



Appropriate Extension Approaches in Disseminating Livestock Production Technology in Cambodia

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Abstract Understanding the current local livestock-disseminating approaches was very crucial for the study to present an extension work plan by a technical staff with specific discussion on the framework in identifying the appropriate extension approaches suitable to Cambodia's local situation. Primary data were collected using a structured, comparative criteria-guided questionnaire from 7 interviewees within 4 purposively-selected extension institutions. Regarding the comparative criteria for applicable and strongly applicable utilization of extension approaches, livestock technology extension approaches in Cambodia tended to range from the top-down general agriculture to more bottom-up, participatory approaches based on its frequency of all its characteristics. The most applicable livestock extension approach was participatory integrated with farming systems development, cost sharing, project, and education institution because the growth in overseas-donored development aids created a desire for more decentralized, participatory extension approach. Therefore, the diffusion of livestock technology from Cambodian local farmers increasing farmer livestock production perhaps thereby farmer livelihood would be increased using the participatory approach integrated with others. The planning key points for disseminating livestock technology was also based on the strongly applicable participatory approach.

Keywords extension approaches, livestock production technology, Cambodia

INTRODUCTION

To increase livestock production, it seems to be extremely important to keep farmers in updated information regarding various production process and marketing practices. Inadequate access of developing-country farmers to relevant livestock information/technology has an effect on all livestock subsectors and different stages of livestock production. The livestock technology dissemination therefore is very important for improved smallholder farmer livestock production and consequently increased family income (Khan et al., 2014; Sani et al., 2014). In Cambodia, pluralistically-characterised agricultural extension (Mak, 2012; MAFF, 2015) is a key mean to increase farmer crop and livestock production thereby generating farmer income (Axinn, 1988; Touch, 2000; Millar, 2009; Christophos, 2010; Mak, 2012; Khan et al., 2014; Sani et al., 2014). Many approaches to technology dissemination have also been developed and used in both public and private extension services, and

those run by non-governmental organizations in the developing countries (Davis, 2004; Lukuya et al., 2012; Mak, 2012; Khan et al., 2014; MAFF, 2015) such as Cambodia (Mak, 2012; MAFF, 2015). This effort could be contributed by technical personnel becoming the subject matter specialists of their own generated technologies (Blalock, 1963; Fetsch et al., 2010; Patil and Kokate, 2011; Kahan, 2013). However, if the new specific generated knowledge could not be diffused to the end consumers especially, livestock farmers without any appropriate, efficient extension approach and with insufficient combined efforts from all extension provider institutions despite many approaches used in those institutions (Axinn, 1988; Davis, 2004; Lukuya et al., 2012; Mak, 2012; Khan et al., 2014), such the technology is not practically applied and has no value. Consequently, one or more effective livestock extension approach (es) is required to deliver new technologies to farmers in Cambodia and thereby the considerable focus of currently local approaches/methods of disseminating the livestock information to Cambodian farmers is very important to determine if the information of improving livestock production will be able to be disseminated to the right farmers at the right time.

OBJECTIVE

The study was conducted to present only an extension work plan by the technical staff affiliating to the livestock production institution with specific discussion on the framework in analysing the suitability of an appropriate extension approach in Cambodia's local situation.

METHODOLOGY

Data Collection: Secodary and primary data were collected. The latter was collected at a period of April 2015 using a structured questionnaire from 7 key informants each of whom it took around 1 hour for interviewing, within purposively-sampled 4 extension institutions (Royal University of Agriculture, Department of Animal Health and Production, Centre for Livestock and Agricultural Development, and Centre for Study and Development in Agriculture) based on their most potential activities of livestock extension and availability in Cambodia. The questionnaire was guided by 6 of 7 comparative criteria introduced by Axinn (1988) in identifying the appropriate extension approach in Cambodia. The considered criteria with their individual indicators included program (C1), clientele (C2), field personnel (C3), financial requirements (C4), organizational structure (C5), and leadrship characteristics (C6); and 2 key important options (Applicable or Strongly Applicable) to be selected by the interviewee (Table 1 and Table 2).

Data Analysis: Using Axinn's (1988) comparative analysis as framework of the eight extension approaches (Table 3), analysis of responses indicated which approaches were most likely to fit the condition of Cambodia. For each comparative indicator (denoting contrasting local conditions), an interviewee responds by answering either, "Applicable" or "Strongly Applicable" which was counted and calculated as percentage. The analysis of the gathered information was based on the descriptive criteria given. The highest percentage for each criterion indicated the most likely appropriate extension approaches that could be used in disseminating the generated livestock technologies from the research studies.

RESULTS AND DISCUSSION

Table 1 shows that all pairs of comparative indicators exception with a few pair of the Axinn's comparative criteria were practiced in Cambodia. Table 2 shows that best fit extension approach (es) based on the analysed indicators of each criterion should be noticeable in the study. At least the applicable indicator with higher percentage of the study can be considered as one indicator of each approach given (Axinn, 1988).

Table 1 Analysed livestock extension approaches using Axinn's descriptive criteria considered

	Descriptions of Criteria (<i>with comparative sub-components or indicator</i>)	Informants' Responses (%)		
		Applicable	Strongly Applicable	
Program (C1)	Nationally oriented scope	42.9	42.9	
	Provincial oriented scope (including district, commune, or village)	14.3	85.7	
	Goal to increase livestock production for export	28.6	28.6	
	Goal to increase livestock production for farmer family and national consumptions	0.0	100.0	
	Change the extension messages in response to feedback from rural villages	28.6	71.4	
	Not Change the extension messages in response to feedback from rural villages	42.9	0.0	
	More focused on livestock technology than on lifting social standards of rural life	42.9	28.6	
	Prioritize on lifting social standards and livestock technology also	42.9	57.1	
	Technical information decided upon by people inside the local rural village	28.6	71.4	
	Technical information decided upon by people outside the local rural village	85.7	14.3	
	A simple standardized technical message	71.4	14.3	
	Wide-ranging extension message to meet local needs and interests	28.6	71.4	
Clientele (C2)	Focused on larger, commercial, single livestock producers	42.9	14.3	
	Focused on broader range of people including poor farmers	14.3	85.7	
	To likely deal primarily with male farmers	28.6	0.0	
	To most likely deal with male, female and youth farmers	0.0	100.0	
	Most likely focused on limited ethnic and social groups	28.6	28.6	
	Likely focused on different ethnic and social groups	28.6	71.4	
	Target clientele at national level	71.4	28.6	
	Target clientele in limited areas within Cambodia	14.3	71.4	
	Field personnel from outsiders	57.1	28.6	
	Field personnel from insiders	14.3	85.7	
	Central government pay the salary	57.1	28.6	
	Local government pay the salary	28.6	71.4	
Field personnel (C3)	High level of education of the field personnel	42.9	42.9	
	Lower level of education of the field personnel (under Bachelor's Degree)	28.6	71.4	
	Likely to include women and men as personnel	0.0	100.0	
	Not likely to include women as personnel	14.3	14.3	
	Extension personnel likely to transfer frequently from post to post	28.6	71.4	
	Extension personnel likely to remain at post for longer periods of time	57.1	28.6	
	Personnel with permanent status	42.9	57.1	
	Personnel with contractor/temporary status	57.1	42.9	
	Provide jobs for urban educated unemployed	28.6	71.4	
	Provide jobs for rural trained people	57.1	42.9	
	Incur high cost for information support	42.9	14.3	
	Incur low cost for information support	71.4	28.6	
Financial requirements criterion (C4)	Provide farmer family high cost for producing livestock	42.9	28.6	
	Provide farmer low cost for producing livestock	57.1	42.9	
	Incur high cost for transportation	57.1	28.6	
	Incur low cost for transportation	57.1	42.9	
	Major support from central government	85.7	0.0	
	Support from other sources	14.3	85.7	
	Organizational structure (C5)	Tends to fit centralization of control of organization	42.9	0.0
		Tends to fit decentralization of control of organization	14.3	85.7
		Emphasize the use of Subject Matter Specialists (SMS)	14.3	85.7
		Emphasize less the use of Subject Matter Specialists	42.9	0.0
		Require little participation of rural people to be served	14.3	0.0
		Require high participation of rural people to be served	0.0	100.0
Use prominently information media support		71.4	14.3	
Not use information media support		42.9	14.3	
Leadership (C6)	Leadership of organization to be part of central government/authority	42.9	42.9	
	Leadership of organization to be part of local government/authority	0.0	85.7	
	Leadership of organization to originate from professional	0.0	85.7	
	Leadership of organization to originate from clientele	57.1	14.3	
	To address a few technical fields	42.9	42.9	
To address broader rural development fields	28.6	57.1		