

Feedback Seeking Practices of Agricultural Extension Agents in West Java, Indonesia

MEI ROCHJAT DARMAWIREDA, MD. SALLEH HJ. HASSAN,
RAHIM MD. SAIL, RAJA AHMAD TAJUDDIN SHAH
Centre For Extension and Continuing Education
Universiti Pertanian Malaysia
43400 UPM Serdang, Selangor Darul Ehsan, Malaysia

Keywords: Feedback Seeking, Agricultural Extension, Indonesia, Extension Agents, Research-Extension-Farmers Linkage

ABSTRAK

Pencarian maklum balas di kalangan pegawai pengembangan merupakan hal penting untuk menjamin tersedianya maklum balas yang diperlukan untuk memastikan kegiatan penyelidikan, pengembangan, penerimaangunaan teknologi dan keterkaitan di antara pengembangan, penyelidikan dan petani secara lebih efektif. Penyelidikan ini bertujuan melihat kaitan faktor komunikasi, sikap dan organisasi dengan amalan pencarian maklum balas yang dilakukan oleh pegawai pengembangan pertanian di Jawa Barat, Indonesia. Hasil kajian mendapati bahawa faktor komunikasi, sikap dan organisasi mempunyai kaitan yang signifikan dengan pencarian maklum balas pegawai pengembangan. Faktor komunikasi dan organisasi merupakan faktor yang menentukan amalan pencarian maklum balas di kalangan pegawai pengembangan.

ABSTRACT

Feedback seeking practices of agricultural extension agents are important for the effectiveness of research and extension programmes; This study to determine the relationship of feedback seeking practices of agricultural extension agents in West Java with some selected factors namely communication, attitude, and organisation-related factors. The results revealed that communication, attitude, and organisation-related factors were associated with the extension agents' feedback seeking practices. The communication and organisation-related factors were found to be better predictors of the feedback seeking practices among extension agents as compared to attitude-related factors.

INTRODUCTION

For effective agricultural extension work, feedback from clients to extension agencies and from extension agencies to research centres is necessary. The feedback is to determine clients needs and problems which is useful in shaping agricultural extension programmes and producing technologies which are specifically designed for them (Rivera and Schram, 1987). As such, feedback has long been recognized as a key factor in enhancing the overall effectiveness of organizations as well as individuals connected with such organisations.

The Ministry of Agriculture in Indonesia has made special efforts to ensure that extension forms a vital link between farmers

and research. An extension agent is responsible not only for disseminating information on new farming techniques but also to gather feedback information on problems and needs of for research institutions (Ministry of Agriculture, 1988). On a similar exphasis, Salmon Padmanagara (1985) noted that subject-matter specialists (SMSs) in agricultural extension organisations form the prime channels of communication between research and extension, in linking research and clients, which is vital to the success of research and extension work.

According to Salmon Padmanagara (1985) one of the principal constraints in the extension and research systems in Indonesia is the lack of feedback from farmers and

monitoring. In a more recent study, Schumacher et. al. (1991) also found that the lack of feedback from farmers is an important drawback in identifying the research agenda in Indonesia.

Groot (1971) mentioned that in less-developed countries, one might expect relatively little information given by the public.

Very few studies have been conducted on feedback seeking practices, especially among extension agents. Most of these studies were conducted in the United States, and their emphases were mainly on the members of business organisations (Ashford, 1986; Ashford and Cummings, 1983) and trainees (Fedor et. al., 1992).

There is no empirical study on the extension agents' feedback seeking practices and associated factors in Indonesia. Therefore, this study was conducted to determine the relationship of feedback seeking practices of extension agents with some selected factors namely communication, attitude and organisation-related factors.

This study adapted Ashford's (1986), feedback seeking model. According to this model, individual will seek feedback after considering two factors, the first is conditions that make feedback beneficial and the other is the cost of feedback. In other words, conditions that make feedback beneficial will lead the individual to seek feedback but conditions that will be costly will reduce the individuals' efforts in seeking feedback. The variables used in the Ashford's model for conditions that make feedback beneficial to individuals included importance of goal attainment, uncertainty self-confidence, organizational tenure and job tenure. Variables that are costly included negative beliefs about goal attainment, effort in feedback seeking, risk in feedback seeking and amount of feedback recently received. In extension work, extension agents are required to be able to adapt to the clients and organisational goals and policies and provide feedback to the organisation pertaining to recommended technologies.

In this study based on Ashford's model and on relevant literature the variables influencing feedback seeking practices are

categorised into communication, attitude and organisation related factors and in each category there are factors which could be identified as beneficial or costly to feedback seeking. This study attempted to answer the following questions:

- a. What is the nature of the relationship between communication, attitude and organisation-related factors and feedback seeking practices of agricultural extension agents?
- b. To what extent could communication, attitude and organisation-related factors be utilised as determinant factors in feedback seeking practices?
- c. Would some selected variables in the Ashford Conceptual Model provide a useful framework in explaining feedback seeking practices among extension agents?

The relationships between feedback seeking practices and those factors are summarised in Figure 1.

Objectives

Specifically, the objectives of the study frame:

1. To determine the nature of feedback seeking practices among extension agents;
2. To determine the relationship between extension agents' feedback seeking practices and some selected communication, attitude and organisation-related variables; and
3. To determine the major determinant variables that influence extension agents' feedback seeking practices.

METHODOLOGY

Ashford (1986) views feedback seeking as part of the individual's adaptation to his environment. The feedback helps the individual in his adaptation to his environment. Some selected factors possibly related to the extension agents' feedback seeking practices. These factors are; the perceived uncertainty about the relevance of technology and its potential (Ashford, 1986; Atkin, 1973), perceived

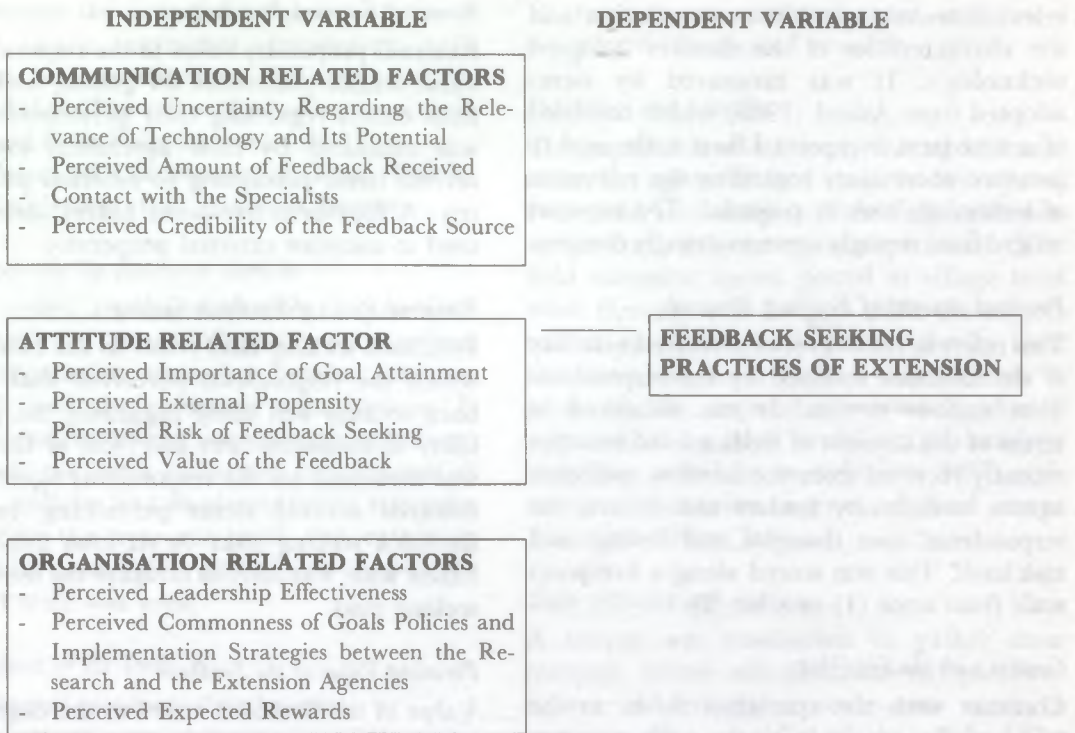


Figure 1: Conceptual framework of extension agents' feedback seeking practices

amount of feedback received (Ashford, 1986; Chafee and Mcload, 1976; Samsudin Abdul Rahim, 1989), contact with the superiors, researchers and subject-matter specialists (Atkin, 1972), and perceived credibility of feedback source (Fedor et. al., 1992; Cusella, 1982). Other factors were the perceived importance of goal attainment (Ashford, 1986), perceived external propensity (Fedor et. al., 1992), perceived risks of feedback seeking (Ashford, 1986; Fedor et.al., 1990 and 1992; Festinger, 1957), perceived leadership effectiveness (Likert, 1961), perceived expected rewards (Vroom, 1964), and the perceived commonness of goals, policies and implementation strategies between the research and the extension organisations. These variables were organised into communication, attitude and organizational related variables as shown in Figure 1.

Feedback Seeking Practices

The dependent variable of this study was feedback seeking practices. It was operationalized as the frequency of the respondent seeking

feedback regarding the relevance of a technology for the farmers within two-year period (1992-1993) using the inquiry and the monitoring methods. The inquiry method is an attempt to obtain feedback information by directly asking the feedback source. The monitoring method is conducted to obtain feedback information indirectly (Ashford, 1986), for example, through ways of comparing, observing, listening, viewing, reading, attending, overhearing and giving attention. Items measuring feedback seeking were adopted from Ashford (1986) and Fedor et. al. (1992). To ensure a high validity of the instrument, 'rice technology package-D' was used as a frame of reference for the respondents in giving their responses to the statements.

Perceived Uncertainty Regarding the Relevance of Technology and Its Potential

In this study, uncertainty was defined as the degree of the extension worker's perceived lack of knowledge regarding the potential adoption of the technological recommendation, the suitable process of producing

relevant technological recommendation and the characteristics of the farmers' adopted technology. It was measured by items adopted from Asford (1986) which consisted of a nine-item five-point Likert scale used to measure uncertainty regarding the relevance of technology and its potential. The responses ranged from strongly agree to strongly disagree.

Perceived Amount of Feedback Received

This refers to the degree of perceived quantity of the feedback received by the respondents from various sources. It was measured in terms of the amount of feedback information recently received from the farmers, extension agents, community leaders and others, the respondents' own thoughts and feelings and task itself. This was scored along a five-point scale from none (1) to a lot (5).

Contact with the Specialists

Contact with the specialists refers to the number of visits made by the subject-matter specialists, researchers and superiors to the respondents and vice versa, and the number of the respondents' involvement in discussions with the subject-matter specialists and the researchers.

Perceived Feedback Source Credibility

Feedback source credibility refers to the individuals' perception of the reliability of the feedback source. It was measured by the respondents' agreement towards the six items reflecting the credibility of the source of feedback. A six-item five-point Likert scale was used to measure the feedback source credibility.

Perceived Importance of the Goal Attainment

The importance of the goal attainment is defined as the extent in which adoption of the recommended technologies by the farmers is considered important by the respondents. This was determined by asking the respondents to state their agreements towards five statements reflecting the importance of the goal attainment. Their agreements were measured along a five-point Likert scale from "strongly disagree" (1) to "strongly agree" (5).

Perceived External Propensity

External propensity refers to the respondents' value and/or preference for getting feedback from others regarding their performance. It was measured by their agreement towards several items pertaining to external propensity. A four-item five-point Likert scale was used to measure external propensity.

Perceived Risks of Feedback Seeking

Feedback seeking risks refers to the extent in which the respondents perceived that feedback seeking will bring regarding the possibility of embarrassment and 'loss of face'. It was measured by the respondents' agreement towards several items pertaining to the feedback seeking risks. A six-item five-point Likert scale was used to measure the feedback seeking risks.

Perceived Value of the Feedback

Value of the feedback refers to the degree to which the respondents perceive the feedback as helpful in achieving their goals. The respondents were asked to state their agreements towards four statements reflecting the value of feedback. This was measured using five-point Likert scale from "strongly disagree" (1) "strongly agree" (5).

Perceived Leadership Effectiveness

Leadership effectiveness refers to the leadership qualities such as directing, guiding, influencing or controlling the thoughts of others as perceived by the respondents. To investigate the perceived leadership effectiveness, a ten-item five-point Likert scale was used. The scale ranged from "strongly disagree" (1) to "strongly agree" (5). This measurement was adopted from the Pothimamaka's (1993) study on community outreach work performance among academic staffs.

Perceived Expected Rewards

This refers to the respondents' desired outcome in return for their feedback practices. It was measured in terms of the respondent's agreement in favour of items indicating the expected intrinsic and extrinsic rewards. A fourteen-item five-point Likert scale was used

to measure the expected rewards in terms of extra salary increment, promotion, self-esteem, self-contribution, challenge and responsibility. The items of measurements were adopted from Pothimamaka (1993).

Perceived Commonness of Goals, Policies and Implementation Strategies between

Research and the Extension Agencies

This refers to the respondent's perceived similarity in terms of goals, policies and implementation strategies between the research and the extension organisations. It was measured by the respondent's agreement towards the items indicating commonness of goals, policies and implementation strategies between the research and the extension organisations. An eight-item five-point Likert scale was used.

Hypotheses of the Study

The hypotheses formulated were:

1. Feedback seeking practices of extension agents are positively related to the:

- a. perceived uncertainty regarding the relevance of technology and its potential,
- b. perceived amount of feedback received,
- c. contact with the specialists, and
- d. perceived credibility of the feedback sources.

2. Feedback seeking practices of the extension agents

(I) are positively related to the:

- a. perceived importance of goal attainment,
- b. perceived value of feedback, and
- c. perceived external propensity

(II) is negatively related to the:

- a. perceived risks of feedback seeking.

3. Feedback seeking practices of the extension agents are positively related to:

- a. perceived effectiveness of the organisational leadership,
- b. perceived commonness of goals, policies and implementation strategies between

- research and extension agent, and
- c. perceived expected rewards.

Population and Sample

The population of the study was agricultural extension agents of food crops in West Java, Indonesia and comprised the field extension agents and subject matter specialists. The field extension agents posted at village level work directly with farmers while the subject matter specialists work at the district level and have less direct contact with farmers. A total of 254 respondents were randomly selected using the multi stage random sampling technique to represent 2497 agricultural extension agents of food crops throughout West Java.

Data collection and Analysis

A survey was conducted to gather data through group self-administered questionnaires. A five-point scale was used to measure the variables of the study. The instrument of the study was adapted from the previous studies by Ashford (1986), Fedor et. al. (1992), and Pothimamaka (1993). The reliability of the instruments ranged from .70 to .90 Cronbach alpha. Pearson's correlation and multiple regression were used to analyse the data.

RESULTS

The minimum educational level of the respondents was vocational/high school while the highest was bachelor degree. Their mean age was 37.8 years old with 15.3 years working experience. The majority of the respondents (77.6%) were male.

Feedback Seeking Practices

The extension agents' feedback seeking practices were found to be moderately high (72%). The mean score of this variable was 75.6 with a standard deviation of 7.3 and with the score ranged from 48.0 to 90.0 (Table 1). A majority of the respondents sought feedback by "asking farmers about the comparative advantages of the recommended technology" (82%), "asking farmers regarding the relevance of the recommended

TABLE 1

Distribution of respondents and summary statistics of level of feedback seeking practices (n = 254)

Level of Feedback Seeking	Frequency	Percent
Low (less than 51)	2	.8
Moderate (51-81)	183	72.0
High (above 81)	69	27.2
Total	254	100

Mrsn = 75.64; S.D. = 7.28; Range = 48.00-90.00

technology" (80%), and "discussing with farmers regarding problems faced in practicing the recommended technology" (76%).

Communication-Related Factors and Feedback Seeking Practices

The study supported the hypothesis that the extension agents' feedback seeking practices were positively related to the perceived amount of feedback they received, contact with the specialists, and perceived feedback source credibility. The Pearson's Product Moment Correlation Coefficients (r) of these variables were .32, .36, and .21 respectively

and were all significant at .05 level (See Table 2). This result indicated that the extension agents who received more feedback sought feedback more frequently, extension agents who have more contact with subject-matter specialists were more active in feedback seeking practices and those who perceived their feedback source as more credible sought feedback more actively. The communication-related factors contributed 21% of the variance of the extension agents' feedback seeking practices (F value = 18.7, p = 0.00). This indicates that the explanatory power of the model is significant and the relationship between the independent and the criterion variables in linear (Table 3). Results from Table 3 also show the 'contact with the specialists was the most influential (beta = 2.31).

Attitude-Related Factors and Feedback Seeking Practices

The extension agents' feedback seeking practices were positively related to the perceived importance of goal attainment, perceived external propensity and perceived

TABLE 2

Summary of correlation coefficient between extension agents' feedback seeking practices and independent variables (n = 254)

Independent Variables	r	Significant Probability
COMMUNICATION-RELATED FACTORS		
Uncertainty regarding the relevance of technology and its potential	.08	.11
Amount of feedback received	.32*	.00
Contact with the specialists	.36*	.00
Feedback source credibility	.21*	.00
ATTITUDE-RELATED FACTORS		
Perceived importance of goal attainment	.11*	.04
Perceived external propensity	.11*	.04
Perceived risks of feedback seeking	-.17*	.00
Perceived value of feedback	.13	.02
ORGANISATION-RELATED FACTORS		
Perceived leadership effectiveness	.35*	.00
Perceived expected rewards	.12*	.03
Perceived commonness of goals, policies and implementation strategies between the research and the extension agencies	.40*	.00

* One-tailed significant at .05

TABLE 3

Multiple regression between extension agents' feedback seeking practices and communication-related variables (n = 254)

Communication-Related Variables	Dependent Variables		
	Feedback Seeking Practices		
	B	Beta	T-sig
Contact with the specialists	.11	.31	.00
Amount of feedback received	.50	.27	.00
Uncertainty regarding the relevance of technology and its potential	.20	.12	.03
Feedback source credibility	.15	.07	.21
(Constant)	49.36		.00

R = .47 Rsquare Adjusted = .21
 Ff = .18.07 F-sig = .00

value of feedback. The results from Table 2 show that all hypotheses were supported with correlation coefficients (r) of .11, .11, and .13 respectively and significant at .05 level. It means that extension agents who perceived goal attainment as important were more active in feedback seeking practices, those with higher external propensity tend to be more active in feedback seeking and those that perceived high value on feedback would be more likely to seek them. The other hypothesis which stated that the perceived risk of feedback seeking was negatively related to the extension agents' feedback seeking practices was also supported (r = -.17). It means that the higher the risk of

feedback seeking as perceived by extension agents, the less frequent feedback seeking.

The results of multiple regression analysis from Table 4 revealed that the attitude-related variables explained only 3% of the variance of the extension agents' feedback seeking practices. Only one of these factors was a significant determinant of feedback seeking practices, namely, the perceived risk of feedback seeking (beta = .14).

Organisation-Related Factors and Feedback Seeking Practices

The study supported the hypothesis that feedback practices were positively related to the perceived leadership effectiveness, per-

TABLE 4

Multiple regression between extension agents' feedback seeking practices and attitude-related variables (n = 254)

Communication-Related Variables	Dependent Variables		
	Feedback Seeking Practices		
	B	Beta	T-sig
Perceived risks of feedback seeking	-.37	-.14	.03
Perceived external propensity	.26	.07	.29
Perceived importance of goal attainment	.32	.07	.31
Perceived value of feedback	.35	.06	.41
(Constant)	63.93	.00	

R = .21 Rsquare Adjusted = .03

TABLE 5
Multiple regression between extension agents' feedback seeking practices and organisation-related variables (n = 254)

Communication-Related Variables	Dependent Variables		
	Feedback Seeking Practices		
	B	Beta	T-sig
Perceived commonness of goals, policies and implementation strategies between the research and the extension agencies	.81	.32	.00
Perceived leadership effectiveness	.32	.24	.00
Perceived expected rewards	.11	.10	.07
(Constant)	34.01		.00
R = .47 Rsquare Adjusted = .21			
F = 23.73 F-sig = .00			

ceived expected rewards, and perceived commonness of goals, policies and implementation strategies between research and extension organisations. The correlation coefficients of the three variables were .35, .12, and .40 respectively (Table 2). Results of the multiple regression analysis revealed that 21% of the extension agents' feedback practices could be explained by organisation-related variables. Among the three organization-related variables, two variables contributed significantly to the feedback seeking practices. The two variables were perceived commonness of goals, policies and implementation strategies between research and extension agencies, and the perceived leadership effectiveness. The first variable exhibiting the best predictor of feedback seeking practices of the extension agents was the commonness of goals, policies and implementation strategies between research and extension agencies (beta value = .32) (Table 5).

Feedback Seeking Practices and Overall Independent Variables

Among the 11 independent variables in the study six variables contributed significantly to the extension agents' feedback seeking practices, as shown by beta values at .05 significance level (Table 6). The variables were; contact with the specialists; perceived

commonness of goals, policies and implementation strategies between the research and the extension agencies; amount of feedback received; perceived leadership effectiveness; uncertainty of the relevance of technology and its potential; and perceived risks of feedback. All these variables represent the three major factors, communication-related factors, attitude-related factors and organisation-related factors. This means that these factors are important predictors of feedback seeking practices. If the extension organisations intend to motivate extension agents to actively seek for feedback, these variables should be taken as important considerations.

The beta value of the independent variable 'contact with the specialists' (beta = .31) indicates that this variable provides the greatest explanation of the variance in the extension agents' feedback practices. The second dominant variables 'perceived commonness of goals, policies and implementation of strategies between the research and the extension agencies' (beta = .30), followed by 'the amount of feedback received' (beta = .19).

Tables 7 shows the result of step-wise multiple regression. The contribution of each variables towards the R-square is indicated by its R-square change. The results revealed that six variables contribute significantly towards the R-square value. The largest

TABLE 6

Multiple regression between extension agents' feedback seeking practices and overall independent variables (n = 254)

Communication-Related Variables	Dependent Variables		
	Feedback Seeking Practices		
	B	Beta	T-sig
Contact with the specialists	.11	-.31	.00
Perceived commonness of goals, policies and implementation strategies between the research and the extension agencies	.78	.30	.00
Amount of feedback received	.36	.19	.00
Perceived leadership effectiveness	.23	.18	.00
Uncertainty regarding the relevance of technology and its potential	.24	.15	.01
Perceived risks of feedback seeking	-.39	-.15	.01
Perceived external propensity	.17	.05	.41
Feedback source credibility	-.08	-.04	.49
Perceived importance of goal attainment	.17	.03	.53
Perceived value of feedback	-.13	.02	.71
Perceived expected rewards	.01	.01	.88
(Constant)	25.18		.01

R = .63 Rsquare Adjusted = .37

F = 14.31 F-sig = .00

contribution came from the perceived commonness of goals, policies and implementation strategies between the research and the extension organisations (R-square change = .159), followed by contact with the specialist, researchers and superiors (R-square change = .109), perceived amount of feedback received (R-square change = .055), perceived leadership effectiveness (R-square change = .026), perceived uncertainty regarding the relevance of the technology and its potential (R-square change = .021) and finally, perceived risks of feedback seeking (R-square change = .020). The six variables could explain 38% of the variance in the extension agents' feedback seeking practices.

When the explanatory values of the stepwise and standardised regression methods were compared, the results were not very different. Through the standardised method, all eleven variables were able to explain about 37% of the variance in the extension agents' feedback seeking practices. On the other hand, the stepwise method explained

about 38% of the variance by including only six selected variables. The rest of the variables failed to be included in the regression equation.

DISCUSSION

Feedback seeking practices among extension agents are very important to secure information that could be used as a basis of designing technologies relevant to the needs of the users and in planning strategies for disseminating the technologies. This study revealed that extension agents in Indonesia were not highly active in seeking feedback from their clients and other sources. The finding supports the statement of the former Director General of the Agency of the Agency for Agricultural Education Training and Extension, Indonesia that lack of feedback among research and extension agencies is related to the lack of feedback seeking efforts of the extension agents (Salmon Padmanagara, 1985).

Such level of feedback seeking practices indicated that feedback information could not be sufficiently available to be used as a basis

TABLE 7

Multiple regression between extension agents' feedback seeking practices and some selected independent variables (n = 254)

Communication-Related Variables	Dependent Variables				
	Feedback Seeking Practices				
	Cum R2	R2	R2 Change	Beta	T-sig
Perceived commonness of goals, policies and implementation strategies between the research and the extension agencies	.398	.159	-	.309	.0000
Contact with the specialists	.518	.268	.109	.311	.0000
Amount of feedback received	.569	.323	.055	.192	.0003
Perceived leadership effectiveness	.591	.349	.026	.164	.0028
Uncertainty regarding the relevance of technology and its potential	.608	.370	.021	.156	.0022
Perceived risks of feedback	.624	.390	.020	-.146	.0045
(Constant)					.0000

R = .624 Rsquare Adjusted = .38

F = 26.301 F-sig = .000

in producing relevant information for the farmers. This also implied that feedback information has not been used to plan effective strategy for disseminating information. It further suggests that some efforts need to be done to facilitate extension agents to be more active in seeking feedback. The findings on the relationships between feedback seeking practices and some selected communication, attitude, and organisation-related factors could provide important information for policy makers and leaders of the extension and research organisations in addressing the above problems.

The relationships between the communication-related factors and feedback seeking practices provide support to the previous studies. For example, the findings supported Ashford's (1986) study that individuals who received more feedback were more active in conducting feedback seeking practices. This study also supported Chafee and McLeod's (1987) and Samsudin Abdul Rahim's (1989) findings that information adequacy or acquired knowledge was positively related to information seeking. The relationship between contact with specialists and feedback seeking practices supported the suggestion of Atkin's (1972) Information Communicatory

Utility that individuals who make frequent contact with the specialists would consider feedback as having high communicatory utility which further motivate them to seek it.

On the attitude-related factors, the relationships between feedback seeking practices and the perceived importance of goal attainment, perceived risks of feedback seeking and perceived value of feedback provided support for Ashford's (1986) findings. On the other hand, the relationship between feedback seeking practices and perceived external propensity provided support for Fedor's (1992) study.

Organisational-related factors were found to be related with the extension agents' feedback seeking practices. The relationship between the perceived commonness of research and extension organisations and feedback seeking practices supported argument that similarity of the two organisations in term of goals, policies, and implementation strategies is related to the increased possibility of the extension agents to get relevant technology to fulfill farmers' needs and problems as a return to their feedback seeking practices. In relation to the perceived expected rewards, this study supported the argument that feedback seeking practices is

related to the extension agents' expectation on the outcome that could be achieved in return to the feedback seeking practices. The relationship between perceived leadership effectiveness and feedback seeking practices is in accordance with Vroom's (1961) suggestion that effective leadership could motivate subordinate to work towards achieving the organisation's objective.

The above discussions indicate that extension agents feedback seeking practices were associated with several factors. However, for practical purposes, the efforts to promote feedback seeking practices among extension agents need to focus on the critical factors. This study identified six factors as major determinants of feedback seeking practices. Three variables are in the communication-related group namely; (i) contact with the specialists, researchers and superiors, (ii) amount of feedback received, and (iii) perceived credibility of the feedback sources. Two variables represented organisation-related factors. They are (i) the perceived commonness of goals, policies and implementation strategies between research and extension organisations and (ii) the perceived leadership effectiveness. Only the perceived risks of feedback seeking was associated with attitude-related factors.

The organisation and communication-related factors were found to be dominant predictors of the extension agents' feedback seeking practices and as such, they should be treated more critically by extension and research organisations in order to ensure success of research and extension work.

CONCLUSION

Based on the foregoing findings and discussions, the following conclusions could be made concerning the extension agents' feedback seeking practices:

1. Agricultural extension agents in West Java, Indonesia perceived that they were moderately active in feedback seeking practices in relation to their work.
2. The feedback seeking practices were related to several factors including communication, attitude and organisation-

related variables. Of the communication-related variables, the study revealed that extension agents who have positive perception on the credibility of feedback sources are more likely to carry out feedback seeking practices and extension agents also tend to conduct feedback seeking practices when they perceive that there is a high amount of feedback received from various sources. Extension agents who have high interaction with the subject-matter specialists, researchers and superiors tend to be more active in feedback seeking practices.

3. For attitude-related variables goal attainment, comments from others and feedback value are perceived to have positive impact on extension agents' feedback seeking practices. The trend of feedback seeking practices among the extension agents also appears to increase as the risks of feedback seeking is perceived to decrease.
4. Among organization-related variables effective organisational leadership, high expectations of rewards and high perception on commonness of goals, policies and implementation strategies between research and extension agencies seem to have a positive impact on feedback seeking practices.
5. Communication and organisation-related factors are better predictors compared to attitude-related factors in determining the feedback seeking practices of the extension agents.
6. Finally, it can be concluded that the Ashford's (1986) model of feedback seeking (with some modifications) was relevant and could be used in explaining feedback seeking practices among extension agents in Indonesia.

Implications and Recommendations

Several implications and recommendations could be made from the findings and conclusions:

1. **Extension Performance** Feedback seeking practices are important to ensure the effectiveness of extension organisation

especially in its efforts to increase adoption rate of recommended technologies among its clients. From this study, it can be implied that the moderately active feedback seeking practices by the extension agents is not adequate to improve extension organisations effectiveness in meeting its goals. According to Larson (1981), feedback about performance of individuals and groups in an organisation is an important factor in ensuring organisational effectiveness. For the extension agents, the desired goal performance is the adoption of technological recommendations by the farmers (McDermott, 1987). In other words, if the recommended technology is adopted by farmers, it indicates that the extension agents are able to perform their tasks. To achieve this, the extension agents must have continuous and adequate information regarding the needs and problems faced by farmers. This would only be possible if extension agents themselves are active in carrying out feedback seeking. In order to encourage feedback seeking practices it is recommended that extension organisations should provide a supportive atmosphere for their agents such as giving credit points on the reported feedback of the innovations and organising regular fora and discussions for extension agents to report their feedback information.

2. **Research Performance** Without a continuous feedback mechanism between research and extension agencies, research will not be socially or economically relevant (Swaminathan, 1979). This is because feedback provides researchers with information regarding the needs and problems faced by the farmers. With feedback, researchers would be able to reorient their research efforts to meet the client's needs. In a system where research, extension and farmers are separately organised but interdependently linked, the extension agents should be able to provide feedback for the research organisations. This could be put into reality if

the extension agents actively carry out feedback seeking practices. With such important role of feedback seeking in research works, there is a need to promote feedback seeking practices among the extension agents. Based on the findings and implications above, it is recommended extension organisations should organise activities that provide opportunities for the extension agents to interact with the researchers. These activities may include:

- i. The involvement of extension agents in technology development such as technology testing, technology adaptation and technology intergration.
 - ii. To hold more meetings and discussions between the researchers and the extension agents.
 - iii. Organising visits to research centres either during field-days or other events.
 - iv. Establishing a policy for joint-publication between the researchers and extension agents on research findings and technological breakthroughs.
3. **Research-Extension-Farmer Linkage** Based on the concept of linkage by Havelock (1979), the degree of mutuality and inter-relatedness indicates the quality of research-extension-farmer linkage. One of the indicators that can be used to determine effective linkage among research, extension and farmers is the rate of adoption of technology recommended to farmers (McDermott, 1987). Such adoption indicates that the technology produced by research and the technology recommended or disseminated by extension is related to the needs and problems faced by farmers. In other words, research, extension and farmers have a mutual concern. Such situation would possibly occur when research and extension organisations adequately and continuously receive feedback.

One of the significant findings on the study was that high perception on commonness of

goals, policies and implementation strategies between research and extension agents seen to have positive impact on feedback seeking practices of extension agents. Extension and research organisations therefore should organise activities that would enhance a positive perception on the commonness of goals, policies and implementation strategies. Some recommendations towards this are:

- i. Trainings and workshops for extension agents and researchers as well as their respective superiors should be organised in such a way so that they could be together as participants.
- ii. Publications by the Agricultural Information Centres (AIC) that are usually received by the extension agents should include information on current goals, policies and implementation strategies of research and extension organisations.
- iii. Time slots should be provided for researchers to explain and discuss the tasks and functions of research organisations during trainings participated by the extension agents.
- iv. Meetings should be organised to enable researchers and extension agents to be informed of the current policies and implementation strategies of research and extension organisations.

4. Technology Adoption by Farmers

Extension agents would not be able to precisely determine the needs and problems faced by farmers, unless they are actively involved in feedback seeking practices. This is important to increase adoption rate of recommended technology by clients. As Rogers (1983) noted that clients are willing to adopt technology which is perceived to be highly compatible with their needs, better than the previous practices, relatively easy to understand and to use, observable, and possible to be experimented with on a limited basis. The information are all based on the clients' perspective which they could be obtained only when the extension agents are actively seeking feed-

back. The clients or farmers as feedback sources should be encouraged to give feedback on their needs and problems. In order to encourage clients it is recommended that extension organisations should create an awareness among the feedback sources on the importance of feedback for improving extension work and farmers' conditions. They must be willing to share their experiences, especially those related to the relevancy of certain innovations. For example, farmers could be invited in participatory field workshop on technological development. They could also be invited in television programmes to discuss certain technological issues from the perspective of the feedback source.

REFERENCES

- ASHFORD, S.J. 1986. Feedback-seeking in individual adaptation: A resource perspective. *Academy of Management Journal*. **29**(3): 465-487.
- ASHFORD, S.J. and L.L. CUMMINGS. 1983. Feedback as a individual resource: personal strategy of creating information. *Organizational Behavior and Human Performance*. **32**: 370-392.
- ATKIN, C.K. 1972. Anticipated communication and mass media information seeking. *Public Opinion Quarterly*. **36**: 188-199.
- ATKIN, C. 1973. Instrumental utilities and information seeking. In 205-242. *New Mode for Communication Research*. III; ed. P. Clarke Beverly Hills: Sage Publications.
- CHAFFEE, S.H. and J.M. MCLEOD. 1976. Individual vs. social predictors of information seeking. *Journalism Quarterly*. **53**: 237-245.
- FEDOR, D.B., R.B. RENSVOLD and S.M. ADAMS. 1992. An investigation of factors expected to affect Feedback seeking: A Longitudinal field Study. *Personnel Psychology*. **45**: 770-805.
- GROOT, H.C. 1971. *A Diachronic Communications Construct for Information System Analysis in Development*. Phoenix, Arizona: International Communication Association.

- HAVELOCK, R.G. 1979. *Planning of Innovation through Dissemination and Utilization of Knowledge*. Ann Arbor, Michigan: Center for Research on Utilization of Scientific Knowledge, The University of Michigan.
- LARSON, J.R. 1981. Some hypotheses about the causes of supervisor performance feedback behavior. In *4th Annual Meeting of Management, San Diego, California, August 2-5, 1981: Proceedings Academy of Management*, ed. K.H. Chung, 198-202. San Diego, California: The Academy of Management.
- LIKERT, R. 1961. *New Patterns of Management*. New York: McGraw-Hill.
- MCDERMOTT, J.K. 1987. Making extension effective: The role of extension/research linkages. In *Agricultural Extension Worldwide: Issues, Practices and Emerging Priorities*, ed. W.M. Rivera and S.G. Schram. New York: Croom Helm.
- MINISTRY OF AGRICULTURE, INDONESIA. 1988. Pedoman tata kerja dan tata hubungan kerja penyuluh pertanian.
- MINISTRY OF AGRICULTURE, INDONESIA. 1991a. Petunjuk pelaksanaan keputusan bersama Menteri Dalam Negeri dengan Menteri Pertanian Nomor: 65 Tahun 1991 dana Nomor 539/Kpts/LP. 120/7/1991.
- RIVERA, W.M. and S.G. SCHRAM. 1987. *Agricultural Extension Worldwide: Issues, Practices and Emerging Priorities*. New York: Croom Helm.
- ROGERS, E.M. 1983. *Diffusion of Innovations*. Third Edition. New York: The Free Press.
- SALMON PADMANAGERS. 1985. The joint formulation of extension messages by research and extension staff in Indonesia. In *Research-Extension-Farmer: A Two Way Continuum for Agricultural Development*, ed. M.M. Cernea, J.K. Coulter and J.F. A. Russel, 136-143. Washington: The World Bank.
- SAMSUDDIN ABDUL RAHIM. 1989. *Determinants of diachronic information seeking in an Organization: a Malaysian case study*. Ph.D. Dissertation, University of Wisconsin-Madison.
- SCHUMACHER, H.A, RAHIM MD. SAIL, AIDA VITAYALA SYARIF HUBEIS and MARWAH DAUD IBRAHIM. 1991. *Review of research communication of agency for agricultural research and development*. Agency for Agricultural Research and Development, Ministry of Agriculture, Jakarta.
- SWAMINATHAN, M.S. 1979. Role of national programs in linking research and Development. In *Proceedings of the International Symposium on Development and Transfer of Technology for Rainfed Agriculture and the SAT Farmer*, ICRISAT, 28th August-1st September, 1979, 179-182.
- VROOM, V.H. 1964. *Work and Motivation*. New York: Wiley and Sons.

(Received 24 July 1995)