

Extension Services' Needs of Small Farmers in Biliran, Philippines

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Abstract—This study aimed to determine the extension services' needs of small farmers in Biliran, Philippines. It also sought to find out other issues/concerns of the small farmers. Extension services' needs of small farmers were gathered through personal interviewing and observational analysis of 100 randomly-selected small farmers in Biliran, Philippines. Biliran small farmers extension services' needs include: raising fruits, raising legumes, raising vegetables, raising swine, raising cattle, and raising chicken (as priority broad skills). For the specific skills, diagnosing symptoms on fertilizer deficiencies, controlling plant pests and diseases, diagnosing signs on specific pest and disease damage, controlling animal pests and diseases, and doing artificial insemination, were the priority skills. They considered on-farm trial of new technology as most needed coupled with industry and quality-orientedness, as positive behaviors needed in farming success. The farmers still adhere to the so-called wait-and-see attitude, thus they are more convinced to follow a particular technology if they see a concrete result of the introduced changes. Technical needs prioritization of Biliran small farmers showed that they have a real need for crop and animal production skills to include the other issues/concerns. Equipping the small farmers with the basic skills in crop and animal production would make them more technically independent. This is along taking cognizance of relevant issues and concerns affecting them. Extension service program planning for small farmers should be patterned after their technical needs giving due attention to some issues/concerns so that extension work could deliver the right skills for the right needs of the farmers.

Index Terms—extension service program, information, information needs, marginal farmers

I. INTRODUCTION

Filipino farmers maybe roughly classified as big-time, intermediate, and small farmers. Incidentally, a large portion of them belong to the last type which appears to be widely distributed in the whole country [1], [2]. Small farmers are those who cultivate small tracts of lands having low soil fertility, poor production and income. They are the ones with very limited capacity to finance the production needs of their farms [3]. Such farmers are owners or tenants of the areas they are tilling.

In the Philippines, a lot of agricultural extension services are carried out by public tertiary schools varying from the non-technical to technical knowledge.

However, the matter on appropriacy and relevance of the extension service program to the genuine needs of the small farmers are concerns that should not be taken for granted by extension service administrators.

The primary mission of the extension program of an agricultural college is to improve the quality of life of the rural families, by helping them acquire new knowledge and skills along lines of their current interests and needs. Such are closely related to increasing farm income and improving their standard of living. This mission is based on the philosophy that the strength and stability of a society is dependent upon the quality of its people [4].

Biliran is a small province in Eastern Visayas, Philippines with a total land area of 555.5 sq m [5]. It consists of eight municipalities with Naval as its capital town. As of 2010 census, Biliran has a total population of 161,760 with 34,224 total households where 75 percent of which are farmers or around 25,668 farming households [6]. Just like most of the provinces in the Philippines, Biliran is primarily considered an agricultural province because most of its products are derived from farming activities. And since majority of its inhabitants are farmers, it is practical for researchers to look into their system of farming before implementing any extension service program.

In the past, there had been some extension services program in livestock and crop production conducted by Biliran National Agricultural College (now Naval State University-Biliran Campus, Philippines) in the whole province of Biliran as well as to the nearby communities. Unfortunately, most of the farmer-beneficiaries have failed to sustain their projects, thus they were not able to adopt the extended technology. Such a case might serve as a good lesson for the school in its future implementation of extension service programs.

An institution of higher learning or any Government Organization (GO) or Nongovernment Organization (NGO) which carry out an extension activity as part of their legitimate functions, sometimes overlook the necessity of knowing beforehand the true privation of their clients. Thus, now and again the limited resources of the institution are not properly put into beneficial use [7].

II. METHODOLOGY

Knowledge on the extension service needs of farmers was taken by conducting personal interviews and

observational analyses, to the randomly selected small farmers in Biliran Province, Philippines.

Extension service program – refers to activities that aim to transfer technical or occupational know-how to small farmers.

Extension service needs – are the occupational requisites of the farmers in carrying out various agricultural or farming activities.

Farming resources – are categorically classified as crop production and animal production resources.

Small farmers – are marginal farmers with farm-holding of one hectare or less whose lands are generally infertile and low-yielding and lack the right conditions for good production such as irrigation and the like [8].

Crop production skills – are the technical skills in the area of crop production.

Animal production skills – are the technical skills in the area of animal production.

Sample and sampling techniques: The universe of this study is all small farmers in Biliran province whose total farm landholding range from one hectare and below. Specifically, they are the farmers whose landholding is less productive brought about by poor soil fertility and characterized by the absence of the right conditions for proper plant growth and development. They were identified using direct inquiry and observation about their socio-farming status. Their total number was determined by looking into the official records of the National Census and Statistics Office, Biliran Provincial Office, Naval, Biliran, Philippines [8]. For every municipality, twenty percent (20%) of the total number of barangays was randomly selected, and from that number the total farmer-respondents for every municipality was randomly chosen. Each of the eight municipalities was proportionately represented in the inclusion of respondents, depending on the number of farming households per municipality. Each farming household was regarded as one sampling unit. And because of the numeracy of the population, proportionate random sampling was resorted to in the conduct of actual data gathering in the eight (8) municipalities. Purposive sampling was also done inasmuch as some barangays are categorically classified as fishing barangays and others as farming, thus, data gathering were concentrated in the farming barangays.

Instruments: The following survey tools were used in gathering the data from the respondents:

Interview schedule – was used as a guide during the conduct of actual interview with the farmer-respondents. The first part solicits the background information of the farmer-respondents, the second part seeks to find out the extension service needs and other issues/concerns of small farmers according to their degree of need, while the last part is open for the comments and observations of the interviewer.

Observational analyses – along with the conduct of personal interviews, some observation notes were taken based on the actual account of the farmers' surroundings, particularly their farm. These notes were analyzed right after every field visits.

III. RESULTS AND DISCUSSION

The data below (Table I, Table II and Table III) present selected variables of the extension service needs in crop and animal production as well as the other issues/concerns of Biliran small farmers:

TABLE I. EXTENSION SERVICES' NEEDS ON CROP PRODUCTION OF BILIRAN SMALL FARMERS

Crop Production Skills	Mean Degree of Need	Rank	S.D.
Specific Skills:			
1. Diagnosing symptoms on specific fertilizer deficiencies	3.66	1	0.52
2. Controlling plant pests and diseases, particularly Golden Snail, Banana Fruit Disease, and Rodents	3.62	2	0.49
3. Diagnosing signs on specific pest and disease damage	3.50	3	0.70
4. Using chemicals correctly	3.42	4	0.67
5. Determining the right amount of fertilizer application rate	3.12	5	0.79
6. Propagating the seeds/asexual propagation	2.58	6	0.67
7. Sampling soil	2.50	7	0.50
8. Selecting a good crop variety	2.44	8	0.67
Broad Skills:			
1. Raising fruits	3.06	1	0.62
2. Raising legumes	2.60	2	0.53
3. Raising vegetables	2.54	3	0.57
4. Raising banana	2.20	4	0.40
5. Raising rice	2.16	5	0.37
6. Raising corn	2.16	6	0.37
7. Raising coconut	2.10	7	0.30
8. Raising cassava	2.06	8	0.24
9. Raising sweet potato	2.06	9	0.24

Degree of Need Scale: 4 – Most Needed, 3 – Needed, 2 – Moderately Needed

1- Not Needed

TABLE II. EXTENSION SERVICES' NEEDS ON ANIMAL PRODUCTION OF BILIRAN SMALL FARMERS

Animal Production Skills	Mean Degree of Need	Rank	S.D.
Specific Skills:			
1. Diagnosing symptom on specific pests and diseases	3.82	1	0.39
2. Controlling animal pests and diseases	3.66	2	0.47
3. Doing artificial insemination	3.56	3	0.50
4. Selecting a good breed	3.14	4	0.40
5. Immunizing/Deworming the stock	2.96	5	0.45
6. Using feed supplement and other veterinary supplies correctly	2.90	6	0.46
7. Determining the right amount of feed to give	2.54	7	0.50
8. Doing castration	2.36	8	0.48
Broad Skills:			
1. Raising swine	3.44	1	0.50
2. Raising cattle	3.28	2	0.57
3. Raising chicken	2.56	3	0.50
4. Raising carabao	2.34	4	0.47

Degree of Need Scale: 4 – Most Needed, 3 – Needed, 2 – Moderately Needed, 1- Not Needed

TABLE III. OTHER ISSUES/CONCERNS OF SMALL FARMERS IN BILIRAN, PHILIPPINES

Other Issues/Concerns	Mean Degree of Need	Rank	S.D.
1. On-farm trial of new technology	3.76	1	0.43
2. Industry	3.64	2	0.48
3. Quality-orientedness	3.20	3	0.49
4. Cooperativism	3.08	4.5	0.52
5. Proactivism	3.08	4.5	0.48
6. Resourcefulness	3.02	6	0.51
7. Ingenuity	2.92	7	0.48
8. Honesty	2.76	8	0.43
9. Perseverance	2.60	9	0.53
10. Credit facility	2.54	10	0.54
11. Farmers' market	2.52	11	0.50
12. Farmers' association	2.34	12	0.59
13. Farmer visits	2.26	13	0.44

Degree of Need Scale: 4 – Most Needed, 3 – Needed, 2 – Moderately Needed, 1- Not Needed

For the specific skills on crop production component, it turned out that diagnosing symptoms on specific fertilizer deficiencies was rated by the farmers with the highest need score of 3.66 with an SD of 0.52. This was followed by 3.62 need rating for controlling plant pests and diseases particularly Golden Snail, Banana Fruit Disease, and Rodents. The farmers ranked third the skill on diagnosing signs on specific pests and disease damage with a mean score of 3.50. While raising fruits, raising legumes, and raising vegetables ranked top three as needed and moderately needed broad skills with need scores of 3.06, 2.60, and 2.54, respectively.

The farmers extension service needs on crop production appear that they have greater need for skills involving proper crop care and management. This was shown by the higher need scores of those skills leading to good crop maintenance. Hence, extension service activities of benefactors should prioritize the teaching to farmer-beneficiaries of the above identified crop production skills.

The above finding concurred with the result obtained in a study of Nigerian women farmers' agricultural information needs, where farmers had the highest information needs in the areas of pesticide, fertilizer applications, and improved farm implements [9]. Though, one way to effectively convey the needed skills to the small farmers is through participatory agricultural extension [10], [11]. It consists of a basket of extension approaches that involve outside facilitators working closely with local communities. However, it was reported that small farmers are likely to be slower to adopt new technologies when the risk involved is high [12].

On the specific animal production skills, the farmers consider diagnosing symptom on specific pests and diseases as the most needed skill with a DN rating of 3.82 and a comparatively lower SD value of 0.39. This was followed by controlling animal pests and diseases with 3.66 DN score, then by doing artificial insemination with 3.56 DN mark. While raising swine, raising cattle, and raising chicken (for broad skills) were needed at comparatively lower DN scores of 3.44, 3.28, and 2.56, respectively. Doing castration (specific skill) and raising

carabao (broad skill) obtained the lowest DN ratings of 2.36 and 2.34, each.

The farmers ranking of the animal production skills appear that they have a higher extension need for skills/activities that are technically difficult. This is logical because human nature dictates that the more difficult skills are the ones which are not familiar hence would translate to higher degree of need. It was also found by a survey in Wang (2009) [13] concerning Chinese farmers, that trainings farmers received in extension activities are too theoretical and not adapted to local agricultural conditions. It was also found that older farmers are generally less adaptive to technology changes compared to younger ones [14]. The substantial period of exposure to the familiar practices tend to develop resistive attitude for the new and unfamiliar method.

In regard to the other issues/concerns (OIC) of farming, it appears that on-farm trial of new technology is most needed by the small farmers with a DN rating of 3.76. It was interesting to know that on the farmers' attitude issue, which is believed to affect the designing and actual implementation of an extension service program, values such as industry, quality-orientedness, cooperativism, proactivism, resourcefulness, ingenuity, honesty, and perseverance got the next higher need ratings of 3.64, 3.20, 3.28, 3.08, 3.02, 2.92, 2.76, and 2.60, respectively.

While concerns on credit facility, farmers' market, farmers' association, and farmer visits, obtained the last four lowest DN ranks of 2.54, 2.52, 2.34, and 2.26. This means that farmers are very much aware that the above-mentioned positive values are important attitudes needed toward the success of their farming activity.

In a related article, it was mentioned that a good market information system is essential to strengthen the productive capacity and competitive edge of small farmers, both locally and abroad [15]. It is believed that the farmers' ability to produce depends on their access to credit where the procedures are simple and quick. Good technologies and market information will not be useful unless they are utilized. More importantly, agricultural extension workers should go out of the confines of their offices to teach the farmers [15].

IV. CONCLUSION

Equipping the small farmers with the basic skills in crop and animal production would make them more technically independent. This is along taking cognizance of relevant issues and concerns affecting them. These scenarios are the necessary inputs for development and progress to proceed.

RECOMMENDATION

A continuous and sustaining extension service program should be carried out on a practical basis which means that it should address the actual needs and issues/concerns of the target beneficiaries. A study involving the problems and issues/concerns of the extension workers and planners would further enhance the extension program implementation.

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