

Roles of Agricultural Extension Policymakers in Agricultural Development of Cambodia

**Sovath Lach¹, Kesinee Payanun², Kamolrat Intaratat³
and Buncha Sombunsooke⁴**

ABSTRACT

This research study examined the relationship between agricultural extension polimakers' demographic charateristics and the perception of their roles on agricultural extension policies.

The main objectives of this study were:

1) To study the role performance in agricultural extension for agricultural development in Cambodia perceived by the agricultural extension policymakers; 2) To identify factors related to the perceived roles of the performance of the agricultural extension policymakers; 3) To identify the major problems and suggested solutions in the roles' performance of the agricultural extension policymakers for agricultural development; 4) To suggest possible strategic development on the roles' performance of the agricultural extension policymakers for agricultural development in Cambodia.

Population was 80 agricultural policy makers from the case study which was at the Department of Agricultural Extension, Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia. The data collection were both quantitative and qualitative approaches from questionnaires and the secondary data.

The findings revealed that the level of agricultural extension policymakers' knowledge on agricultural extension policies was at average level and significantly related to the roles of agricultural extension policymakers. Furthermore, the age of the agricultural extension policymakers was significantly related to their roles' performance. The education field was significantly related to the openness of receiving information from television and the agricultural extension policymakers' knowledge on the policies. Family income was significantly related to the positive response of agricultural extension policymakers. Family's income also

¹ Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

² Department of Agricultural Extension and Communication, Kasetsart University, Bangkok 10900, Thailand.

³ Extension and Training Office, Kasetsart University, Bangkok 10900, Thailand.

⁴ Department of Agricultural Development, Faculty of Natural Resources, Prince of Songkla University, Hat Yai, Songkla 90112, Thailand.

had relationship with the responsibility of the agricultural extension policymakers concerning this constitution.

The results have given the researcher insights which can be more understand the holistic view on roles' performance of the agricultural extension policymakers. This findings could be adjusted, and modified to be more benefited to the agricultural development of Cambodia.

Key words : roles, agricultural extension policymakers, agricultural development, Cambodia

INTRODUCTION

Cambodia comprises a relatively small and compact territory on the Indo-china Peninsula and covers an area of 181,035 km² (69,898 square miles), bordered by Thailand to the west, by Laos to the north, and by Vietnam to the east (FAO, 1994)

The agricultural sector has played a significantly important role in Cambodia. Agricultural extension policymakers should develop and periodically review their agricultural extension policy. This policy should include the goals of agricultural extension, the responsible agencies and personnel, the clientele to be served, the broad programmatic areas to be addressed, and other relevant guidelines.

The main problem investigated in this study was to determine the relationship between selected demographic variables and media exposure and perceived importance of the performance of identified roles in agricultural extension by policymakers for agricultural development in Cambodia.

Based on the above research questions, the main objectives of this study were:

1. To study the role performance in agricultural extension in agricultural development in Cambodia as perceived by the agricultural extension policymakers themselves; 2. To identify factors

related to the perceived importance of the performance of these roles of the agricultural extension policymakers; 3. To identify the major problems and suggested solutions in the performance of the roles of the agricultural extension policymakers in agricultural development; 4. To suggest possible strategic development of the performance of the roles of the agricultural extension policymakers for agricultural development in Cambodia.

MATERIAL AND METHOD

This chapter describes the methods and procedures used in this research. It includes a description of the site of the study, the population, data collection procedure, the instrument, data analysis and statistical treatment, and scoring standards.

The site of the study

The site of the study was at the Department of Agricultural Extension of the Ministry of Agriculture, Forestry and Fisheries, Phnom Penh, Cambodia.

The population used in the study

The population used in the study were 80 of the agricultural policymakers of the Department of Agricultural Extension, Ministry of Agriculture,

Forestry and Fisheries in Cambodia.

Data collection procedure

The data collection used both quantitative and qualitative approaches including some of the secondary data. But the main tool is the questionnaire.

RESULTS AND CONCLUSION

The results presented in type of tables under 5 main parts as follow;

Part 1: Demographic characteristics of agricultural extension policymakers

Could be noted that agricultural extension policymakers in Cambodia are predominantly male (88.8%). Half of them has their average age between 31- 40 years old (47.5%.) while 70% of them were 40 years old. This observation indicates a younger generation of policymakers contrary to general observations in Asian countries.

In terms of education, very few gained master's degrees (3.8%.) Mostly gained Bachelor's degrees 48.8% and lower (47.8%.) This maybe because of the limited number of higher education institutions. Their majority education fields are in agriculture (26.3%) and technical agriculture (23.0%) technical veterinary (15%) and veterinary (13.0%.)

For their monthly, the majority (48.8%) had between 100,000 – 150,000 Riel which is equivalent to 40 US dollars close to the poverty line of US\$ 60 per month (1 USD= 4,000 Riel) as shown in table 1.

Part 2: Frequency of mass media exposure of agricultural extension policymakers

Around forty two (42.5%) of the agricultural extension policymakers often listen to the radio and 47.5% always listen particularly to the National Cambodia Radio which is more relevant to government issues (37.5%) and National Assembly (43.8%) follow by the agricultural extension program (43.8%.) as shown in table 2.

For the television media, 42.5% of the agricultural extension policymakers always watch television (52.5%), and (40%) programs providing information on agricultural extension. This indicates that television was underused in terms of providing information on agricultural extension as shown in table 3.

For the printed media, 42.5% of the agricultural extension policymakers always read printed media that provided information on agricultural extension, 41.3% often read agricultural extension publications. Regarding the source of information, agricultural extension policymakers often got information on agricultural extension from colleagues 37.5% and 46.3% from the internet but never from farmers and merchants.

These findings indicate that their main source of agricultural information is printed media which generally provided information on agricultural extension. It also implies that agricultural extension publications may be under circulated and it could not reach the majority of the agricultural extension policymakers. There was an indication that farmers are not knowledgeable on agricultural extension which could be the reason why they could not share information on the topic as shown in table 4.

Table 1 Demographic characteristics of agricultural extension policymakers.

N=80

| Characteristics | Number | Percent (%) |
|------------------------|--------|-------------|
| Age (Years) | | |
| 20-30 | 19 | 23.8 |
| 31-40 | 38 | 47.5 |
| 41-50 | 18 | 22.5 |
| 51-55 | 5 | 6.2 |
| \bar{X} 36.66 | | |
| Level of education | | |
| Master's degree | 3 | 3.8 |
| Bachelor's degree | 39 | 48.8 |
| Others | 38 | 47.8 |
| Education field | | |
| Agriculture | 21 | 26.3 |
| Forestry | 3 | 3.8 |
| Fisheries | 2 | 3.0 |
| Veterinary | 10 | 13.0 |
| Economic | 3 | 3.8 |
| Law | 2 | 3.0 |
| Social Science | 1 | 1.3 |
| Technical agriculture | 18 | 23.0 |
| Technical veterinary | 12 | 15.0 |
| Others | 8 | 15 |
| Family income | | |
| Below 50.000 Riels | 10 | 12.5 |
| 50.000-100.000 Riel | 26 | 32.5 |
| 100.000-150.000 Riel | 39 | 48.8 |
| Over 150.000 Riel | 5 | 6.2 |
| \bar{X} 4.06 | | |

Part 3: Perceived actual role performance of agricultural extension policymakers

The respondents sometimes (32.5%) followed the Ministry of Agriculture, Forestry and Fisheries policies in their operations. Their activities were often (40.0%) based on the recommendations of the

Department of Agricultural Extension. They often (46.3%) related with other government sectors, sometimes (36.3%) related with the private sector and the provincial agricultural extension office (35.0%) and often (48.8%) related with the district agricultural extension to support agricultural extension

Table 2 Frequency of exposure to radio broadcasts of agricultural extension policymakers.

| Items | Never | Not often | Often | Always | \bar{X} | S.D. |
|--|-------|-----------|-------|--------|-----------|------|
| 1. Listened to the radio | 4 | 28 | 34 | 14 | 2.72 | 0.81 |
| | | 5% | 35% | 42.5% | 17.5% | |
| 2. Listened to the National Cambodia Radio | 3 | 11 | 28 | 38 | 3.26 | 0.83 |
| | 3.8% | 13.8% | 35% | 47.5% | | |
| 3. Listened to government or political party broadcasts on agricultural extension | 1 | 26 | 30 | 23 | 2.3 | 0.81 |
| | 1.3% | 32.5% | 37.5% | 28.8% | | |
| 4. Listened to broadcasted meetings from the National Assembly on agricultural extension | 1 | 18 | 35 | 26 | 3.07 | 0.77 |
| | 1.3% | 22.5% | 43.8% | 32.5% | | |
| 5. Listened to radio prog-rams providing knowledge on agricultural extension | 2 | 11 | 32 | 35 | 3.25 | 0.78 |
| | 2.5% | 13.8% | 40% | 43.8% | | |
| Σ | 3 | 19 | 32 | 27 | 2.29 | 0.8 |
| | 2.8% | 23.5% | 39.8% | 34% | | |

Table 3 Frequency of exposure to television of agricultural extensi policymakers.

| Items | Never | Not often | Often | Always | \bar{X} | S.D. |
|---|-------|-----------|-------|--------|-----------|------|
| 1. Watched television | 4 | 28 | 14 | 34 | 3.15 | 0.88 |
| | 5% | 17.5% | 35% | 42.5% | | |
| 2. Followed up the programs on television | 1 | 15 | 31 | 33 | 3.2 | 0.78 |
| | 1.3% | 18.8% | 38.8% | 41.3% | | |
| 3. Saw programs on television providing information on agricultural extension | 32 | 42 | 2 | 4 | 1.72 | 0.74 |
| | 40% | 52.5% | 2.5% | 5% | | |
| Σ | 12 | 24 | 20 | 24 | 2.69 | 0.8 |
| | 15.4% | 29.6% | 25.4% | 29.6% | | |

operations. The respondents sometimes (28.2%) planned for agricultural extension development.

In terms of frequency of relating with other

agencies, the agency directly concerned with agricultural extension such as the Department of Agricultural Extension and other relevant government

Table 4 Frequency of exposure of agricultural extension policymakers to print media.

| Items | Never | Not often | Often | Always | \bar{X} | S.D. |
|--|-------------|-------------|-------------|-------------|-----------|------|
| 1. Read printed media providing information on agricultural extension. | 2 2.5% | 18 22.5% | 26 32.5% | 34 42.5% | 3.15 | 0.85 |
| 2. Read agricultural extension publications. | 1 1.3% | 15 18.8% | 33 41.3% | 31 38.8% | 3.17 | 0.77 |
| 3. Got agricultural extension information from colleagues. | 13 16.3% | 19 23.8% | 30 37.5% | 18 22.5% | 2.66 | 1.00 |
| 4. Got agricultural extension information from farmers, merchants. | 36 45% | 15 18.8% | 11 13.8% | 18 22.5% | 2.13 | 1.21 |
| 5. Got agricultural extension information from the internet. | 3 3.8% | 13 16.3% | 37 46.3% | 27 33.8% | 3.10 | 0.80 |
| Σ | 11 13.1% | 16 20% | 27 34.2% | 26 32% | 2.84 | 0.92 |

sectors were contacted. Findings also showed that the respondents related with the government agency closest to them such as the district agricultural extension office more than the provincial agricultural extension office. Planning for agricultural development did not seem to be a priority of the agricultural extension policymakers. The reason could be that they concentrated on agricultural extension and that agricultural development planning would be the responsibility of the Ministry.

The total mean 3.31 of the eighty agricultural extension policymakers. The result can be described that actual roles of agricultural extension policymakers' were positively.

Part 4: Expectations on the role performance of agricultural extension policymakers

The data presented in table 6 summarizes the results of the findings regarding the expectations of agricultural extension policymakers on their role performance.

Most important roles

Out of the 31 identified roles of agricultural extension policymakers, the following 20 roles were perceived to be most important by the respondents:

1. Following the Ministry of Agriculture, Forestry and Fisheries policies (42.5%.)
2. Relating with other agencies besides provincial and district agricultural extension (45%.)
3. Planning for agricultural extension development (45%.)

4. Increasing understanding of the roles of agricultural extension to facilitate development (46.3%.)

5. Improving the spirit of inquiry to help people develop capabilities to solve their own problems (47.5%.)

6. Improving quality of personnel leadership to increase ability to solve problems (41.3%.)

7. Improving research proficiency to answer questions relative to effecting behavioral change (36.3%.)

8. Recognition of the need for sustainable development (47.5%.)

9. The need for qualified personnel for the development of extension systems (42.5%.)

10. Providing clear mandate and policy guidelines to stimulate and conduct agricultural extension programs (48.8%.)

11. Policy reforms to re-structure the agricultural sector, providing security of land tenure and incentive framework to farmers (46.3%.)

12. Ensuring quick production gains to set dramatic examples to operate later widespread adoption (47.5%.)

13. Improving income opportunities for farm households by developing agri-business (48.8%.)

14. Strengthening the capacity of the provincial and district agricultural extension officials in managing participatory agricultural development activities (48.8%.)

15. Strengthening local government capacity in research and technology transfer to farmers (52.5%.)

16. Increasing people's participation in local

development to strengthen their ability to adjust to changing market conditions (45.0%.)

17. Adjusting agricultural production to local conditions and market demand through improved farmer access to credit (46.3%.)

18. Expansion of cultivable land supported by appropriate agrarian laws to encourage private investment (47.5%.)

19. Promotion of the organization of rural financial system (51.3%.)

20. Establishment of agricultural and model farmers centers (46.3%.)

In general, the 20 identified roles rated by the respondents as most important encompasses the fundamental framework of the roles of agricultural extension policymakers. The respondents recognized the basic processes and mechanisms to make the process work. The beneficiaries were of utmost consideration in mind and everything that would effect benefits for the beneficiaries were considered to be most important to be in place ranging from research to human resource capabilities and implementation. There is also an evident expectation of an enabling environment such as items No. 17-20.

Important roles

Out of the 31 identified roles of agricultural extension policymakers, the following 7 roles were perceived to be important by most of the respondents:

1. Relating with the district agricultural extension to support agricultural extension operation (48.8%.)

2. Improving and strengthening proficiency

in managing education programs (48.8%.)

3. Improving the balance of competencies between extension area and technical subject matter (46.3%.)

4. The need for pre-service education and training for professional leadership among agricultural extension policymakers (35%.)

5. Responsibility is based on the value of bringing about desired behavior change of the rural people (33.8%.)

6. The need to be well equipped with appropriate concepts, values, and skills for effective job performance in agricultural development (42.5%.)

7. Improving food security through expansion in the production of rice and other crops (55%.)

It can be noted that the seven identified roles rated as important generally deal with training and education except for Item No. 7. It implies that a strong program for training and extension is necessary to effect desired changes in the agricultural development of Cambodia.

Uncertain roles

Out of the 31 identified roles of agricultural extension policymakers, the respondents were uncertain on the importance of the following 4 roles:

1. Basing activities on the Department of Agricultural Extension recommendations (36.3%.)

2. Relating with other government sectors to support training activities in agricultural extension 40.0%. Relating with the private sector to support training activities on agricultural extension (37.5%.)

3. Relating with the provincial agricultural extension office to support agricultural extension

operation (47.5%.)

The four identified roles rated by the respondents with the highest frequency in each item indicated that they were uncertain about the performance of these roles. It can be seen that these items are relationships. It means that the agricultural extension policymakers did not know whether they needed to collaborate with these relevant organizations or not.

Least important roles

It was noted that a range from 2.5% to 13.8% perceived that each of the 31 identified roles of the agricultural extension policymakers was least important. The following problems identified could provide insights on the reasons for this finding.

The total mean of the eighty agricultural extension policymakers is 3.04. The result of the above expectation on roles performance of agricultural extension policymakers' score can be classified in each actual roles level as depicted in table 6. The result can be described that expectation on roles performance of agricultural extension policymakers' were positive.

Part 5: Problems and suggestions on the roles performance of agricultural extension policymakers

There were six identified problems and eight subsequent solutions to these problems rated by the respondents. The problems are first discussed, then the suggested solutions as follow.

Table 5 Perceived actual role performance of agricultural extension policymakers.

| Items | Never | Rarely | Some times | Often | Always | \bar{X} | S.D. |
|--|-------------|-------------|-------------|-------------|-------------|-----------|------|
| 1. Followed the Ministry of Agriculture, Forestry & Fisheries policies. | 3 3.8% | 25 31.3% | 26 32.5% | 22 27.5% | 4 5% | 2.98 | 0.97 |
| 2. Based activities on the department of agricultural extension recommendations. | 5 6.3% | 5 6.3% | 21 26.3% | 32 40% | 17 21.3% | 3.63 | 1.08 |
| 3. Related with other government sectors to support training activities on agricultural extension | 4 5% | 6 7.5% | 31 38.8% | 37 46.3% | 2 2.5% | 3.33 | 0.85 |
| 4. Related with the private sector to support training activities on agri-cultural extension. | 8 10% | 9 11.3% | 29 36.3% | 21 26.3% | 13 16.3% | 3.27 | 1.16 |
| 5. Related with the provincial agri- cultural extension to support agricultural extension operate. | 11 13.8% | 4 5% | 28 35% | 27 33.8% | 10 12.5% | 3.26 | 1.17 |
| 6. Related with the district agricultural extension to support agricultural extension operations. | 4 5% | 9 11.3% | 18 22.5% | 39 48.8% | 10 12.5% | 3.52 | 1.01 |
| 7. Related with other agencies besides the provincial and district agricultural extension. | 6 7.5% | 9 11.3% | 34 42.5% | 25 31.3% | 6 7.5% | 3.2 | 0.99 |
| 8. Planned for agricultural extension development. | 13 16.3% | 5 6.3% | 23 28.8% | 18 22.5% | 21 26.3% | 3.36 | 1.37 |
| Σ | 7 16.9% | 9 11.2% | 26 32.8% | 28 34.5% | 10 12.9% | 3.31 | 1.07 |

Table 6 Expectations on the role performance of agricultural extension policymakers.

| Items | Level of importance | | | | \bar{X} | S.D. |
|---|---------------------|-------------|-------------|----------------|-----------|------|
| | Least important | Uncertain | Important | Most important | | |
| 1. Following the Ministry of Agriculture, Forestry and Fisheries policy. | 5 6.3% | 11 13.8% | 30 37.5% | 34 42.5% | 3.16 | 0.89 |
| 2. Basing activities on the Department of Agricultural Extension recommendations. | 11 13.8% | 29 36.3% | 25 31.3% | 15 18.8% | 2.55 | 0.95 |
| 3. Relating with other government sectors to support training activities on agricultural extension. | 9 11.3% | 32 40% | 26 32.5% | 13 16.3% | 2.53 | 0.89 |
| 4. Relating with the private sector to support training activities on agricultural extension. | 12 15% | 30 37.5% | 25 31.3% | 13 16.3% | 2.48 | 0.94 |
| 5. Relating with the provincial agricultural extension to support agricultural extension operation. | 8 10% | 38 47.5% | 28 35% | 6 7.5% | 2.4 | 0.77 |
| 6. Relating with the district agricultural extension to support agricultural extension operation. | 4 5% | 21 26.3% | 39 48.8% | 16 20% | 2.83 | 0.8 |
| 7. Relating with other agencies besides provincial and district agricultural extension. | 11 13.8% | 10 12.5% | 23 28.8% | 36 45% | 3.05 | 1.06 |
| 8. Planning for agricultural extension development. | 6 7.5% | 6 7.5% | 32 40% | 36 45% | 3.22 | 0.88 |
| 9. Increasing understanding of the role of agricultural extension to facilitate development. | 3 3.8% | 7 8.8% | 33 41.3% | 37 46.3% | 3.3 | 0.78 |
| 10. Improving and strengthening proficiency in managing education programs. | 5 6.3% | 6 7.5% | 39 48.8% | 30 37.5% | 3.17 | 0.82 |

Table 6 (continued).

| Items | Level of importance | | | | \bar{X} | S.D. |
|---|---------------------|-------------|-------------|----------------|-----------|------|
| | Least important | Uncertain | Important | Most important | | |
| 11. Improving the spirit of inquiry to help people develop capabilities to solve their own problems. | 4 5% | 8 10% | 30 37.5% | 38 47.5% | 3.27 | 0.84 |
| 12. Improving quality of personnel leadership to increase ability to solve problems. | 10 12.5% | 12 15% | 25 31.3% | 33 41.3% | 3.01 | 1.03 |
| 13. Improving research proficiency to answer questions relative to effecting behavioral change. | 7 8.8% | 20 25% | 24 30% | 29 36.3% | 2.93 | 0.98 |
| 14. Improving the balance of competencies between extension area and technical subject matter. | 8 10% | 13 16.3% | 37 46.3% | 22 27.5% | 2.91 | 0.91 |
| 15. Recognition of the need for sustainable development. | 11 13.8% | 8 10% | 23 28.8% | 38 47.5% | 3.1 | 1.06 |
| 16. The need for qualified personnel for the development of extension systems. | 7 8.8% | 16 20% | 23 28.8% | 34 42.5% | 3.05 | 0.99 |
| 17. The need for pre-service education and training for professional leadership among agricultural extension policymakers. | 11 13.8% | 14 17.5% | 28 35% | 27 33.8% | 2.88 | 1.03 |
| 18. Responsibility is based on the value of bringing about desired behavior change of the rural people. | 11 13.8% | 18 22.5% | 27 33.8% | 24 30% | 2.8 | 1.02 |
| 19. The need to be well equipped with appropriate concepts, values, and skills for effective job performance in agricultural development. | 5 6.3% | 12 15% | 34 42.5% | 29 36.3% | 3.08 | 0.87 |

Table 6 (continued).

| Items | Level of importance | | | | \bar{X} | S.D. |
|---|---------------------|-------------|-------------|----------------|-----------|------|
| | Least important | Uncertain | Important | Most important | | |
| 20. Providing clear mandate and policy guidelines to stimulate and conduct agricultural extension programs. | 7 8.8% | 8 10% | 26 32.5% | 39 48.8% | 3.21 | 0.95 |
| 21. Policy reforms to re-structure the agricultural sector, providing security of land tenure and incentive framework to farmers. | 2 2.5% | 7 8.8% | 34 42.5% | 37 46.3% | 3.32 | 0.74 |
| 22. Ensuring quick production gains to set dramatic examples to operate later widespread adoption. | 9 11.3% | 12 15% | 21 26.3% | 38 47.5% | 3.1 | 1.03 |
| 23. Improving food security though expansion in the production of rice and other crops. | 8 10% | 8 10% | 44 55% | 20 25% | 2.95 | 0.87 |
| 24. Improving income opportunities for farm households by developing agri-business. | 3 3.8% | 13 16.3% | 25 31.3% | 39 48.8% | 3.25 | 0.86 |
| 25. Strengthening the capacity of the provincial and district agricultural extension officials in managing participatory agricultural development activities. | 5 6.3% | 9 1.3% | 27 33.8% | 39 48.8% | 3.25 | 0.89 |
| 26. Strengthening local government capacity in research and technology transfer to farmers. | 5 6.3% | 11 13.8% | 22 27.5% | 42 52.5% | 3.26 | 0.92 |

Table 6 (continued).

| Items | Level of importance | | | | \bar{X} | S.D. |
|---|---------------------|-------------|-------------|----------------|-----------|------|
| | Least important | Uncertain | Important | Most important | | |
| 27. Increasing people's participation in local development to strengthen their ability to adjust to changing market conditions. | 3 3.8% | 6 7.5% | 35 43.8% | 36 45% | 3.3 | 0.76 |
| 28. Adjusting agricultural production to local conditions and market demand through improved farmer access to credit. | 5 6.3% | 8 10% | 30 37.5% | 37 46.3% | 3.23 | 0.87 |
| 29. Expansion of cultivable land supported by appropriate agrarian laws to encourage private investment | 3 3.8% | 5 6.3% | 34 42.5% | 38 47.5% | 3.23 | 0.76 |
| 30. Promotion of the organization of rural financial system. | 3 3.8% | 5 6.3% | 31 38.8% | 41 51.3% | 3.37 | 0.76 |
| 31. Establishment of agricultural and model farmers centers. | 5 6.3% | 4 5% | 34 42.3% | 37 46.3% | 3.28 | 0.82 |
| Σ | 7 8% | 16 16.1% | 29 36.8% | 31 7% | 3.04 | 0.69 |

A. Problems on the roles performance of agricultural extension policymakers

Data in table 7 shows that in the following items, the highest percentage of the respondents strongly agreed that this problem existed:

Lack of participation of agricultural extension policymakers in explaining details (31.3%.) this finding indicates that the agricultural extension policymakers have failed in the performance of their

role in providing information, explaining or clarifying details of agricultural extension policies (31.3%.) It implies that there is a need to develop their capacity in communicating policies to the farmers and the general public. There might be some existing guidelines or policies in agricultural extension information but there was no established mechanism for its dissemination on the part of the agricultural extension policymakers.

Table 7 Problems on the roles performance of agricultural extension policymakers.

| Items | Level of agreement | | | | | \bar{X} | S.D. |
|---|--------------------|------------|-------------|-------------|----------------|-----------|------|
| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | | |
| 1. Inadequate public relations by government. | 4 5% | 9 11.3% | 34 42.5% | 25 31.3% | 8 10% | 3.3 | 0.97 |
| 2. Lack of press cooperation in disseminating information. | 6 7.5% | 5 6.3% | 21 26.3% | 38 47.5% | 10 12.5% | 3.51 | 1.04 |
| 3. Lack of access to information. | 6 7.5% | 7 8.8% | 15 18.8% | 28 35% | 24 30% | 3.71 | 1.2 |
| 4. Lack of participation of agricultural extension policy-makers in explaining details. | 4 5% | 7 8.8% | 20 25% | 24 30% | 25 31.3% | 3.73 | 1.14 |
| 5. Lack of concern of non-government organizations in disseminating information. | 7 8.8% | 3 3.8% | 21 26.3% | 32 40% | 17 21.3% | 3.61 | 1.13 |
| 6. Low government staff salary. | 1 1.3% | 4 5% | 24 30% | 32 40% | 19 23.8% | 3.8 | 0.9 |
| Σ | 5 5.8% | 5 7.3% | 23 28.1% | 30 37.3% | 17 21.4% | 3.61 | 1.06 |

The respondents agreed that the following problems existed:

- 1) Lack of press cooperation in disseminating information (47.5%).
- 2) Lack of access to information (35%).
- 3) Lack of participation of agricultural extension policymakers in explaining details (30%).

This finding indicates that the channels for information dissemination was weak. It was stated

in the earlier data found that there was wide exposure among the respondents to mass media channels. The agricultural extension policymakers did not make use of these available mass media channels especially the press. There was an evident need for advocacy to make the press cooperate in disseminating information concerning agricultural extension policies.

The respondents were neutral that the following problem existed:

1. Lack of concern of non- government organization in dissemination information (26.3%.)

2. Low government staff salary (30%.)

The total meaning of the eighty agricultural extension policymakers is 3.61. The result of the above problems on the roles performance of agricultural extension policymakers' score can be classified in each level as depicted in table 7. The result can be described that problems on the roles performance of agricultural extension policymakers' were positive.

B. Suggestions to solve the problems on roles performance of agricultural extension policymakers

It can be noted from the data that the following solutions were strongly agreed by the respondents:

1. More cooperation of non-government organizations in providing information concerning the policies (27.5%.)

2. Involvement of education institutions in providing information concerning agricultural extension policymakers' roles (31.3%.)

There seems to be a growing reliance on educational institutions and non-government organizations as valuable agencies in the dissemination of information. These organizations have the facilities like libraries for educational institutions and interpersonal communication channels for non-government organizations. To complement mass media efforts of the government, schools and relevant NGOs should be more cognizant of their responsibilities in promoting awareness and information in disseminating agricultural extension

policies. The role of the agricultural extension policymakers is to reach them to advocate for the organizations' involvement.

The respondents agreed on the following solutions:

1. Press participation in providing information on these policies (30%.)

2. More government publicity of sources of information concerning the policies (30%.)

3. Responsibilities of the agricultural extension policymakers in providing information and clarification on these policies (28.8%.)

4. These policies should be printed in booklets explaining the rights and responsibilities of the people as specified (30%.)

It can be observed from the four items agreed to be solutions to the problems that they constitute an integrated approach to information dissemination. First, the policies need to be in print. Second, the sources of the information should be publicized. Third, the press should disseminate these policies through print mass media. And, the agricultural extension policymakers should use interpersonal communication to explain the details of the policies.

The respondents were neutral (30%) about the idea that the government should publicize more about the agricultural extension policies by using more media channels. Since the respondents were neutral about the problem concerning the government as discussed in the previous topic, therefore, it also follows that they are neutral in the involvement of the government as a solution. There are already other responsibilities of the government. This role should be taken responsibility by specific bodies like the Ministry of Agriculture, Forestry and Fisheries or

Table 8 Suggestions to solve the problems on role performance of agricultural extension policymakers.

| Items | Level of agreement | | | | | \bar{X} | S.D. |
|---|--------------------|-------------|-------------|-------------|----------------|-----------|------|
| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | | |
| 1. More publicity by government on the new policies. | 4 5% | 13 16.3% | 24 30% | 23 28.8% | 16 20% | 3.42 | 1.13 |
| 2. Press participation in providing information on these policies. | 4 5% | 17 21.3% | 18 22.5% | 24 30% | 17 21.3% | 3.41 | 1.18 |
| 3. More government publicity of sources of information concerning the policies. | 6 7.5% | 15 18.8% | 17 21.3% | 24 30% | 18 22.5% | 3.41 | 1.23 |
| 4. More cooperation of non-government organizations in providing information concerning the policies. | 6 7.5% | 16 20% | 15 18.8% | 21 26.3% | 22 27.5% | 3.46 | 1.29 |
| 5. Responsibilities of the agricultural extension policy makers in providing information and clarification on these policies. | 5 6.3% | 16 20% | 15 18.8% | 23 28.8% | 21 26.3% | 3.48 | 1.25 |
| 6. Involvement of education institutions in providing information concerning agricultural extension policy makers' roles. | 5 6.3% | 13 16.3% | 14 17.5% | 23 28.8% | 25 31.3% | 3.62 | 1.25 |
| 7. These policies should be printed in booklets explaining the rights and responsibilities of the people as specified. | 6 7.5% | 12 15% | 19 23.8% | 24 3% | 19 23.8% | 3.47 | 1.22 |
| 8. Television broad-cast concerning these policies on every channel after the evening news. | 5 6.3% | 21 26.3% | 18 22.5% | 17 21.3% | 19 23.8% | 3.3 | 1.26 |
| Σ | 5 6.4% | 15 19.2% | 18 21.9% | 22 28% | 20 24.5% | 3.44 | 1.22 |

more specifically, the Department of Agricultural Extension. Leaders influence agricultural extension policymakers because they impose views to the agricultural extension policymakers. These results also corresponds with Klapper 1960 who found that opinion leaders often present their own views and often receive credibility and trust from the people.

The respondents disagreed (26.3%) that the policies should be broadcasted on every television channel after the evening news. In terms of the efficient use of communication channels, air time on television is very expensive. Moreover, the agricultural extension policies are not simply disseminated for awareness but for understanding the implications, applications, rights and responsibilities. These objectives can be better achieved through print media or interpersonal communication.

The total mean of the eighty agricultural extension policymakers is 3.44. The result of the above suggestion to solve the problems on roles performance of agricultural extension policymakers' score can be classified in each level as depicted in table 8. The result can be described that suggestion to solve the problems on roles of agricultural extension policymakers' were positive.

CONCLUSION

From the findings in the study it can be concluded that:

1. The respondents were male dominated with a family income of 50,000 Riels per month which is close to the poverty line.
2. The level of importance of roles of

agricultural extension policymakers in agricultural development of Cambodia are influenced by age, level and field of education and family income.

3. The level of importance of roles of agricultural extension policymakers in agricultural development of Cambodia are influenced by their exposure to mass media such as radio, television and print.

4. The agricultural extension policymakers' demographic characteristics influence their exposure to mass media.

5. The greatest problem in the roles of agricultural extension policymakers in agricultural development of Cambodia lies more on the responsibilities of agricultural extension policymakers, the press, non government organizations, and other sources of information and not necessarily a responsibility of the government.

6. The suggested solutions were to strengthen the involvement of the agricultural extension policymakers and given higher salaries to encourage them.

7. The press, non government organizations, educational institutions, getting the agricultural extension policies in print instead of relying on the government.

8. The respondents suggested that the government should publicize more on roles of agricultural extension policymakers by using more media channels and also should publicize more on the sources of information. Furthermore, more broadcasts on television program concerning agricultural extension should be on every channel after the news.

ACKNOWLEDGMENTS

This research study was support by the Thai Government, under implementation supervision of the Department of Technical and Economic Cooperation, with the educational performances of the Kasetsart University, Department of Agricultural Extension and Communication, therefore I would like to extend my appreciation from the above mentioned institutions and whom I received their support, including individuals whom provided me their full support.

LITERATURE CITED

- Allo, A. V. and R.H. Schwass. 1982. *A Discussion of Agricultural Extension For Developing Countries*. Taiwan: Food and Fertilizer Technology Center.
- Arnon, I. 1989. *Agricultural Research and Technology Transfer*. London and New York: Elsevier Science Publishers Ltd.
- Benor, Daniel and Michael Baxter. 1984. *Training and Visit Extension*. Washington D.C.: The World Bank.
- Cernea, Michael M., John K., Coulter, and John F. A. Rusell. 1984. *Agricultural Extension by Training and Visit the Asian Experience*. U. S. A. Manufactur in the United states of America.
- Roling, Neil. 1988. *Extension Science Information Systems in Agricultural Development*. U.S.A: Cambridge University Press, Cambridge.
- FAO Report. 1994. *Cambodia Agricultural Development Options Review*. Rome
- Report. 1994. *Cambodia-Australia Agricultural Extension project*. Phnom Penh: Australia International Development Assistance Bureau.
- Van den and A. W. Hawkins H. S. 1996. *Agricultural Extension*. Cambridge MA, U.S.A: Blackwell Science Ltd.