A participatory approach for promotion of group raising of the native chicken (Pradu Hangdum Chiang Mai) to address sustainability in Nan Province

Chotinun S.1*, Phocharoen C.2 and Pintip S.3

ABSTRACT: The objectives of this study are to use a participatory approach to promote the establishment of farmer group raising of Pradu Hangdum Chiang Mai breed chickens in rural areas as a means of increasing household income and promoting food security and to evaluate the effectiveness of those group. This is a preliminary report on a Participatory Action Research (PAR) study being conducted from July 2012 through April 2015 in Lae Sub-district, Thung Chang District, Nan Province. Stakeholders were identified and included in the study at an early stage. The conceptual framework, production plan, as well as the monitoring and evaluation processes were developed using the CIPP (Context, Input, Process, Product) model. Activities, including management in all phases of production, including group operation, have been conducted primarily by farmers with the support of local government authorities. The majority of the participating farmers have expressed satisfaction with the group activities. Key factors leading to the successful sustainability of the group operation include the guidance of the group’s leader, farmer participation and the support of government officials combined with generation of positive consumer perceptions of this chicken breed to create market opportunities. Production performance of the parent stock during the five month laying (May-September 2013) indicated that the number of eggs and hatchability of the first clutch were 12.08 eggs ± 2.27 and 70.28% ± 10.30 respectively. Production costs of fattening chickens for 90-120 days was 87.63 ± 23.49 baht/birds. Parent stock and fattening chicken flock mortality rates were 12.50-75.0% and 30.08% ± 22.01, respectively. Preliminary results indicate that a participatory approach can be effectively used in native chicken raising promotion; however, to address sustainability, extended regular project monitoring and evaluation will be necessary.

Keywords: Participatory approach, raising promotion, native chicken, sustainability

Introduction

A pure bred native chicken, Pradu Hangdum Chiang Mai, was genetically developed by the Department of Livestock Development, DLD (Intharachote, 2008). Distinctive characteristics of the breed include a black color of the break, shank, and feather (Leotaragul et al., 2011). It offers economic benefits to producers as the meat is tender and juicy, with low cholesterol (Pongduang et al., 2013) resulting in a growing market demand for the breed.

The DLD Strategic Plan for 2012-2015, which focuses on the development of strong and sustainable production to address country’s food security, includes the objective of promoting native chicken raising (DLD, 2012). Simaraks et al. (2007) reported that the failure of past projects to encourage native chicken raising was due to a lack of participation by farmers and the promotion of chicken raising technology which was not accepted by the farmers. The objectives of this study are to promote the establishment of farmer groups raising of Pradu Hangdum Chiang Mai breed chickens in rural areas of Thung Chang District, Nan Province, as a means of increasing household income and promoting food security and to evaluate the effectiveness of those groups.
Materials and Methods

A participatory approach is being used in this study which is being conducted from July 2012 to April 2015 in Thung Chang District, Nan Province. The initial step in the present project was identifying potentially interested native chicken raisers by using stakeholder analysis. Stakeholders identified and included in the study include sixteen farmers plus provincial and district officers (representatives of DLD, Public Health, and local government administrative offices). A meeting with stakeholders was conducted at the outset of the study. Results of that meeting were used in combination with SWOT analysis using the Context, Input, Process, and Products (CIPP) model (Stufflebeam, 2007) to develop a conceptual framework and plan for the entire production chain.

The overall success of the participatory system has been evaluated through meetings with farmers to measure levels of satisfaction and participation as well as to determine the perceived feasibility of operating the group raising according to the production plan. In addition to those qualitative measurements, production performance has been recorded and analyzed as a measure of the success of the system.

Results and discussion

Conceptual framework of the study was determined through the brainstorm meeting with stakeholders at the beginning of the project (Figure 1). The three year production plan of the farmer’s group was developed. The first year of the project focused mainly on strengthening chicken raising management. The second year will address food safety by improving farming system farm biosecurity, slaughtering processes and packaging. The third year will focus on strengthening market opportunities to help achieve sustainability.

For capacity building, participating farmers first attended a DLD training course on good poultry raising practices. Following the training, the farmers constructed a chicken raising area and a chicken house following biosecurity guidelines. After completing the construction, 350 female and 50 male breeder chickens purchased from a private breeding farm were distributed to the farmers. Farmers maintain a record of their chicken raising activities which are monitored monthly by district DLD officers. During the monthly meetings between farmers, researchers and government officials, the implementation progress of the production plan is assessed; activities are monitored and evaluated; and problems are discussed and potential solutions sought. For example, to lower the cost of production, local feedstuffs were combined with commercial feed and to lower the morality of chicks, improved brooding management was implemented. Initial efforts to create market opportunity and raise consumers’ perception of Pradu Hangdum native chickens were implemented including distribution of posters, announcements on local mass media, and food preparation competitions using Pradu Hangdum chicken meat.

Results from meeting with farmer group indicated that majority (10 of 15 farmers or 62.5%) were appreciative of and willing to participate in group activities. They also indicated a willingness to continue operation of the group in the second year of the study. Among the primary factors responsible for that success are the strong guidance of the group leader, participation by the farmers in
every stage of the operation, and the support provided by government officials. That, combined with efforts to develop a positive consumer perception of the new breed, have generated a growing market opportunity.

The production performance of the parent stock during the five month laying period (May-September 2013) has been recorded. The number of eggs (12.08 eggs ± 2.27) and hatchability of the first clutch (70.28% ± 10.30) is consistent with a previous study (Oboun et al., 2004). Production costs of fattening chickens for 90-120 days was 87.63 + 23.49 baht/birds. Parent stock and fattening chicken flock mortality rates were 12.50-75.0% and 30.08% ± 22.01, respectively. The cause of high mortality was laboratory diagnosed and the result indicated that the chicken breeders were infected with Avian Mycoplasmosis.

**Figure 1** Conceptual Framework for the native chicken raising group

**Conclusion**

This study elucidates the efficacy of the participatory approach and CIPP model in promoting native chicken raising in Nan province. The model used, i.e., identification of and participation by key stakeholders, the use of the CIPP model to develop a conceptual framework, production plan, and activities combined with production performance monitoring, could potentially be replicated elsewhere in Nan Province as well as in other Thai provinces. This report provides only preliminary outcomes of the planned three year study, however, so continued monitoring and evaluation will be required.
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