

# **A descriptive study of poultry production flows in Tra Vinh Province, Vietnam**

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**Abstract:** *The study involved with 166 farmers from three districts of Tra Vinh Province, Vietnam. The study was using the purposive sampling method to collect data to determine the social economic status of poultry farmers and poultry production flow in Tra Vinh Province including three districts. A descriptive statistic was used to describe the social profiles and production input, output of this study. The criteria of selecting respondents were (1) birds available at farm (2) at least 2 years of experience. The findings showed that poultry farmers in 3 districts from 40-60 years old and mostly male. Cang Long district had more farmers working in animal field than others and had more family member working at farm while respondents from all three districts received less than 100\$ per month from poultry production. In Tra Vinh province, farmers raised their poultry for meat and egg purpose which were usually sold to middleman. Raising for household consumption was also recorded in this study. Traditional raising methods were confirmed in this area by feeding agricultural by-products and household leftover for birds. From farmers, poultry egg and meat had to pass many stakeholders before going to consumers.*

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## **I. INTRODUCTION**

The majority of individuals engaged in agricultural activities are small-scale farmers, with the average poultry output ranging from 80 to 200 heads, as reported by the General Statistics Office (1). These small-scale farmers constitute around 90% of the total number of farms. Gariglio et al. (2019) assert that the poultry business is predominantly recognized for its chicken output. Poultry, as a category of livestock, has prominence as the prevailing animal possessed by rural families and ranks as the second most significant source of meat production within the nation (Dinh, 2017). Poultry production comprises of both smallholder and medium- to large-scale commercial production systems, while smallholder production constitutes the majority of producers. According to the data provided by the General Statistics Office in 2021 (2), the country witnessed a significant number of chicken-raising households, surpassing 8 million. Among these households, about 88.8% maintained a poultry population of less than 50 chickens. Additionally, 9.8% of the households were engaged in maintaining a range of 50 to 199 birds, while the remaining 1.4% were involved in the rearing of over 200



chickens. The semi-intensive and intensive production systems continue to be prevalent among 42–85% of rural families in the Northern Midlands and Mountainous, Southeast, and Mekong River Delta areas, as reported by Phuong et al. (3). According to Burgos et al. (4), individuals classified as producers in this particular category engage in the practice of raising a limited number of chickens, specifically fewer than 50, inside the confines of their own backyards, gardens, courtyards, and orchards. Additionally, it is common for these chickens to roam freely on adjacent territory, thereby adopting a free-range approach to their rearing. The predominant approach in this system involves the usage of local breeds, whereby farmers acquire foundation and replacement stocks from local markets or their own hatched flocks (5). Producers in the semi-intensive system primarily utilize chicken products for both domestic consumption and income generation, like to the typical backyard system. However, it is worth noting that the marketing surplus observed in the semi-intensive system is considerably greater when compared to the surplus shown in the traditional or backyard system. This discrepancy may be attributed to enhanced levels of production and productivity within the semi-intensive system. According to a study conducted by Tung and Costales (6), there is evidence to suggest that enhancing the production and productivity of smallholder producers could lead to a corresponding increase in both consumption levels and marketable surpluses. In the semi-intensive system, it is common practice to sell the products directly on the farm to traders or other intermediaries. Traders engage in the practice of reselling things to consumers within city or urban markets. Tung and Costales (6) claim that there exist three potential avenues for marketing, namely local markets, itinerant traders (collectors and assemblers), and fellow farmers within the hamlet. Producers engage in the sale of live birds and eggs to various entities, including wholesalers, merchants, and local customers. Fournie et al. (7) observed variations in the origins of live bird procurement across different market categories. In small-scale markets, the majority of chicken sales are facilitated by smallholder producers or traders, with additional purchases made by other traders or local customers. In the context of intermediate live bird markets, the primary sources of chicken supply are medium-scale farms, occasionally supplemented by smallholders and other farms. Several companies have reported engaging in direct sales of DOCs (day-old chicks) to agricultural farmers. Many domestic and residential farms often acquire day-old chicks (DOCs) or mature chicks from local hatchery establishments (8). The presence of a middleman is a significant factor in the sale of chicken goods. According to Chau et al. (9), it was observed that middlemen wielded significant influence in determining prices within the value chain. The prevalence of middlemen-cum-sellers within the value chain of Tra Vinh province can be attributed to the significant profits they have been able to accrue. The influence of global economic downturn on product consumption causes a decline in product selling prices and low and occasionally negative animal production efficiency. Production flows should be determined to give specific strategies for improving poultry production. Thus, this study aimed to determine the social economic status of poultry farmers and the input/output flows of poultry production in three districts of Tra Vinh.

## **II. RESEARCH METHODS**

### ***2.1. Location***

The study was implemented in three districts of Tra Vinh province, namely, Tra Cu (TC), Cang Long (CL) and Cau Ngang (CN) district. By the number of poultry available in the area, three locations were chosen for this study.

### ***2.2 Data collection***

A total of 166 farmers involved with this study. The respondents were chosen by the purposive sampling method. The criteria of selecting respondents were (1) there are available chickens at farm (2) at least 2 years of experience in raising and trading poultry. The number of respondents was chosen following the statement of Levine and Stephan (10) who debated that for many population distributions, the number of respondents at least 30 is large enough. To increase the validity and reliability of data, respondents were chosen more than the requirement (30 respondents). Questionnaire was read by respondents themselves and able to reject the interview if there was any sensitive information regarding respondents. Besides, respondents were requested to complete the questionnaire, which was introduced, explained before the interview started. The questionnaire



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included 2 sections. The first section was social profiles including gender, age, occupation, education, family member, labour and income. The second section was production flows including where farmers sell their poultry products and where they received feed, chicks.

### **2.3. Data analysis**

A descriptive analysis was used for this study. The data was analysed by SPSS application v.26 (IBM Corp, Armonk, NY, USA).

## **III. RESULTS AND DISCUSSION**

### **3.1. Social profiles of small poultry farmers in three districts of Tra Vinh Province**

Table 1. Social profiles of small-scale poultry farmers

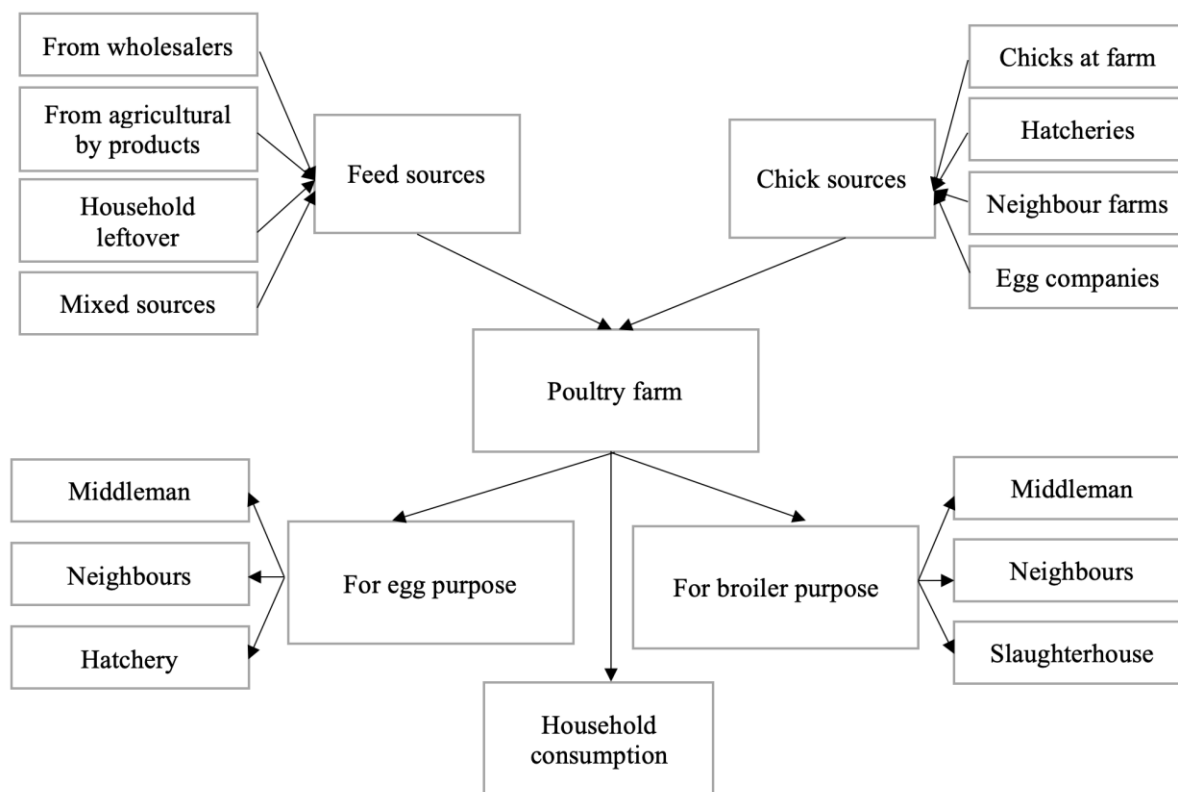
No	Variables	Categories	CN (n=61)		CL (n=60)		TC (n=45)	
			Freq	%	Freq	%	Freq	%
1	Age	Age from 18-39	22	36.1	9	15.0	7	15.6
		Age from 40-60	32	52.5	28	46.7	30	66.7
		Age more than 60	7	11.5	23	38.3	8	17.8
2	Gender	Female	17	27.9	22	36.7	17	37.8
		Male	44	72.1	38	63.3	28	62.2
3	Occupation	Agriculture	32	52.5	5	8.3	21	46.7
		Livestock production	20	32.8	53	88.3	16	35.6
		Business	6	9.8	1	1.7	7	15.6
		Officer	3	4.9	1	1.7	1	2.2
4	Education	Graded 1-5	18	29.5	22	36.7	25	55.6
		Graded 6-9	23	37.7	32	53.3	13	28.9
		Graded 10-12	16	26.2	3	5.0	6	13.3
		Bachelor	4	6.6	3	5.0	1	2.2
5	Family	From 1-3	23	37.7	38	63.3	16	35.6
		From 4-6	37	60.7	22	36.7	29	64.4
		More than 6	1	1.6	-	-	-	-
6	Labour	> 50% family members	30	49.2	15	25.0	15	33.3
		< 50% family members	31	50.8	45	75.0	30	66.7
7	Income	< \$100	45	73.8	54	90.0	43	95.6
		> \$100	16	26.2	6	10.0	2	4.4

*Noted: CN: Cau Ngang district, CL: Cang Long district, TC: Tra Cu district.*

The results showed that poultry farmers in three districts were mostly more than 40 years old, especially in Cang Long and Tra Cu district. Male was predominant in working at poultry farm in three districts. Table 1 showed that Cau Ngang and Tra Cu district confirmed more farmers are working at agriculture (horticulture) as their main occupation than livestock production. As the same result, these two districts recorded more family member joined in farming activities. Additionally, less than 100\$ per month earning from poultry production activities were the case in three area. The results were in line with previous studies (11,12) which indicated male had stronger decision making in household. Besides, man had more free time than woman after activities on the farm because they may not join in household activities. The revenue generated from chicken farming is quite modest, prompting farmers to integrate poultry production with economic activities as a means of augmenting their earnings. The aforementioned findings were previously documented in a study conducted by Qui et al. (13) among swine farmers in Tra Vinh. Furthermore, the implementation of integrated agriculture and aquaculture systems has been extensively utilized in Vietnam, yielding significant advantages as the most optimal and efficacious models for small-scale farmers (14).



**3.2. Input and output flows at small scale poultry farms**



**Fig. 1.** Input and output flows of small-scale poultry production in Tra Vinh Province. Noted: Egg companies refer to the company where eggs are sold.

In a total of 166 respondents, 136 respondents confirmed not selling eggs and 63 respondents confirmed not selling broilers. It can be seen that farmers usually sold their birds to middleman with 83/103 respondents confirmed (some farm did not raise poultry for meat) while 16/30 respondents (who raised poultry for egg purpose) confirmed eggs were sold for neighbours and also for their consumption. Fig. 1 also showed that birds/eggs usually pass middleman before going to other stakeholders. For the production output flows, it was similar to a previous study (8). During the distribution phase, the transaction of live broiler sales from household farms to dealers typically involves the involvement of intermediaries. According to Dien et al. (8), middlemen are autonomous individuals that facilitate the procurement of chickens from farms, possessing knowledge pertaining to market prices, as well as the quality and quantity of chickens available at each farm within the given geographical area. That is the reason why almost all farmers sold their birds through middleman. There were 4 sources that farmers can get DOCs and most farmers produced chicks at their farm without buying from other source. The results also showed that poultry feed was whatever available at farm, it could be from leftover, from agricultural by-products and so on. It was similar to the study of Linh et al. (15) in case of ducks in Tra Vinh province. Farmers commonly employ locally available feeds in close proximity to their residences or farming regions to provide sustenance for avian species (15). The study also documented that the ducks were treated with either commercial feed or a combination of rice and rice bran. Additionally, they were supplemented with different feed sources including crop residues, vegetables, household trash, and agricultural industrial by-products. Prior to feeding, the majority of feed ingredients were subjected to a process of being cut into smaller fragments. Subsequently, the ducks were provided with feed on a regular basis, often 2-3 times per day.



#### IV. Conclusion

The social profiles of poultry farmers in Tra Vinh province were different between area. Male was dominant in farming activities and mostly received less than 100\$ per month from poultry productivity. Eggs and broilers were sold to middleman as the main channels of selling output. Besides, traditional farming behaviors are still available in small-scale farming in Tra Vinh Province with feeding leftover and agricultural by-products.

#### V. Acknowledgements

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