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Cooperative Farming Concept as Business Development Strategy Model of Native Chickens in Province North Sulawesi Indonesia

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Abstract. The development of native chicken production in North Sulawesi is still very low due to the traditional maintenance system so that it is very influential on the needs of market demand. The aim of this research is to find the right strategy model for management of the development native chicken agribusiness in North Sulawesi. The concept for analysis instrument in strategy management of "cooperative farming" needs four strategies that social engineering, economic engineering, technology engineering and value added engineering. The method in this research is qualitative case study approach, and four stages with qualitative analysis and three stages of strategy formulation. The results of the research, that farmers in North Sulawesi survive with traditional maintenance systems because they feel safe with a small risk of loss. So there needs to be an effort to empower farmers if to make the native chicken farm business to an agribusiness business.

1. Introduction

The concept of "cooperative farming" is essentially a collaborative effort through a management system, by combining small farms into large-scale businesses that meet economies of scale so that become more efficient, high productivity, homogeneous products, and higher quality of production which becomes prerequisites to increase competitiveness, add value and improve production quality. According to Sri Nuryanti [1], cooperative farming has several criteria that are suitable with the characteristics of Indonesian agricultures biophysical-social diversity for every spaces that requires decentralized and "bottom-up" management. Previous programs, for example cooperative farming, were more "top-down". Furthermore, according to Sri Nuryanti cooperative farming is a very important strategy management model for empowering farmers through groups, social engineering, economic, technological and value-added engineering. In the theory of "cooperative" strategy Michael A. Hitt *et al.* [2], explains that the use of the concept of "cooperative" can be used to achieve common goals, in this case as "shared objectives". Furthermore [3], emphasized that combining several resources and capabilities can create competitive advantage. According to RS Cline [4], an important advantage of a collaboration strategy is that companies get access from their partners, because according to Rudberg and Olhager [5] having access to multiple collaborations can increase the likelihood that additional competitive advantages will form as a "shared" set resources and capabilities develop, and in turn according to Young *et al.* [6], the development of new capabilities further stimulates the development of product innovations that are



crucial for competitiveness. Native chicken or free-range chicken is one type of poultry potential to be developed in North Sulawesi. Farmers maintain native chickens as laying hens and native chicken for meat consumption. Native chicken is considered to have various benefits including family savings, increased family nutrition, and to increase farm income. The Most in North Sulawesi have traditional system maintenance still carried out that is released foraging by themselves or fed potluck with a very simple and traditional housing system. Native chicken has long been maintained by farmers, especially those who live in rural and suburban areas (sub-urban).

According to data from Statistics of Animal Husbandry and Health, the development of chicken population in Province of North Sulawesi is increased from year to year. Muladno [7] has pointed out that native chickens have excellent market prospect because it is supported by the characteristics of products from native chickens in the form of meats and eggs which are favored by the people of Indonesia. Their price is relatively affordable with easy access and it is a food product available in the market. This commodity is the main driver of national animal protein supply, so this good prospect should be utilized to empower rural breeders through more optimal use of resources.

Roosganda and Rusdiana [8] reported that the development of native chickens in Indonesia still needed improvement in maintenance technology, livestock health, capital and marketing assistance. Permastasari [9] also reported analysis of alternative strategic calculation using QSPM matrix, and explaining that suitable strategy applied for agribusiness development of native chickens is expanding marketing by looking for new market.

The importance of native chicken business is developed with agribusiness model approach, intended to increase production and productivity in order to meet human consumption needs. The traditional maintenance model was maintained by farmers in North Sulawesi for generations, failed in capturing business opportunities. Therefore it needs to be an appropriate strategy model of how to keep native chickens breeding system in the Province of North Sulawesi be oriented to the agribusiness system approach. Therefore, this study was conducted to create a model of agribusiness system development with consideration of social factor, economy, technology and added value. In addition, the stakeholders involved in the agribusiness activities of chicken, must be represented from the elements that support each other, namely farmers, businessmen/investors and the government.

2. Materials and methods

This qualitative research using case study approach, with descriptive analysis method and three stage analysis of strategy formulation. The aim is to illustrate, summarize the various conditions, situations, or various phenomena of reality as well as the strategy formulation of the chicken “ayam kampung” breeding business in the Province of North Sulawesi. In this study, the primary data were collected and obtained directly through observation, interviews with those considered to understand the agribusiness problems of chicken “ayam kampung” in North Sulawesi. They were the heads of farmer groups in Minahasa and Bolaang Mongondow Districts as many as three people, the Office of Agriculture and Animal Husbandry of North Sulawesi Province, and two Professors at the Faculty of Animal Husbandry, Sam Ratulangi University, who actively conducted research and dedication about in agribusiness of native chickens. While secondary data are collected and obtained from relevant articles or literature, internet and data Central Bureau of Statistics. Data analysis in this research is descriptive analysis, and analysis of three stages of strategy formulation covering analysis of external environment (EFE) and internal environment (IFE), analysis of IE matrix and SWOT analysis. The concept of "cooperative farming" serve as a source of strength in the process of strategy development of native chickens farming systems.

3. Results and discussion

The maintenance of chicken “ayam kampung” in North Sulawesi, can be found through out the villages, and is one of the local poultry species that is generally kept as a producer of hatching eggs, consumption eggs, and meat. In general, this business is done on a sideline basis, and at times can be sold to meet the needs of the family economy. According to the results based on surveys indicated that native chickens

have a promising prospect, both economically and socially, because besides being a source of high nutritious food (meats and eggs), its potential market demand is relatively high, especially for urban consumers in the Province of North Sulawesi.

In general, there are three system of keeping native chicknes in the Province of North Sulawesi, namely: (1) Extensive system (traditional) commonly conducted by rural farmer households which native chickens are given free access to their environments in order to balance their nutritional needs of feed naturally sufficient with resources available in the surrounding their environment, technical and economic calculations. (2) Semi-intensive system, already provided cages/fences for both rooster and native hens given additional feed; (3) Intensive system, where native chickens have been stuck throughout the day, fed and prevention of disease done regularly and intensively. Based on the analysis, about 80 percent of the maintenance system is a traditional extensification system, this is mostly done by farmers in the province. To develop the business into the agribusiness system (intensive), farmers still face capital constraints, livestock knowledge, technology and marketing access. Another thing is that the farmers are comfortable with the traditional extensive maintenance system, because it does not require large capital and the purpose of raising the chicken only for consumption needs.

Table 1. Internal factors evaluation (IFE)

Strength		Weight (%)	Rating	Score	Priority/ Rank
A	Potency of agricultural waste as animal feed	0.265	3	0.796	I
B	Manpower Resources	0.263	2	0.526	II
C	Land resources	0.262	2	0.486	III
D	Government commitments and programs	0.210	2	0.420	IV
SUB TOTAL		1.000		2.228	
Weakness		Weight (%)	Rating	Score	Priority/ Rank
A	Partnership Network	0.175	1	0.175	II
B	Technological innovation	0.173	2	0.346	IV
C	Social body	0.194	1	0.194	VI
D	Agribusiness institutions	0.191	1	0.191	V
E	Knowledge of farmers	0.157	1	0.157	I
F	Production facilities	0.110	2	0.220	III
SUB TOTAL		1.000		1.283	
TOTAL SCORE (Strength +Weakness)				3.511	

Henuk [10] explained three types of production systems are used to raise native chickens in Indonesia. First, in the extensive traditional system, chickens from day old until death are allowed to live freely with limited farmer' intervention. The birds are allowed to naturally roam around the house, seeking food, breeding, and engaging in other activities such interacting with other birds in the flock and rearing their young chicks. These birds return home to the farmer's house at sunset, where they sleep in the trees around the house. Farmers usually reared chickens ranged between 2 and 20 birds. Most of native chickens in Indonesia are raised under extensive traditional system where they are free to scavenge around farmer's home during the day. The second or semi-intensive system is more efficient and often used by wealthier people as a source of extra cash to help supplement their primary source of income. In this system the birds are usually housed in an open-fenced area, and the owner's provide feed and drinking water for them regularly, but not routine medical treatments. The bird numbers typically range from as few as 25 to several hundred. Finally, there is the professionally managed intensive system. In this system bird populations are separated on the basis of their life periods or phase of production. For example, the starter period (1 day–2 months); the grower period (2–4 months); and the

finisher or laying period (> 4.5 months–culling). The number of chickens reared is varies from hundreds to thousands, depending on the financial resources of the farmer. Only a few farmers have large-scale farms. The annual eggs productivity from poultry reared using the intensive system is very high compared to the extensive system (146–260 eggs vs. 37–47 eggs) and mortality is typically lower than the other two rearing systems as well.

Based on the results of Internal Factor analysis (Table 1), the cooperative farming concept model which includes social engineering, economic engineering, technology engineering and value-added engineering can be the main strength factor, while the supporting power is the potential of agricultural waste as animal feed. This is because the Province of North Sulawesi is an agricultural area of food crops and horticulture and plantations. Other strength factors include the availability of agricultural man power resources, land resources and government commitments and programs on the development of chicken “ayam kampung” breeding. But on the other hand disadvantages is about the lack of knowledge of breeding of native chickens in modern way (intensive), the lack of partnership network from up stream to down stream, difficult to obtain production facilities especially DOC, weak technological innovation and institutional system.

Table 2. External factors evaluation (EFE)

	Opportunity	Weight (%)	Rating	Score	Priority / Rank
A	Commitment of the government through the program of food fulfillment of livestock origin and agribusiness farms of the people	0.261	3	0.783	V
B	Experience breeding chicken “ayam kampung”	0.181	2	0.362	IV
C	The selling price is higher than the chicken “ayam kampung” race	0.166	3	0.498	II
D	Consumer's preference for chicken “ayam kampung” flavor	0.196	3	0.588	I
E	Chicken “ayam kampung” have endurance a strong body against change environment	0.196	2	0.392	III
SUB TOTAL		1.000		2.623	
	Opportunity	Weight (%)	Rating	Score	Priority / Rank
A	Competition with large companies	0.275	1	0.275	IV
B	The decline in the labor force in the livestock sector	0.180	1	0.180	I
C	Infectious disease attacks	0.180	2	0.360	II
D	Competition in land use and land conversion	0.185	1	0.185	III
E	Climate change that affects the procurement of feed and animal health	0.180	2	0.360	II
SUB TOTAL		1.000		1.360	
TOTAL SCORE (Opportunities + Threats)				3.983	

Based on the results of External Factors analysis (Table 2), the main opportunities for agribusiness development are consumer preference to chicken “ayam kampung” flavor, followed by higher selling price compared to chicken, have a strong body resistance to environmental changes, hereditary experiences breeding chicken “ayam kampung” and government commitment through the program fulfillment of animal origin and livestock agribusiness people. The threat is the decline of the labor force

in the livestock sector, Climate change affecting the procurement of animal feed and health, infectious disease, Competition in land use and land conversion and competition with large companies.

Table 3. IE Clusters of agribusiness in the province of North Sulawesi

Total value of IFE				
Total value EFE		Strong 3.0-4.0	Medium 2.0-2.99	Weak 1.0-1.99
	High 3.0-4.0	I (Grow and Build)	II (Grow and Build)	III (Keeping and Maintaining)
	Medium 2.0-2.99	IV (Grow and Build)	V (Keeping and Maintaining)	VI (Harvestor Divestment)
	Low 1.0-1.99	VII (Keeping and Maintaining)	VIII (Harvestor Divestment)	IX (Harvestor Divestment)

Table 4. SWOT matrix of agribusiness of native chickens in the Province North Sulawesi

	Strenghts-S	Weaknesses-W
	<ol style="list-style-type: none"> 1. Potential of agricultural waste as animal feed 2. Manpower Resources 3. Land resources 4. Government commitments and programs 	<ol style="list-style-type: none"> 1. Partnership Network 2. Technological innovation 3. Social institutions 4. Agribusiness institutions 5. Knowledge of farmers 6. Production facilities
Opportunities-O	Strategy SO (agresif)	WO Strategy (diversification)
<ol style="list-style-type: none"> 1. Commitment of the government through the program of food fulfillment of livestock origin and agribusiness of the people's livestock. 2. Experience raising chickens village 3. The selling price is higher than the chicken "ayam kampung" race 4. Consumer preferences of chicken flavor taste 5. Chickens "ayam kampung" have endurance 6. A strong body against change environment 	<ol style="list-style-type: none"> 1. Increase population, production and productivity of livestock (S1, S2, S3, S4, O1, O2, O5). 2. Agribusiness partnership (S3, S4, O1, O3, O4, O5). 	<ol style="list-style-type: none"> 1) Increase knowledge of farmers (W2, W5, O1)

Threats-T	Strategy ST (differentiation)	WT Strategy (defensive)
<ol style="list-style-type: none"> 1. Competition with large companies 2. Decrease in the labor force in the livestock sector 3. Infectious disease attacks 4. Competition in land use and land conversion 5. Climate change that affects the procurement of feed and animal health 	<ol style="list-style-type: none"> 1. Develop maintenance of intensification system (S1, S2, S3, S4, T1, T2, T4,) 	<ol style="list-style-type: none"> 1. Increasing the role of agribusiness supporting institutions (W1, W4, W6, T1, T4) 2. Increasing the role of extension agencies (W1, W2, W3, W4, W5, W6, T1, T2, T3, T4, T5)

Based on IFE and EFE analysis results (Table 3), the total score for IFE is 3.511 and EFE is 3,983. These two totals are then incorporated into the Internal-External Matrix (IE) analysis. The results of the evaluation place the position that the development of agribusiness of native chickens in the Province of North Sulawesi is in the first quadrant the Grow and Built position. The strategy is market penetration, market development, product development, backward integration, forward integration, and horizontal integration.

The formulation of native chickens agribusiness development strategy in the Province of North Sulawesi was obtained by using SWOT analysis. According to David [11], alternative strategies are divided into four, namely S-O (strength-strength) strategy, W-O strategy (weaknesses-opportunities), S-T strategy (weak-threats), and W-T (weaknesses-threats) strategy. Strategy formulation on SWOT matrix resulted 5 alternative strategies according to internal and external factors (Table 4).

4. Conclusion

1. The system of keeping native chickens with an extensive traditional way is a model of chicken breeding business that has been very strong inherent in the perspective of farmers in the Province North Sulawesi.
2. The Province North Sulawesi has the potential for agribusiness development of native chickens, because it is supported by the availability of land, feed and labor.
3. Development of native chickens breeding business can be done with policy approach of integration of four important factors which include social engineering, economic engineering, technology engineering and value engineering together in a system of cooperative farming concept.
4. The priority strategy of agribusiness development in Province North Sulawesi is to educate and train farmers, agribusiness partnership network, increase institutional role of agribusiness and social institution

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