A Study of the Marketing Channels of Ban Klang's Layer Chicken Feeders' Cooperative in Nakhon Phanom Province

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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาช่องทางการตลาดของกลุ่มสหกรณ์ผู้เลี้ยงไก่ไข่บ้านกลาง ตำบลบ้านกลาง อำเภอเมือง จังหวัดนครพนม โดยใช้วิธีการวิจัยเชิงสำรวจและเชิงคุณภาพ ซึ่งทำการสัมภาษณ์และสังเกตการณ์ประชากรที่เป็นเกษตรกรทั้งหมด จำนวน 48 ราย (ร้อยละ 100) และทำการสุ่มตัวอย่างแบบโควตา (Quota Sampling) พ่อค้าส่งหรือผู้รวบรวม จำนวน 81 ราย แม่ค้าปลีก จำนวน 30 ราย และผู้บริโภค จำนวน 120 ราย โดยพิจารณาความโดดเด่นจากปัจจัยปริมาณไข่ไก่ที่จำหน่าย พื้นที่ในการจำหน่าย ทั้งนี้สถิติที่วิเคราะห์ข้อมูล คือ จำนวน (N) ผลรวม ($\sum X$) ร้อยละ (%) และค่าเฉลี่ย ($\overline{X}$) เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลเป็นแบบสอบถามมาตรส่วนประมาณค่า มีค่าอำนาจจำแนกระหว่าง 0.28-0.76 และมีค่าความเชื่อมั่นเท่ากับ 0.87

ผลการวิจัยพบว่า มี 2 รูปแบบในการจัดจำหน่ายไข่ไก่ ได้แก่ รูปแบบที่ 1 มีการจำหน่ายภายในประเทศ 4 ช่องทาง คือ 1) ฟาร์ม ผู้รวบรวม พ่อค้าคนกลาง พ่อค้าปลีก และผู้บริโภค (ร้อยละ 51.98) 2) ฟาร์ม ผู้รวบรวม พ่อค้าปลีก และผู้บริโภค (ร้อยละ 26.73) 3) ฟาร์ม พ่อค้าปลีก และผู้บริโภค (ร้อยละ 17.13) 4) ฟาร์ม และผู้บริโภค (ร้อยละ 4.16) และรูปแบบที่ 2 มีการจำหน่ายภายในประเทศและต่างประเทศ 3 ช่องทาง คือ 1) ฟาร์ม ผู้รวบรวม พ่อค้าคนกลาง พ่อค้าปลีก และผู้บริโภค (ร้อยละ 39.83) 2) ฟาร์ม ผู้รวบรวม พ่อค้าปลีก และผู้บริโภค (ร้อยละ 32.61) 3) ฟาร์ม พ่อค้าปลีก และผู้บริโภค (ร้อยละ 27.56) รวมปริมาณผลผลิตไข่ไก่สำหรับเพื่อการบริโภคภายในจังหวัดนครพนมและจังหวัดใกล้เคียง และส่งออกไปยังสาธารณรัฐประชาธิปไตยประชาชนลาว จำนวน 29,362 ถาด/สัปดาห์ หรือ 125,837 ฟอง/วัน หรือคิดเป็นมูลค่า 304,970 บาท/วัน ซึ่งคิดเป็นเงินทุนหมุนเวียนในบ้านกลาง 9,149,100 บาท/เดือน

คำสำคัญ : สหกรณ์ผู้เลี้ยงไก่ไข่ / ช่องทางการตลาด / ผู้บริโภค

ABSTRACT

The purpose of this study was to investigate marketing channels of the egg-laying chicken farmers' cooperative in Ban Klang sub-district, Mueang Nakhon Phanom district, Nakhon Phanom province. Survey and qualitative research designs were used to conduct this study along with the interviews and observations. The population of all farmers was 48 (100%). The quota sampling was conducted and the samples obtained included 81 egg wholesalers or compilers, 30 retailers, and 120 egg consumers. The outstanding volume of the eggs sold and the areas in which they were distributed were the criteria of the consideration for selection of the sample. Statistics used to analyze data were frequency, percentage and mean. The instrument employed for collecting data was a rating scale questionnaire whose discrimination power values ranged between 0.28 and 0.76 and reliability coefficient of 0.87.

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The results of study revealed that egg distributing channels comprised 4 channels in pattern 1 and 3 channels in pattern 2. The 4 channels of pattern 1 for domestic distributions were: channel 1 – by farmers, compilers, middlemen, retailers and consumers (51.98%), channel 2 – by farmers, compilers, retailers and consumers (26.73%), channel 3 – by farmers, retailers and consumers (17.13%), and channel 4 – by farmers and consumers (4.16%). Pattern 2 had 3 channels in domestic and foreign distribution of eggs: channel 1 – by farmers, compilers, middlemen, retailers and consumers (39.83%), channel 2 – by farmers, compliers, retailers and consumers (32.61%) and channel 3 – farmers, retailers and consumers (27.56%). The total amount of yielded eggs for consumption within Nakhon Phanom province and neighboring provinces including those exported to Lao People's Democratic Republic was 29,362 trays with 30 eggs for each tray or 125,837 eggs per day which were worth 304,970 baht per day. This was the working capital in Ban Klang village which earned 9,149,100 baht per month.

Keywords : Egg-laying Chicken Farmers' Cooperative / Marketing Channels / Consumers

Introduction

Creating the stability of food supply is extremely important, not only for both farmers themselves and business entrepreneurs across the whole food supply chain, but also for the development of Thai agriculture and security of Thai agricultural careers. One thing that reflects the stability is income. It is obvious that farmers must have more income than the overall expense in order to show that they have really earned a profit from their own business. For this reason, raising the awareness of entire food supply chain is considerably important because the food supply chain emphasizes the value of each productive procedure.

The egg-laying chicken farm has been found since 1967 in Ban Klang sub-district, Mueang Nakhon Phanom district, Nakhon Phanom province by the chicken egg poultry farmers' cooperative. The egg-laying chicken farmers preserve the original identity and culture of raising them by keeping their chickens in open houses made of bamboo with thatched roofs which are convenient and easy to manage in a tight budget. They also use the method of raising egg-laying chickens without using highly expensive technology as compared to other private sector companies. This is to unite farmers by having a career which begins with raising baby chicks until the raised ones reach retirement. The whole process in raising them takes a period of 20 months (80 weeks) to complete (Ban Klang Tambon Administration Office. 2012 & Ban Klang's Eggs. 2010). The whole process to complete for making money and spending it within the community is really helpful to the farmers and to the sustainability of doing a business. All the details as such and the appropriate strategic plans for the specific areas have been compiled in a database as indicators for developing a successful plan of Nakhon Phanom province. The development of agricultural products such as eggs to be sufficient in the areas both in Nakhon Phanom province and neighboring areas has been continued for nearly half a century.

The development is to promote the creation of added value for the agricultural products (egg product, and campaigns for marketing promotion) as it can be seen from a merchandise slogan for promotion of selling eggs as saying 'Fresh, Daily, Standard and Safe.' The current layer chicken feeding system has not changed significantly from that of the past, but it has been improved with an integration of efforts based on new plans with the well-defined objectives, mission and strategy. Also, the egg-laying chicken farms have been supervised by certain companies from the private sector that sell egg-laying breeds of chickens in order to maintain the standard of the chicken products. The system of raising an egg-laying chicken farm in the form of cooperative in Nakhon Phanom province

proves to be one of the good advantages that benefit the egg producer farmers through the use of economic self-sufficiency in order to make the community strong and sustainable.

Objectives

This study was to investigate the marketing channels for eggs produced by the chicken egg poultry farmers' cooperative in Ban Klang village, Nakhon Phanom province.

Research Methodology

Population and Participants

1. Population in this study was all the 48 egg-laying chicken farmers (100%) in the form of cooperative in Ban Klang village, Nakhon Phanom province.

The research participants, sample, and sampling in the study covered the following.

2. The sampling method used in the study was quota sampling by considering the significant factors like the quantity of eggs and the area for selling them.

2.1 Merchants and merchant wholesalers were those who bought eggs at a farm or collected eggs in a particular area of 81 wholesalers.

2.2 Retailers were those who were agents of 30 egg retailers in Nakhon Phanom province and the surrounding areas.

2.3 Consumers were those of all 120 people who bought eggs and chicken in the markets.

Research Instruments

The research instruments in the study were questionnaires for recording data from interviews and observations. The questionnaires employed in the study were used with the 4 categorized groups of participants as follows : 1) farmers, 2) merchants or merchant wholesalers, 3) retailers, and 4) consumers from whom each type of data gatherings was collected directly. Those four groups of participants each would give their respective responses to the questions concerning the following.

1) Data about the hens.
2) Data about the collection of eggs.
3) Data about the sale of eggs.
4) Data about the egg consumption.

Data Collection

1. The data collection from the participatory observation was to take part in activities with farmers, merchants or merchant wholesalers, retailers and consumers by means of interview.

2. The interviews were conducted by the constructed questionnaires comprising close-ended and open-ended questions by a face-to-face interview.

Data Analysis

The quantitative and qualitative data derived from interviews and observations by taking part in activities with farmers, merchants or merchant wholesalers, retailers and consumers were analyzed using a statistical computer program of frequency, percentage and mean for descriptive presentation; but for the qualitative data, the content analysis was conducted.

Results and Discussion

The egg-laying chicken farming by using local wisdom of Ban Klang village's people showed that layer chicken farmers bought 1-2 day old baby chicks from agents of Laemthong, Krungthai and United Company in the Northeast which have their own hatcheries. They chose 1-2 day old baby chicks (starters) to be raised, because baby chicks can be familiar with the house floor with bamboo and with the narrow gap between the pieces of bamboo at the beginning. Then, they can adjust their feet and legs suitably. Egg-laying chicken farmers usually expanded baby chicks' area into a house (Srikhot & Rungruang. 2010). The area with 3 m x 1.5 m was for 1,000 one-or-two day old baby

chicks. The area with 3 m x 3 m was for 7 day old baby chicks, the area with 3 m x 9 m was for 21 day chicks, the area with 6 m x 9 m was for one month chickens, and the area with 6 m x 21 m or one house area was for two month chickens.

According to Livestock Technology Development Group (2010), egg-laying chicken farmers brought baby chicks to be raised in the 5-month old chicken area. Each farm had 2-3 houses with 1,100-1,300 chickens/ house with its all-in–all-out by house system.

From conducting the survey, there were overall 48 farms. Thirty-six (36) of them were old farms that survived from the bird flu crisis and 12 of them were new farms. There were 206 egg-laying chicken houses consisting of :

1) 28 houses with 39,600±1,394.95 starters,
2) 20 houses with 30,600±541.24 growers,
3) 23 houses with 32,600±1,156.09 chickens at age of puberty, and
4) 135 houses with 185,100±1,844.94 laying hens

The number of eggs produced by layer chickens (67.98% of productive chickens or 44.21% of total chickens (general term – birds) raised by Ban Klang's raiser groups) per day is 125,837±2,491.46 eggs (Table 1). According to the Livestock Technology Development Group (2010), egg-laying chicken farmers planned to produce eggs all year round; so they raised starters, growers, puberty hens and laying hen to replace those aged more than 75 weeks. They discharged the spent chickens (hens) to reduce production costs. It was not worth raising spent chickens (hens).

The egg-laying chicken farmers raised their birds in open houses and freed the huge flocks. The house was 6 m x 18 m and bird density in it followed the advice of Nakhon Phanom Provincial Livestock's officers or technicians from starter suppliers. The average numbers of birds which include starters, growers, puberty hens and laying hens per house were 1,414.28 birds/house (13.09 birds/square meter), 1,530 birds/ house (14.17 birds/square meter), 1,417.39 birds/house (13.12 birds/square meter) and 1,371.11 birds/house (12.69 birds/square meter) respectively. The average of birds per area was 12.13 birds/square meter.

The average numbers of starters, growers, puberty hens and laying hens per farm were 1,980, 1,700, 1,917.65 and 3,856.25 birds per farm respectively. Most of the farms were medium-sized with a number of birds ranging from 3,460 - 15,400 birds/farm.

All of the egg-laying chicken farmers (100%) bought starters for their farm themselves. They never bought growers or puberty hens for the raising (Department of Livestock, 2011). They bought an average number of 1,466 starters (by group) for one house from: 1) Krung Thai Company with 33.64 baht/ starter, 2) Laem Thong Company with 33.22 baht/starter, and 3) United Company with 34.13 baht/starter (ranked by popularity). Starters from Krung Thai Company were the most popular for egg-laying chicken farmers because they are productive and the company's agent to the farms will handle long-lasting layer hens and the starters directly.

The connection between the production system and the marketing of egg-laying chicken farmers derived a group for supporting its members under the name of Ban Klang Layer Hens and Feeding (BKLHF), which was registered as a Small and Micro Community Enterprise (SMCE) on May 6, 2003.

The management team of SMCE consisted of seven members: president, vice-president, secretary, treasurer, managing director, auditor, and advisor. According to the survey, BKLHF had 48 members with 284,600 egg-laying hens, which laid 125,837 eggs per day (67.98% of egg-laying hens or 44.21% of chickens raised by BKLHF). Four egg-laying chicken farmers of the group were egg collectors or traders. Thirty-four (34) raisers were egg senders or egg collecting agents for egg traders.

Table 1 Number of houses and birds with different ages

Items	Number					
	Farm	House	Average (birds/house)	Average (birds/farm)	Total (birds)	Egg production (eggs/day)
Starter	20	28	1,414.28	1,980	39,600±1,394	-
Grower	18	20	1,530	1,700	30,600±541	-
Puberty hen	17	23	1,417.39	1,917.65	32,600±1,156	-
Laying hen	48	135	1,371.11	3,856.25	185,100±1,844	125,837±2,491
Highest (birds/farm)					15,400	6,900
Lowest (birds/farm)					3,460	946
Total	48	206			284,600	125,837±2,491
Average		**4.29±1.4**			**6,055.32**	**2,491.46**

Eighty-one egg collectors or traders who bought eggs in Ban Klang village included 77 egg collectors or traders and 4 raisers acted as egg traders and collectors from their relative's or nearby farm in Nakhon Phanom province. These four chicken raisers included: 1 egg collector or trader from Mukdahan province, 2 egg collectors or traders from Sakon Nakhon province, and 1 egg collector or trader from Bueng Kan province.

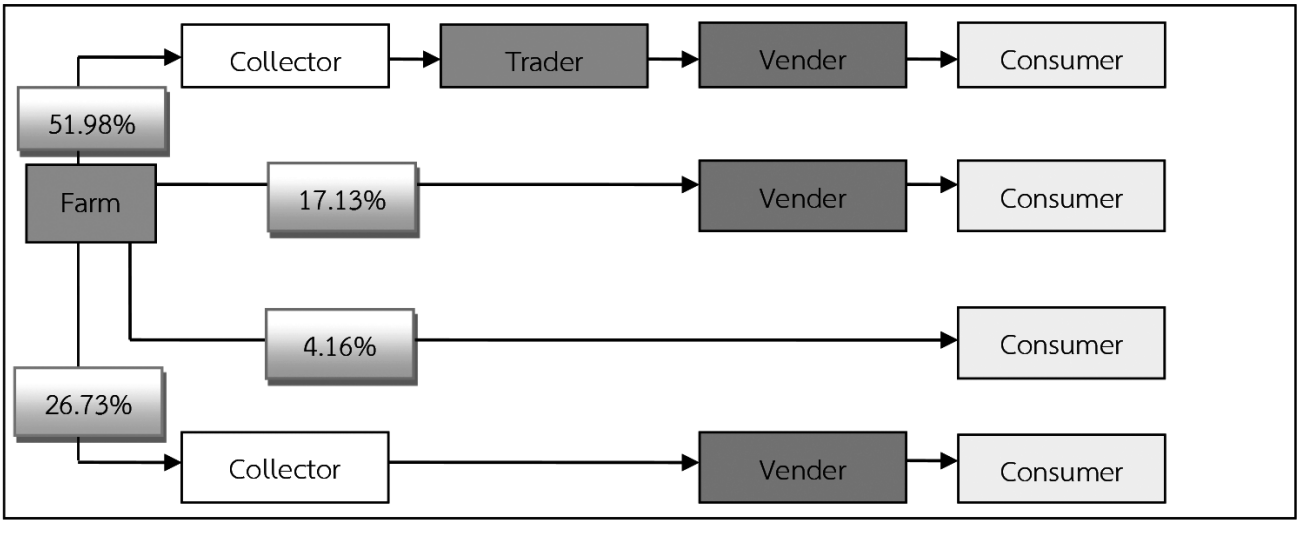

Figure 1 Diagram illustrating a layer chicken farm chain of the Ban Klang cooperative

BKLHF created its sustainable and cooperative system which comprised :

1) The group bought a lot of starters which met its members' demand.

1.1) The members used 3 egg-laying hen breeds : Laemthong, Krungthai and United. There were 10,000-20,000 starters per house per lot. Their egg-laying hen raising method was called "Phi Liang Nong". They

simultaneously raised different chicken cohorts and the same cohort's chickens stayed in the same house so that the grown-up chickens could regularly replace discharged spent hens.

1.2) BKLHF built a feed system for members' demand by stocking up corns, soybean meal, fish meal, leucaena leaf meal, concentrate feeds, limestone and dicalcium phosphate (DCP), etc. The essential materials were all available (Ban Klang Tambon Administration Office. 2012).

1.3) They stocked up essential equipment for chicken raising such as feed trays, brooders, waterers, feed tanks, egg trays, etc.

1.4) Most workers lived in Ban Klang sub-district. Some raisers hired their relatives to do farming. There were two kinds of farm workers : 1) workers for chicken feeding in 10 farms (10.42%), and 2) workers for chicken manure packing in 45 farms (93.75%).

2) Outputs of egg-laying hen raising for one chicken cohort during 22 months ranked by revenue were eggs, chicken manure and spent hens. Spent hens yielded less than 60% of productivity, so it was not worth raising them.

3) The marketing chain analysis of Ban Klang's eggs under the cooperation of the Ban Klang's raisers showed that the cooperative created their well-known occupations including egg-laying chicken farmers and major egg producers in Nakhon Phanom province. Their hens produced 125,837 eggs per day or 29,362 egg trays per week, which helped the raisers sell eggs to consumers in Nakhon Phanom province, nearby provinces and even neighboring countries such as Lao PDR. The value chain ran under a competitive frame among egg traders, egg collectors, egg retailers and other private companies of which all constituted the significant market share (Srikhot and Rungruang. 2010).

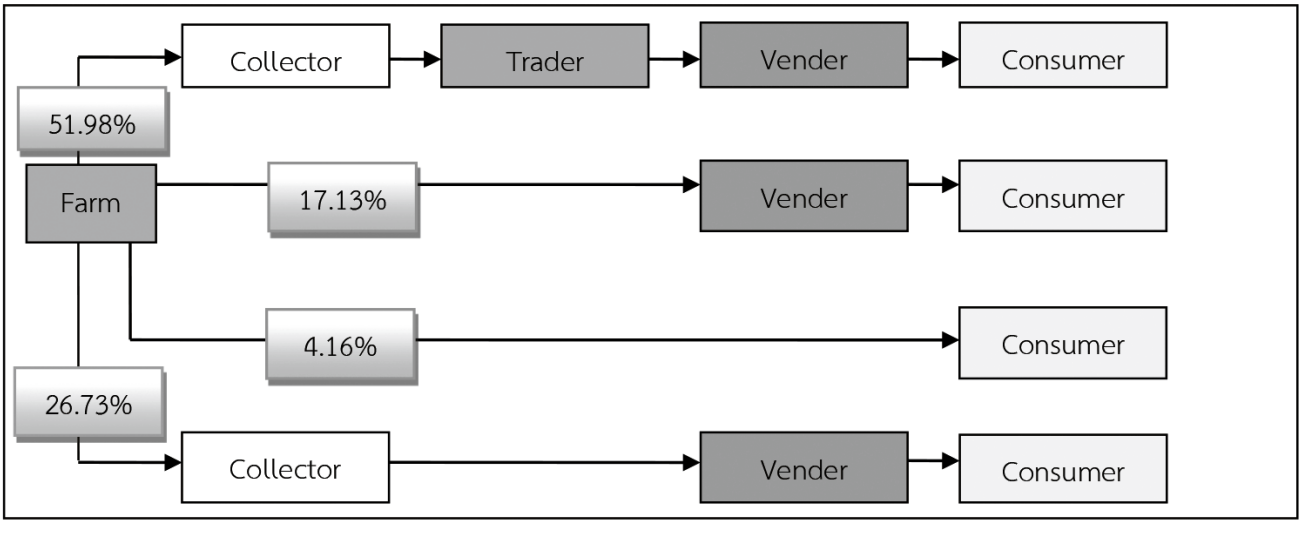

Figure 2 The value chain of eggs on farm to market

According to the chain, egg distribution could be distributed to consumers by 2 channels :

1) From the value chain of eggs of Ban Klang in the domestic markets, eggs were moved from egg farms to consumers by 4 channels. Given their abundant products, the egg-laying chicken farmers needed several egg selling patterns. They might distribute their eggs via egg traders, egg collectors, middlemen and egg retailers (Figure 2).

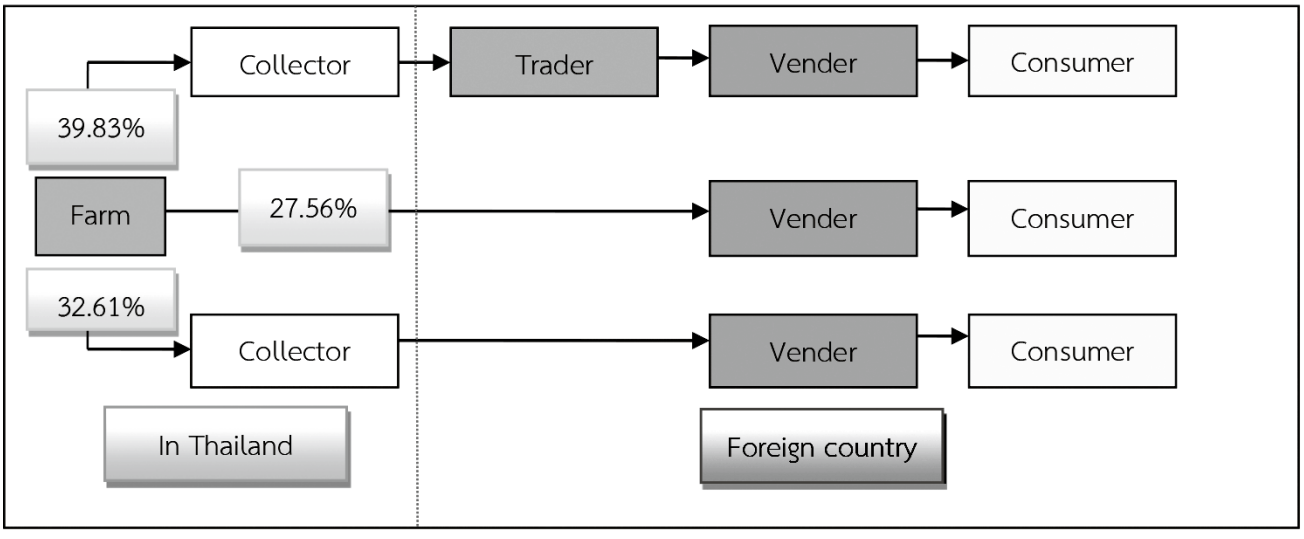

Figure 3 The value chain of eggs by distributing inside and outside the country

2) There were 2 patterns for egg value chain of Ban Klang village to consumers in Thailand and Lao PDR. There were 4 egg-laying chicken raisers or egg collectors who collected eggs from their nearby farms for selling to the middlemen and egg retailers who distributed eggs in the three temporarily permitted areas (TPAs).

Table 2 The number of eggs (trays/week) by size and marketing chain prices of eggs in Ban Klang village

Description	Size of egg							
	Jumbo	No. 0	No. 1	No. 2	No. 3	No. 4	No. 5	Crack
Number of eggs (tray/wk)	859	522	3,062	5,902	7,400	7,280	3,216	1,121
	Price of eggs (bath/tray)							
Farm ▼	108.44	97.13	94.11	91.11	88.06	85.06	81.88	59.44
Middleman	+15.42	+10.65	+9.19	+8.74	+8.75	+6.94	+9.39	+10.56
▼	123.86	107.78	103.30	99.85	96.81	92.00	91.27	70.00
Vender	+6.14	+7.18	+5.37	+3.32	+2.14	+2.53	+0.23	+14.00
▼								
Consumer	130.00	114.96	108.67	103.17	98.95	94.53	91.50	84.00
	29,362 trays/week 4,194.57 trays/day							

The TPAs as mentioned above were : 1) in Tha Uthen district on Wednesdays, 2) in Ban Nhard, Mueang Nakhon Phanom district on Mondays and Thursdays, and 3) in That Phanom district on Tuesdays and Fridays.

According to the survey results, the layer farmers produced 29,362 trays of eggs per week or 125,837 eggs per day. They produced in a descending order of eggs : no.2 eggs, no.3 eggs, no. 4 eggs, no. 5 eggs, no. 1 eggs, cracked eggs, jumbo eggs and no. 0 eggs respectively. Regarding the profits, direct selling from egg farmers to consumers made more profit than indirect selling from middlemen (egg collectors or egg traders), but they could sell fewer eggs. The middlemen made more profit than egg retailers. The eggs that the middlemen sold in a descending order of profits were; jumbo eggs, cracked eggs, no. 0 eggs, no. 5 eggs, no. 1 eggs, no. 2

eggs, no. 3 eggs, and no. 4 eggs respectively. The trays of eggs which egg retailers sold, in a descending order of profits were: cracked eggs, no. 0 eggs, jumbo eggs, no. 1 eggs, no. 2 eggs, no. 4 eggs, no. 3 eggs and no. 5 eggs respectively (Table 3). The value-added chain prices of eggs were shown by egg-sizes and their prices from wholesalers and retailers were displayed in Table 3.

Table 3 The value added chain price of egg

No.	Price	Farm		Trader/Collector		Vendor	
		W	R	W	R	W	R
Jumbo egg	Bath/tray	108.44	114.04	123.86	130.00	130.00	-
	Bath/egg	3.66	4.03	4.13	4.33	4.33	4.53
No. 0	Bath/tray	97.13	105.77	107.78	119.00	114.96	-
	Bath/egg	3.26	3.46	3.59	3.83	3.83	3.97
No. 1	Bath/tray	94.11	100.23	103.30	110.67	108.67	-
	Bath/egg	3.16	3.32	3.44	3.69	3.62	3.71
No. 2	Bath/tray	91.11	97.09	99.85	106.33	103.17	-
	Bath/egg	3.02	3.21	3.33	3.54	3.44	3.68
No. 3	Bath/tray	88.06	93.33	96.81	102.67	98.95	-
	Bath/egg	2.92	3.10	3.23	3.42	3.30	3.52
No. 4	Bath/tray	85.06	90.25	92.00	99.33	94.53	-
	Bath/egg	2.79	3.01	3.07	3.31	3.15	3.44
No. 5	Bath/tray	81.88	87.20	91.27	94.67	91.50	-
	Bath/egg	2.67	2.89	3.04	3.16	3.05	3.24
Cracked egg	Bath/tray	59.44	68.67	70.00	80.00	84.00	-
	Bath/egg	2.04	2.31	2.33	2.67	2.80	3.23

Remark : (W) Wholesaler, (R) Retailer

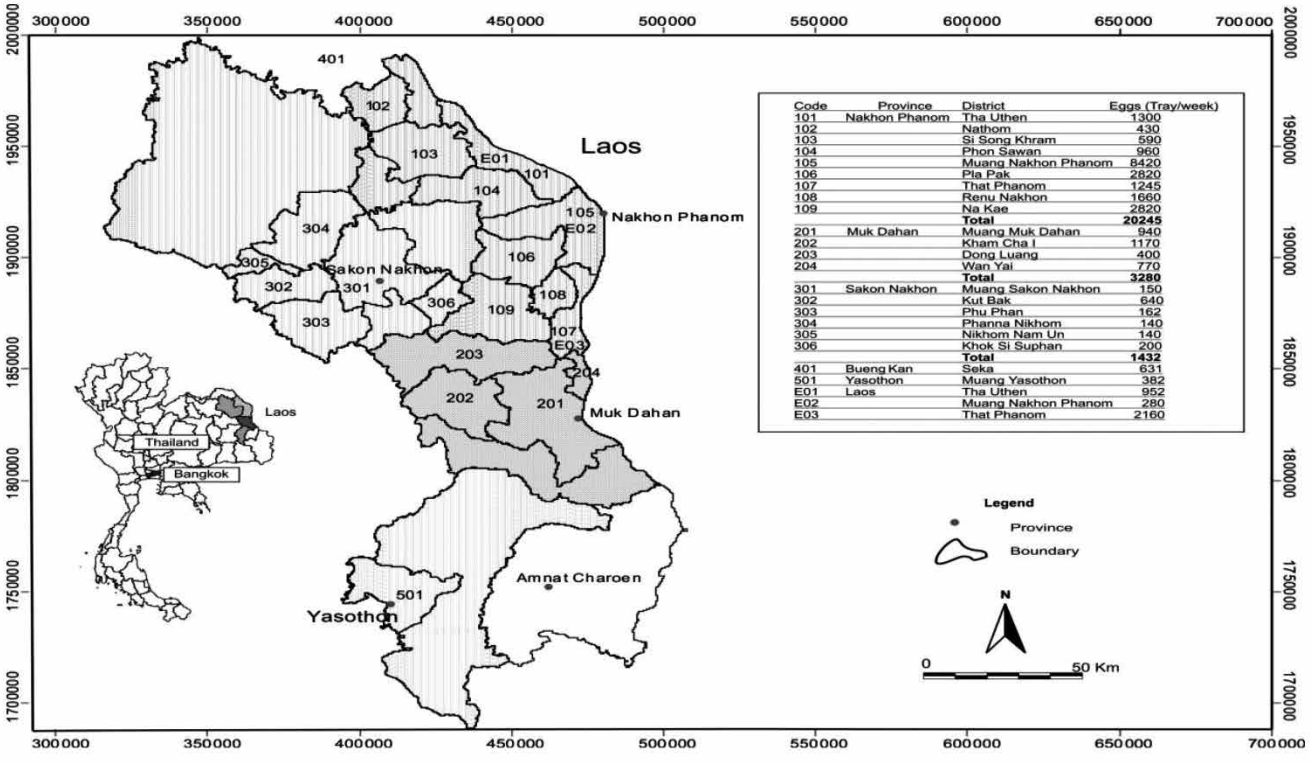

Figure 4 Geographic information system (GIS) map showing a value chain with location of egg markets

Conclusions

There were 2 patterns of egg selling: pattern 1 by local distribution into 4 channels – channel 1 : by Farmers, Collectors, Traders, Venders, and Consumers (51.98%); channel 2: by Farmers, Collectors, Venders and Consumers (26.73%); channel 3: by Farmers, Venders and Consumers (17.13%), and channel 4 : by Farmers and Consumers (4.16%). Pattern 2 by local and international distribution into 3 channels – channel 1 : by Farmers, Collectors, Traders, Venders and Consumers (39.83%); channel 2 : by Farmers, Collectors, Venders and Consumers (32.61%); and channel 3 : by Farmers, Venders and Consumers (27.56%). The egg middlemen made more profit than egg retailers. The profits made by middlemen from their egg sales by order of rankings from higher to lower values were : jumbo eggs, cracked eggs, no. 0 eggs, no. 5 eggs, no. 1 eggs, no. 2 eggs, no. 3 eggs and no. 4 eggs.

Suggestions

1. There should be a center for egg distribution in Ban Klang village, Ban Klang sub-district, Mueang Nakhon Phanom district, Nakhon Phanom province in order to collect eggs from members of the cooperative as well as to show the quantities of eggs and channels of distributing the egg product in a definite and clear way.

2. They should be a development of standards of egg-laying chicken farms to guarantee that all the eggs distributed by Ban Klang village have uniqueness, a prominent local identity and a potential to compete with eggs from the private sector companies.

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