

Does Farmer Field School Work? Assessing the Outcomes of Madrasah Sa Basak of MSU-PhilRice in Lanao del Sur, Philippines

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Abstract

The farmer field school (FFS) is an extension teaching method conducted in farmers' field to enhance their problem solving and decision making skills. Madrasah sa Basak (MSB), a Meranao term for farmer field school was implemented in Lanao del Sur, Philippines. This study assessed MSB outcomes based on rates of awareness-knowledge-adoption (AKA) sequence and its consequences in terms of production, difference in net income of MSB *barangays*, food security status among its recipients and the factors associated with its outcomes. Using a descriptive-correlational method, this study found that the rates of Meranao rice farmers' awareness, knowledge and adoption of MSB practices were fastest when MSB disseminated rice farming practices which were consistent to their existing practices. Additionally, they have attained optimal production level and food security status. The MSB *barangay* with active presence of farmer's organization realized the highest net income. The outcomes of MSB are significantly associated with the appropriateness of its strategies. This implies re-implementation of the MSB program over a wider coverage in collaboration with different line agencies both government and non-government that could provide varied infrastructure support vital to its sustainability.

Keywords: farmer field school, Madrasah sa Basak, Meranao, outcomes, rice farmers

Introduction

Farmer Field School (FFS) is a participatory training that can reach numerous farmers with principles of Integrated Pest Management (IPM) and scientifically derived knowledge and practices (Simpson & Owens, 2002). The launching of FFS in Indonesia and its success by training large number of farmers led to the birth of FFS movement that has spread worldwide (Quizon, Feder, & Murgai, 2001). Gonsalves et al. (2005) described FFS as an experiential learning. In FFS, farmers attend weekly field meetings where they learn from their experiences. Facilitators demonstrate different practices and participants are empowered to decide appropriate practices in their situation. Erbaugh et al. (2010) pointed out that proper method like FFS enhances the adoption of new technologies. Rogers (2003) disclosed that technology needs to show a relative advantage, either economically or socially, for the adoption of the new technology. Many farmers in developing countries put greater value on social approval and less on financial return. On the other hand, Miller and Cox (2006) revealed that the adoption of new technology is often the key to a profitable farming operation.

Consequently, Madrasah sa Basak (MSB) was implemented by the Mindanao State University (MSU) and Philippine Rice Research Institute (PhilRice). It considered the backward rice farming situations in Lanao provinces due to poor technology transfer and the resistance to changes among Meranaos (most dominant Muslim tribe in the Philippines). Masnar, Macabalang & Dimalna, (2003) explained that *Madrasah Sa Basak* is a Meranao term for field school, “Madrasah” meaning school and “Basak” a lowland paddy or a rice farm. It is designed to promote rapid technology transfer, and founded on the principles of “to see is to believe” and “learn by doing”. It is anchored on a training team selected by virtue of its involvement in religious undertakings. The school has six work components, such as: on-farm training and take home seed, techno-demo, weekly field meetings, weekly radio broadcast and barangay seed production. MSB is consistent with Campbell and Barker (1997) assertion that a program should be culture-centered of the target group.

Gallagher (2002) described the resistance of Meranao culture to extension due to lack of participatory extension strategies and ineffective process of involvement. Likewise, Roling (1997) revealed that participatory extension should be interactive and empowering in order to induce change among its recipients. Cristovao and Portela (1997) emphasized the need for continual evaluation of extension program to avoid frequent failure. Thus, this study assessed the outcomes of MSB based on the conceptual theme emphasized by Evenson (1997) and the levels of judging extension program by Bennett and Rockwell (1995).

Statement of the Problem

The outcomes of any extension program depend on how it fits to the needs, problems and interests of the farmers. It depends also on how the farmers react, participate and adopt the program based on their interest, resources, situation, and abilities. Moreover, the participation of the researchers and outside resources is contributory. Thus, outcomes of any program are associated with the interplay of factors. In line with this, FFS is concerned with collaboration among researchers; availability of resources and interaction with farmers to promote adoption of agricultural innovations. Rogers (1995) explained that awareness and knowledge are requisites of adoption process through human interaction. This is supported by Erbaugh et al. (2010) illustration that FFS is a participatory and interactive method in promoting awareness and knowledge on agricultural innovations, which develop farm management and decision making skills among farmers. Van den Berg (2004) noted that several studies on FFS evaluation were already conducted, however, there is little consensus as to the model of evaluations. Thus, this study is an effort to combine models of extension evaluation with emphasis on adoption of MSB practices and its consequences.

Research Design of the Study

This study used the descriptive-correlational type of research. This study assessed the outcomes of MSB program based on rates of awareness-knowledge-adoption (AKA) sequence and its consequences in terms of production, difference in net income of MSB *barangays*, food security status among its recipients and the factors associated with its outcomes. This assessment used the extension evaluation model of Evenson (1997) which emphasized the awareness-knowledge-adoption (AKA) sequence. Likewise, it used the level of judging extension program by Bennett and Rockwell (1995) which focused on the consequences of adoption, particularly on production, difference in net income of MSB *barangays*, food security status among its recipients. The Bennett and Rockwell model is composed of different stages which will guide the program evaluators in determining program outcomes. It is arranged with increasing order of formality, therefore determining higher order of program outcomes become more difficult. This study focused only on stage 5 (behavioral changes of target group) and stage 6 (consequences for target group).

Significance of the Study

This study has national and international significance to policy makers and extension education practitioners regarding the nature of the MSB program and the importance of determining its outcomes. Without evaluation, implementers could not determine whether program goals and objectives are attained or not. Hence, evaluation sustains program implementation and guides its implementers. Cristovao and Portela (1997) emphasized the need for continual evaluation of extension program to avoid frequent failure. In addition, Rola, Jamias and Quizon (2002) delineated that a program like FFS is expensive, requires great effort and time in disseminating agricultural innovations. Nevertheless, if program recipients themselves teach others on their experiences and acquired knowledge, then it will turn into a practical method in extension on a large scale.

Method of Procedure

The descriptive-correlational study was used to conduct the research study in order to determine the outcomes of MSB program in terms of farmers' rates of awareness, knowledge, adoption of MSB practices, productivity, difference in net income of MSB barangays, food security status and the factors associated with its outcomes. The data collection instruments were designed to be self-coding; however they were read and explained to each recipient during interview. The target population of the study was the Meranao rice farmers in the MSB barangays of Lanao del Sur, Philippines. A complete list of the Meranao rice farmers who were involved in the MSB program was obtained from the Office of the Director of MSU-PhilRice in order to determine a sample size of sixty (60) Meranao rice farmers, who were selected through systematic sampling procedure whereby every Kth number was randomly selected from a list or set of direction (Gay & Mills, 2006). The Mc Call (1980) table on selecting sample size at 0.05% error rate was used to determine sample size.

Collection of Data

The data of the study are gathered using a content validated and pre tested questionnaire with coefficient alpha=0.9498 indicating high reliability of questions used in data gathering. Prior to the conduct of the study, the completion of the entry protocol was duly considered. The home visit and face- to- face interview with the respondents were conducted. Farm visit was done only in a limited extent in order not to disturb the respondents while working on their farms. The difficulty of finding respondents during working hours led the researcher and enumerators to conduct interview after the noon prayer as Muslims pray five times a day. Thus, knowledge of the location of Mosque in every barangay is indeed helpful. The data collection is also facilitated by the farmer cooperators and the relatives of enumerators residing in the barangay by helping locate the house of the respondents and accompanying the researcher and enumerators during the interview.

Treatment of Data

In describing the outcomes of the MSB program, percentages, frequency counts, mean and standard deviation are used. The production in rice farming is measured using the PhilRice Handbook (2006) and the respondents' net incomes from rice farming are determined and organized into brackets according to household distribution per person per day. The U.S. Household Food Security/Hunger Survey Module (2000) is used to measure food security status among Meranao rice –farmers' recipients of MSB program. The change in knowledge level among Meranao rice farmers as regards MSB practices in pre and post MSB program is

determined through t-test. The factors associated with the outcomes of MSB program are determined using correlation analysis. The analysis of variance is utilized to examine the difference in the net income realized among MSB barangays in Lanao del Sur, Philippines. All tests of significance were set at 0.05% level and analyzed using Statistical Package for the Social Sciences (SPSS).

Findings

Descriptive statistics were used to determine the outcomes of the MSB program. It revealed that the rate of awareness-knowledge-adoption of MSB practices among Meranao rice –farmers recipients was fastest for good quality seeds (GQS), followed by high yielding varieties (HYV) and integrated pest management (IPM) with straight row planting (SRP) as the slowest. These were aided by the take home seed component of MSB after the on-farm training which provided good quality seeds of high yielding varieties. With the weekly field meetings at the MSB technology demonstration center, the Meranao rice farmers become aware of the integrated pest management and integrated nutrient management practices. On the other hand, the Meranao rice farmers practiced direct – seeding contrary to the promoted straight - row planting of the MSB program. The slowest flow of information is on the integrated nutrient management because of the difficulty of the split application of nitrogen fertilizer and the straight row planting due to its incompatibility with the common practice of direct- seeding among Meranao rice farmers. Moreover, the change in knowledge level among Meranao rice farmers as regards MSB practices in pre and post MSB program is determined through t-test. It revealed significant difference on the change of knowledge or comprehension level of the Meranao rice farmers in pre and post MSB program particularly on the application of high yielding varieties (HYV), straight row planting (SRP), and integrated nutrient management (INM). The production level of the respondents is measured based on the PhilRice Handbook on Palay Check System (2006), which revealed that clientele attained optimal production level based on the prevailing land use pattern. The Analysis of Variance was used to determine how MSB barangays differ in net income realized from rice farming. The income of the Meranao rice farmers in a barangay with active farmer’s organization was significantly higher than the other barangays. Food security is measured using the USDA Guide (2000), findings show that more than one – half (57%) of the respondents perceived to be food insecure without hunger; while 42% of them perceived to be food insecure with hunger (moderate). The factors associated with the outcomes of MSB program are determined using correlation analysis. The findings show that MSB strategies such as; integration of Islamic principles like “*zakat*”, experiential learning, the use of small group and learner-centered curriculum are significantly associated with its outcomes.

Conclusion and Implication of the Study

The Madrasah sa Basak program of MSU-PhilRice had positive outcomes in Lanao del Sur, Philippines. It has strengthened the comprehension of the Meranao rice-farmers recipients to use or integrate MSB practices in their farming system. The rates of Meranao rice farmers’ awareness, knowledge and adoption of MSB practices were fastest when MSB disseminated rice farming practices which were consistent to their existing practices. This is supported by Rogers (2003) findings that the more compatible an innovation or technology is perceived with the farmers’ social values and beliefs, the higher is its adoptability. The value of the MSB program was also evident in the attainment of optimal production level based on the prevailing land use pattern and food security status among its clientele. The MSB barangay with the active presence of farmer’s organization realized the highest net income. The outcomes of MSB are significantly associated with the appropriateness of its strategies such as; integration of Islamic principles like “*zakat*”, experiential learning, the use of small group and learner-centered curriculum. This

finding is consistent with Adekunle (2013) assertion that an extension program, which is based on the needs of the farmers, motivates its extension workers and determines its outcomes will increase productivity among small farmers. The findings of study propose MSB program's re-implementation with wider coverage taking into account appropriate strategies needed to sustain its implementation in Lanao del Sur, Philippines. For a viable extension program, the MSB calls for integration of Islamic principles like "zakat", experiential learning, the use of small group and farmer-centered curriculum in its implementation.

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