

Diversity of Traditional Knowledge and Local Wisdom of Indigenous Chickens Farmers in Bang Krathum, Nakhon Thai, Mueang and Chat Trakan Districts Phitsanulok Province

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Abstract

This study was conducted to understand the diversity of traditional knowledge and local wisdom of small scale indigenous chicken farming system in Bang Krathum, Nakhon Thai, Mueang and Chat Trakan districts, Phitsanulok province. Totally, 800 purposive famers were selected to be interviewed with a questionnaire. The statistics used in the data analysis were percentage, frequency, minimum, maximum and standard deviation. The findings revealed that most farmers had less than 10 years of experience in raising indigenous chicken (50.32%) and graduated from primary school (67.56%). Most of farmers relied on agricultural activities (65.01%), in which raising native chicken for selling accounted for 39.21%. In the study area, Thai-Burma crossbred was the most popular breed (70.24%). Farmers preferred to raise their indigenous chicken in integrated farms (50.72%). Paddy rice (42.55%) was mainly used as a feed and 72.2% of farmers used herbal with their chicken. Moreover, the study showed that farmerís tradition also strongly associated with indigenous chicken and can be divided into 6 sections, as follows: (1) breed and breeding, (2) feeds and feeding, (3) health and disease prevention, (4) management, (5) fighting cock, and (6) beliefs and rituals of spirits.

Keywords: Traditional knowledge, Local Wisdom, indigenous chicken

ความหลากหลายของวิถีชีวิตและภูมิปัญญาในการเลี้ยงไก่พื้นเมือง ของเกษตรกร ในอำเภอบางกระทุ่ม นครไทย เมือง และชาติตระการ จังหวัดพิษณุโลก

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บทคัดย่อ

การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อศึกษาความหลากหลายของวิถีชีวิตและภูมิปัญญาในการเลี้ยงไก่พื้นเมืองของเกษตรกร ในอำเภอบางกระทุ่ม นครไทย เมือง และชาติตระการ จำนวน 800 ราย โดยการใช้แบบสอบถามในการสัมภาษณ์ที่ทำการเลือก สุ่มแบบเฉพาะเจาะจง สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ เปอร์เซ็นต์ ความถี่ ค่าต่ำสุด ค่าสูงสุด และความคลาดเคลื่อนมาตรฐาน ผลการศึกษาพบว่า เกษตรกรผู้เลี้ยงไก่พื้นเมืองส่วนใหญ่มีประสบการณ์ในการเลี้ยงน้อยกว่า 10 ปี (50.32%) สำเร็จการศึกษา ในระดับประถมศึกษา (67.56%) ประกอบอาชีพหลักในการทำการเกษตร (65.01%) มีวัตถุประสงค์ในการเลี้ยงไก่พื้นเมืองไว้ เพื่อจำหน่าย (39.21%) ในพื้นที่การศึกษาครั้งนี้ส่วนใหญ่เกษตรกรมีการเลี้ยงไก่ถูกผสมสายพันธุ์ไทยพม่า (70.24%) ซึ่งเป็นการเลี้ยงแบบผสมผสาน (50.72%) โดยใช้ข้าวเปลือกในการเลี้ยงเป็นหลัก (42.55%) และเกษตรกรมีการเสริมสมุนไพรให้กับ ไก่พื้นเมืองของตนเอง (72.2%) นอกจากนี้ยังพบภูมิปัญญาของเกษตรกรผู้เลี้ยงไก่พื้นเมืองในการศึกษาครั้งนี้ 6 ด้าน ได้แก่ (1) ภูมิปัญญาด้านการคัดเลือกสายพันธุ์ (2) ภูมิปัญญาด้านอาหารและการให้อาหาร (3) ภูมิปัญญาด้านโรคและการป้องกันโรค (4) ภูมิปัญญาด้านการจัดการเลี้ยง (5) ภูมิปัญญาด้านการแข่งขันกีฬาไก่ชน และ (6) ภูมิปัญญาด้านความเชื่อและพิธีกรรม

คำสำคัญ: วิถีชีวิต ภูมิปัญญา ไก่พื้นเมือง

Introduction

Indigenous chickens (*Gallus gallus domesticus*) play an important role as protein sources, sport (fighting cock) and socio-culture of Thai people since the time of the Ayutthaya Kingdom over 400 years ago. They were used in amusements and as offerings in various rituals and beliefs. They also play a major role as consumers in the rural area ecosystem by converting agro-industry and agricultural by-products into valuable products as meat or egg. Most farmers commonly rear indigenous chicken under free-range system. However, in term of sport (fighting cock), indigenous chickens were raised in semi-intensive and intensive production system. For most smallholders, a low input/output system was used according to their geography, while a few farmers raise chickens semi-intensively to increase their incomes. Indigenous chickens are still at the bottom of the list of farmers' economic priorities (Choprakarn and Wongpichet, 2009). However, the relationship between traditional knowledge and local wisdoms of the farmers have been related and practiced with raising native chicken, and the differences of living in each area could affect the purposes of farmers in chicken raising methods (Sirindhorn and Fumihito, 2009; Yaemkong et al., 2017). Phitsanulok province, where located in the lower Northern Thailand, has various geographical areas, which ranges from lowlands to highlands. The rearing of Thai indigenous chickens is widely distributed in any rural communities. Consequently, there are diversity of birds' phenotype, genetic, production system, rearing management and several utilizations. Thus, the objective of this study was to understand the diversity of traditional

knowledge and local wisdom of indigenous chicken farming system in Bang Krathum, Nakhon Thai, Mueang and Chat Trakan districts, Phitsanulok province.

Materials and Methods

Population and Sample

Phitsanulok is a province located in the North of Thailand where producing about millions of indigenous chickens with nearly 50,000 small scale households. In this province, Bang Krathum district has 2,466 households and produces about 94,204 indigenous chickens; Nakhon Thai district has 4,613 households and produces about 159,692 indigenous chickens; Mueang district has 5,105 households and produces about 202,727 indigenous chickens; and Chat Trakan district has 2,946 households and produces about 75,784 indigenous chickens (Department of livestock development, 2016). A total of 800 indigenous chicken farmers in Bang Krathum, Nakhon Thai, Mueang, and Chat Trakan districts (200 households for each) were selected for the survey.

Research Instrument and data collection

The survey was conducted to explore traditional knowledge and local wisdom of indigenous chicken of farmers with a questionnaire containing three types of questions: 1) multiple choices, 2) fill in the blank and 3) choose all that apply. The questionnaire was pre-tested randomly in thirty farms in the study area. After that, it was adjusted to improve its clarity. Farmers were interviewed individually. The answers in each of the

questionnaire were transformed to a numeric format and then recorded for statistical analysis.

Statistical analysis

Data on traditional knowledge and local wisdom of indigenous chicken farmer were collected and analyzed in order to describe qualitative parameters including, percentage, frequency, minimum, maximum and standard deviation by using Excel spreadsheet in this study.

Results and Discussions

This research was attempted to describe current diversity of traditional knowledge and local wisdom of small scale indigenous chicken farmers in 4 districts (Bang Krathum, Nakhon Thai, Mueang, and Chat Trakan districts) of Phitsanulok province, Thailand. The results of traditional knowledge and local wisdom showed that 76.47% of farmers were male. The level of education was mainly primary school (67.56%), followed by high school (22.90%), bachelor degree or higher degree (5.34%), and no education (4.20%) in four districts. Farmers who raise indigenous chickens were agriculturist (65.01%), freelance (18.65%), own business (10.48%), government officer (4.44%), and state enterprise officer (1.42%), respectively. And most of them had experience for raising indigenous chicken less than 10 years (50.32%), followed by 11-20 years (22.74%), 21-30 years (12.20%), 31-40 years (8.77%), and more than 41 years (5.97%), respectively. The farmers in this study reared indigenous chicken for various purposes including selling (39.21%), eating (34.02%), sport or fighting (20.92%), hobby (5.09%) and 0.75% for showing and contesting.

In general, the results of farmer's education, careers, experience and purposes for raising chicken in this study were similar to those reported in several literatures (Rattanapradit et al., 2016; Laenoi et al., 2016; Yaemkong et al., 2016). These indicated that Thai farmers consider agriculture as traditional activity and career that they continue following their parent to live in the rural villages and to work on the field. However, most young people from these areas tend to seek a job in towns or cities. Some of them might come back to work during crop growing and harvesting times. Most of them visited home during important festivals, such as the traditional Thai New Year's Day in April (Choprakarn and Wongpichet, 2009). Fighting cock is still a popular pastime for many Thai men. This is an important cultural heritage from the Ayutthaya Era when King Naresuan's cock won a fight against the Burmese King's cock (Choprakarn and Wongpichet, 2009). Normally, fighting cock are more expensive than Thai indigenous chicken. Moreover, Klinhom et al. (2005) also reported that the rearing of native chicken was not only for food but also for source of cash.

Thai-Burma crossbred chickens were raised most popularly, which accounted for 70.24%, followed by the other crossbreds (15.98%) and White-Tail Lai chickens (13.78%). It was in agreement with many previous studies. Janthong et al. (2016) stated that most farmers raised native Thai-Burma crossbred in Mueang and Chat Trakan districts, Phitsanulok Province (44.38%) while Sopa et al. (2016) also reported for the same picture in Central Eastern and Western of Thailand.

The primarily pattern of raising indigenous chicken had been carried out in integrated systems (50.72%), which was lower than result reported for Mueang and Chat Trakan districts, Phitsanulok province (73.41%; Janthong et al., 2016). In the study area, farmers also raised chicken by free-range (37.51%) and housing system (11.77%). Among all raising system, paddy rice (42.55%) was mainly used as feed for their chickens, followed by broken milled rice (27.04%), corn (18.00%), rice bran (8.56%), other (2.36%) and rice husk (1.48%), respectively. It was similar to the study of Meesiripan

(2001) who reported that 33.96% of farmers in Uttaradit province used mainly paddy rice as a feed for their chicken.

Many farmers in study area (four districts) used local herbs to enhance their animal's health (72.20%) The result is in agreement with Choprakarn and Wongpichet (2009) who reported that farmers used herbs to keep birds more healthy. In this study, farmers used many kinds of plants as traditional herbs (Figure 1), for example *Tinospora crispa* (30.15%), *Curcuma longa* (17.26%), *Cymbopogon citratus* (13.07%), *Zingiber*



Figure 1. Herbs used for enhancing indigenous chicken health (1a; *Tinospora crispa*, 1b; *Curcuma longa*, 1c; *Cymbopogon citratus*, 1d; *Zingiber montanum* and 1e; *Andrographis paniculata*) in Krathum, Nakhon Thai, Mueang and Chat Trakan districts, Phitsanulok province.

montanum (7.34%), *Andrographis paniculata* (7.02%) and the others (25.16%). The kind of plant was recommended by old people who had long experience in raising chicken in the region.

In this study, local wisdom in Bang Krathum, Nakhon Thai, Mueang and Chat Trakan districts, Phitsanulok province could be classified into 6 sections, as follow: (1) Breeds and breeding, (2) Feed and feeding, (3) Health and disease prevention, (4) Management, (5) Fighting cock and (6) Beliefs and rituals of spirits. This classification was in agreement with the previous report by Moongjongklang and Banchongsiri (2014) that wisdom of native chicken raising was divided into 6 parts including breeds and breeding, feeding, health management, general chicken raising management, ceremonies and beliefs, and methods of training fighting cocks. In term of fighting cock, farmers used indigenous knowledge in any steps such as nourishing, enhancing and training. These preparation processes took around 4-6 weeks before a match. According to farmers, herbals and instant local drugs were used to nourish fighting cocks and to enhance their health. A candidate fighting cock was raised intensively in house with the velvet carpet to protect their feet. Finally, farmers would take their mature birds to training ground and preliminary fight with other candidates. Based on fighting style and tricks, such as active and quick moving, Myanmar fighting cock was the most popular breed for indigenous chicken farmers in Phitsanulok (Boontasaeng, 2002; Klinhom et al., 2005). It was special case for Hmong ethnic who living in Nakhon Thai and Chat Trakan districts. All of them used indigenous chickens, especially

black bone chicken, for amusements and as offerings in various rituals and beliefs. These results suggested that raising indigenous chicken is a kind of traditional activity in the region. It adapts to the geographical conditions, knowledge, belief and rituals of local farmers.

Conclusion

In the study, most farmers had less than 10 years of experience in raising chicken and finished primary school. The majority career of farmers was agricultural cultivation. Most of farmers raised native chicken for selling in integrated farming systems. Thai-Burma crossbred was most popularly raised and paddy rice was a major feed for chickens. Besides, herbal plants were used with purpose of enhancing animal health. Moreover, farmer's tradition knowledge also strongly associated with indigenous chicken and could be divided into 6 sections, as follow: (1) breed and breeding, (2) feeds and feeding, (3) health and disease prevention, (4) management, (5) fighting cock, and (6) beliefs and rituals of spirits.

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