or phrases used. The majority of household heads

Table 1. Number of difficult words/ phrases and general understandability of language used by extension workers

Understandability of language	No. of difficult words or phrases				Total
	Few	Several	Many	None	
Simple	19	3	0	13	35
Medium	57	8	5	4	74
Hard	3	3	2	1	9
Very hard	2	0	0	0	2
Total	81	14	7	18	120

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.742 ^a	9	.000
Likelihood Ratio	28.970	9	.001
Linear-by-Linear Association	4.827	1	.028
N of Valid Cases	120		

a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .12.

(47.5%) reported that the message that extension workers were communicating resulted in medium level of understandability because of few difficult words or phrases which need to be taken care of to avoid misunderstanding and to improve level of adaptation of the message or technology. A few respondents (15.8%) however said that though the language was simple, it still had some few difficult words or phrases. Other respondents found the language of the extension workers very difficult to follow (2.5 and 1.6%) although they were very few compared to the rest of the respondents.

The chi-square test also shows that there was a strong relationship (.000) between the number of difficult words or phrases used by extension workers and the understandability of the message the extension workers were communicating. Therefore, extension workers have to reconsider the words and phrases that they use in order to create better understandability of their messages to farmers' context.

Contents of new technologies and farmers preferences.

As Table 2 shows, 40% of the respondents chose a new technology which had a good market value, whereas 39.2% preferred new technologies which boosted their production and were relevant to their situation. Therefore, during selection and adaptation activities of technologies, much thought has to be given to the marketability of the technology and its relevance to the existing condition of the target groups.

Table 2. Factors that motivate farmers to use a new technology.

Dichotomy label	Count	% of responses	% of cases
Relevance	47	22.2	39.2
Appropriateness	30	14.2	25.0
Marketability	49	23.1	40.8
Adaptability	39	18.4	32.5
Productivity	47	22.2	39.2
Total responses	212	100.0	176.7

0 missing cases; 120 valid cases.

The respondents did not consider appropriateness of technologies (25%) important compared to the other variables. Adaptability (32.5%) was also given low value. Hence, in selecting technology to farmers, marketability, relevance, productivity of a technology to the local farmers have to be given priority, whereas appropriateness and adaptability can be taken as secondary activities.

Effectiveness of communication between farmers and extension workers.

Communication between farmers and extension workers is important in the transfer of technologies to farmers. Therefore, farmers were asked on the behaviors of extension workers in connection with technology communication. The behaviors of extension workers which farmers were asked to rate were the following: participation in religious affairs, openness and collaborative nature, respect for

others, and the interest they show to listen to problems of farmers. The results showed that 63% of the cases preferred an extension worker who listened to their problems in their relationship with the technology communication. Many of the respondents also wanted extension workers to be open and collaborative (33%) in order to have an open relationship with them.

On the other hand, 8.3% of the respondents needed extension workers who respected them. This indicates that the majority of the farmers do need openness and collaborative behavior and a person who listens to their problem attentively. Table 3 shows that farmers did not give much value to the participation of the extension workers in their religious affairs. Therefore, much attention has to be given to the solicitation and analysis of farmers' problems before trying to introduce new technologies. Besides, openness and collaborative behavior helps the extension workers to get the attention of farmers and for farmers to have trust on them, which is the basis of effective dissemination and transfer of technologies.

Table 3. The type of extension worker that farmers preferred.

Dichotomy label	Count	% of responses	% of cases
Participates in religious affairs	17	11.9	14.2
Open and collaborative	40	28.0	33.3
Respect for others	10	7.0	8.3
Listens to problems of other persons	76	53.1	63.3
Total responses	143	100.0	119.2

0 missing cases; 120 valid cases.

Research Application

Selecting appropriate language based on the culture, norm and tradition of target farmers helps to achieve the intended objective in technology communication. Therefore, before communicating any new technology, extension workers have to consider the culture, tradition and other aspects of the social setting and design the language they need to utilize accordingly.

Selecting contents of technologies and adapting them based on the needs of the target groups (rural farmers) is important. Accordingly, technologies that add market value and technologies with high production and productivity have to be given priority in taking new technologies to farmers. Extension workers should also be open and collaborative in order to be

trusted and their message to be taken for granted. Listening to farmers problems and suggesting solution is also another important aspect for extension workers to consider. Once trust and relationship is built, it facilitates easy dissemination of new and important technologies and information.

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