

# Development of a High-Value Agricultural Product Cluster to Increase Income for Rural Farmers: Case Study of Bresse Chicken Cluster in Northern Thailand

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## ABSTRACT

The aim of this paper was to reveal the success factors of a high-value crop cluster which provides additional income to farmers in remote areas. The Bresse chicken cluster managed by the Royal Project Foundation was selected as a case study due to its high potential. The actors, their roles and benefits as well as the performance of the cluster to help farmers overcome constraints and enhance abilities to compete in the market were investigated. Data were collected from the reports of the Royal Project Foundation and from stakeholders by using questionnaires and semi-structured interviews. The results from the study showed that the outputs of the cluster are not just an increase in farmers' income, but also the achievement of capabilities. The major success factors for long term clustering are the presence of a strong functioning network and partnership among the stakeholders. These result from the platform opening for vision sharing and research being conducted by the stakeholders, the personality traits and competencies of a cluster engineer, and the equality of benefits provided to stakeholders involved in the cluster. Continual knowledge support from academic organizations as well as good functioning of knowledge sharing in the cluster are also key success factors.

**Keywords:** farmer, poverty, income, high value crop, cluster

## บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่ส่งผลต่อความสำเร็จของการดำเนินการเครือข่ายวิสาหกิจในการส่งเสริมการผลิตสินค้าเกษตรมูลค่าสูงเพื่อเพิ่มรายได้ให้กับเกษตรกรในชนบท โดยใช้กรณีศึกษาการผลิตไก่เบรสส์ที่ส่งเสริมการผลิตและทำการตลาดโดยมูลนิธิโครงการหลวง ข้อมูลที่ใช้ใน

การวิเคราะห์ในการวิจัยนี้ประกอบด้วย ข้อมูลทฤษฎีที่รวบรวมจากรายงานการดำเนินการ และผลการดำเนินการของมูลนิธิฯ ร่วมกับข้อมูลปฐมภูมิที่สำรวจโดยใช้แบบสอบถาม และการสัมภาษณ์เชิงโครงสร้าง ผลที่ได้จากการวิจัยพบว่า ปัจจัยสำคัญที่ส่งผลต่อความสำเร็จในการดำเนินการคือ การความเข้มแข็งของเครือข่ายที่เกิดจากการมีเวทีในการแลกเปลี่ยนวิสัยทัศน์และความรู้ระหว่างผู้ที่เกี่ยวข้อง

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ลักษณะบุคลิกภาพและความสามารถของวิศวกร  
คลัสเตอร์ และการกระจายผลประโยชน์อย่างทั่วถึง  
ให้กับผู้ที่เกี่ยวข้อง ทั้งนี้ยังมีปัจจัยสำคัญที่ส่งต่อความ  
สำเร็จในการดำเนินงานคือการให้การสนับสนุน  
องค์ความรู้อย่างต่อเนื่องของหน่วยงานด้านการศึกษา  
และวิจัย รวมถึงการจัดการอย่างเป็นระบบของมูลนิธิฯ  
ในการทำให้เกิดการแลกเปลี่ยนความรู้ในเครือข่าย  
**คำสำคัญ:** เกษตรกร ความยากจน รายได้ สินค้า  
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## INTRODUCTION

In order to increase farmers' income, the governments of many countries have promoted mono-cultural crops to gain from the increase in the prices of commercial crops in the world market. However, farmers who gain the most from this opportunity are those in developed countries and not small-scale farmers from rural areas because there are distortions due to the limited market participation by smallholders, the increases in input costs, and supply-side constraints (Food and Agricultural Organization [FAO], 2005, 2009). The constraints on the supply side for farmers in the remote areas in developing countries are low technology, lack of access to modern inputs and credits, poor marketing and transport infrastructure, ineffective rural services and institutions as well as having small or no land of their own. These are obstacles to the facilitation of the sale of outputs and the purchase of inputs throughout the production and marketing chain (FAO, 2005).

In Thailand, the government has promoted commercial crops in response to global market demand by promoting mono-cultural crops to increase farmers' income from the export of agricultural products into the world market (National Economic and Social Development Board [NESDB], 2006). Under market-oriented economic policies, Thailand has contributed to economic growth by generating many agricultural commodities

that can compete in the world market. However, not all farmers can achieve these benefits, especially small-scale farmers in rural areas, due to a difference in farm characteristics (Isarangkun & Pootrakool, n.d.). The increase in agricultural prices worldwide has led to higher farm income in recent years, and has resulted in a decrease in the percentage of people below the poverty line in Thailand but there is still inequality in the country. The Thai Gini coefficient—an indicator representing the distribution of income among individuals or households that ranges from zero to one (a value of zero means there is perfect equality, while a value of one represents perfect inequality), has remained high, being 0.48 in 2009 (Central Intelligence Agency, n.d., World Bank, n.d.). Moreover, the debt per household of land-owning farmers has increased dramatically, from THB 40,124.41 in 2000 to THB 91,969 in 2009 (Office of the Prime Minister, 2000; National Statistics Office, 2009). High-value agricultural products can be an alternative to help farmers in remote areas increase their income in the short term, as the demand for high-value crops in both domestic and international markets has increased. Farmers who have small farm sizes living in less favored areas can gain from this opportunity (World Bank, 2008). The trend in the demand for high-value agricultural products has also increased due to the growth of modern trade in Thailand. The number of hypermarkets has risen from 65 to 216 since 1990 (McKinsey & Company, 2010) and Thai consumers have focused more on convenience, health, and food safety as well as there being an increase in the income per capita. These factors have resulted in the popularity of modern groceries that require a higher quality of agricultural products. In the service sector, the increase in the number of upper-class hotels (Bangkok biz news, 2007) has led to a low price strategy to compete in the market (Kaosa-ard, Kruefoo, & Unthong, 2005). This impacts the demand for high quality agricultural products. In order to avoid price tapping and cost reduction, improving service quality is suggested

(Kaosa-ard et al., 2005; Teanwichien, 2005). The improvements in services and restaurants and buffets have been used to compensate for the reduction in the revenue from room service and this has caused an increase in the demand for the raw materials supplied to restaurants (Department of Industrial Promotion, 2010). Growing high-value crops to supply products to restaurants could be an alternative that provides opportunities to both increase farmers' incomes and improve services in hotels, so that they become more competitive. However, farmers have many difficulties in producing and marketing products; the challenge is therefore how small-scale farmers can overcome these difficulties. Achieving the aim of gaining benefits from the increased demand for high value products requires an effective connection to the diversification process by providing access to coordinated supply chains and the potential economies of scale created by participating in the chains. New mechanisms and relationships, contract farming, vertical integration, and clustering are approaches that play important roles to help farmers in these aspects (Byerlee, Diao, & Jackson, 2005). The obstruction resulting from limited resources on the supply side can be overcome with the right support and the presence of good business partners (Vermeulen, Woodhill, Proctor, & Delnoye, 2008). A close link between farmers and consumers can help to transmit important signals to farmers on new market opportunities and guide their production to meet consumer preferences. Smallholders also need to build bargaining power through their producer organizations, assisted by public policy; these could be gained via clustering (World Bank, 2008). The current study aimed to explore how clustering can be managed to help farmers. The objectives of this study were:

1. To illustrate the actors and the roles of actors in the cluster
2. To explore the performance of clusters to increase income via the promotion of high value agricultural crops and the benefits provided to actors

in the cluster

3. To understand how a cluster helps farmers cope with constraints and enhance capabilities to reduce poverty

## **LITERATURE REVIEW**

### **Roles and benefits of clusters**

Clusters occur when geographical consolidation helps small firms overcome constraints associated with size and technological development, and enhance their abilities to compete in local and global markets. The clusters play an important role within a pro-poor agenda by creating jobs and promoting incomes, helping to mobilize limited resources, and providing collective actions to enhance well-being of poor communities; furthering wider social and developmental goals (Navid and Barrientos, 2004). The major benefits gained from clustering are enhancing competitiveness and developing products. Fensterseifer, (2007) illustrated that the management strategy was a key success factor of the Serra Gaúcha wine cluster. The strong vertical connections between key actors in the supply chain helped to encourage knowledge gathered from external market contacts and resulted in improving the market performance for small and medium enterprise clusters in the Greek agri-food sector (Tregear, 2011). The performance of a cluster relates to poverty reduction in terms of human capital rising, and productivity improvement, which leads to an increase in income as well as sustained employment growth. Clusters are dynamic, and key processes of change come from local upgrades, which result in improving human capital and technological capacity for firms and enhanced capabilities for workers and small producers (Navid and Barrientos, 2004). While Sen (1985) stated that poverty and capability are related to each other, "Poverty is not just a matter of being relatively poorer than others in the society, but of not having some basic opportunities of material well-being, the failure to have certain

minimum capability". Poverty in this view does not mean only incomes, it is a failure to achieve capabilities. The causes of Thai farmers' poverty also relate to the low level of formal education (Krongkaew, 2001). In the long term, pro-poor enhancing capabilities to improve human capital for farmers to develop and market products will lead to sustained employment growth.

### **Actors in clusters**

Actors in clusters can be classified as companies, government, the research community, financial institutions, the hybrid organizations, cluster entrepreneurs, and institutions for collaboration. The first four actors are important to manage cluster initiation (Solvell, Lindqvist, & Ketels, 2003). The institutions for collaboration can be formal or informal actors who might have different roles in different clusters such as promoting interest in clusters, conducting actions, or setting up a cluster (Lindqvist, & Ketels, 2003, cited in Andersson, Serger, Sörvik, Hansson, & Emily, 2004, p. 24). The cluster's outcomes have been influenced by competencies and structure. In clusters, firms are the center of actions and policies and they are directly involved in technical, business, and market processes, and possess outstanding practical capabilities. Providing the macro-level foundations and infrastructure which support growth and competitiveness are major roles of government. These forms of support are most important in the initial phase of the cluster. Academia refers to universities, public laboratories, or research institutes which have in-depth knowledge, analytical competencies, independence, and specialized communication skills. The roles of academic organizations include the accumulation of new skills to clusters. As knowledge has become a key input to production, competitiveness via innovation and sharing of knowledge and skills is needed to develop clusters (Solvell et al., 2003). Financial actors are important for cluster initiatives since the success of new firms depends on their ability to launch new

technologies or address new market niches or demands. The financial institutions can help by playing roles of finance provision and coordination of the set-up of special funds targeted to specific needs. A hybrid organization is an organization that helps to balance benefits between actors as well as linking and integrating roles and functions among actors in the clusters. The cluster entrepreneurs are individuals who encourage synergy and build agreements, maintain the balance of benefit achievement, and focus on concrete action plans for specific cluster initiatives. Successful clusters need individuals to combine multiple competencies. The exploration of actors' participation and roles helps to understand the sources of success and failure of the clusters.

### **Clusters of agricultural crops in Thailand**

Several agricultural product clusters in Thailand have been developed to help farmers gain a competitive advantage to produce and market products. Examples of successful agricultural clusters are the cluster of orchid producers in Ratchaburi province, free chemical residue vegetable growers in the eastern region, rice growers in Chai Nat province, and Thai shrimp farms. All of these clusters have the same success factors—support from academic or research organizations in terms of knowledge and information to develop crops, strong member participation, and the strength of the network along the value chain (NESDB, 2005). However, there are different key success factors for each cluster. In the case of the orchid cluster, the presence of a cluster development agent who has the ability to coordinate work with other parties is one of the major success factors (NESDB, 2011). The equality of benefits provided to stakeholders is a key factor in the success of the shrimp cluster, whereas the roles and abilities of cluster development agent, support from government, knowledge gathered by the members, and market creation from clustering are the factors that provide opportunity for food processing and leather clusters to gain a business

competitive advantage (Sataviriya, 2010).

### High value agricultural products

High value crops are defined as: exotic products, special or rare products (Global Forum on Agricultural Research, 2006); non-traditional food crops (Temu & Temu, 2005), and products that are sold through specialized markets (Consultative Group on International Agricultural Research [CGIAR], 2004). Increasing demand for high value agricultural products driven by domestic and export markets is an opportunity for farmers to gain benefits. The growth of the domestic market is due to the expanding urbanization, changing dietary behaviors, and income growth. Liberalization, increasing production costs of agricultural products in the industrial countries, and differing agro-ecologies between suppliers and customers in different countries are the key drivers in the growth of trade and the demand for fresh, high value agricultural products from developing countries (Temu & Temu, 2005; The International Fund for Agricultural Development [IFAD], 2008). The ratio of benefit to cost for high value crops such as fruit and vegetables is two or threefold higher than the corresponding ratio for cereals and pulses (IFAD, 2008). However, it needs favorable natural resources with collaborative technical and marketing support (IFAD, 2008, p 12). Rural farmers in Sub-Saharan Africa and in Kenya gained benefits from exported high value agricultural products such as cut flowers, fish, vegetables, and fruits by increasing production and employment (Diao et al., 2003; Temu & Temu, 2005). In order to market high value crops, they have to be valued to meet customer demand. Product differentiation, using a superior or unique quality such as freshness, taste and health benefits, or social attributes are the characteristics that affect the premium prices paid by customers such as in the cases of pork (Honeyman, Huber, Lammers, & Hermann, 2006), organic food (Wier, O'Doherty, Andersen, & Millock, 2008), and bison meat (North American Bison Cooperative, n.d.)

## METHODOLOGY

### Case study

Farmers in remote areas who have low crop yields and poor access to complementary assets, such as knowledge and credit, were selected for the study. The case study was in the Royal Project Foundation—a project set up by His Majesty King Bhumibol to help rural farmers in the north of Thailand. Initially the project was set up with the aims to replace opium and solve the problem of the slash and burn farming system by promoting temperate cash crops. There was much support from government and non-government organizations through agricultural research and development, forest conservation, and marketing (Royal Project Foundation, 2010). The project operates as a cluster by co-working with supporting organizations to promote and market various agricultural crops. The success of producing and marketing crops to increase income for farmers has been achieved via clustering. Among the high-value products, raising Bresse chickens for meat sale provides high profit margins to farmers. Therefore, it was selected to explore how a cluster has been managed successfully. All actors, their roles and the benefits, and cluster performance were studied.

### Actors and roles of actors in the cluster

The involved actors, roles and benefits were observed through questionnaires and semi-structured interviews. This study used 10 questions proposed by the United Nations Industrial Development Organization (UNIDO) (Dawson & Paris, 2003), and an additional question was proposed to reveal the benefits and roles of each actor in the cluster. The answers to the questions were analyzed to reveal the roles and benefits of actors. The study classified actors into seven groups according to Solvell et al. (2003)—namely, institution for collaboration, firms, government, academia or research community, financial actors, hybrid organizations, and cluster engineers. The participation

and roles of each actor were explored to illustrate how the cluster has been managed.

### **Performance of clusters and benefits to actors in the clusters**

The performance of the cluster and factors related to increasing the capability of farmers and stakeholders was observed. The overall performance was measured by using the farmers' increased income. According to Sen (1985), improving capability was considered necessary for poverty reduction in the long term. Therefore, the scope of the assessment also included capabilities related to poverty, as they reflect the basic opportunity for the well-being for farmers. The indicators of assessment included a set of potential well-being states for relevant actors who were stakeholders in the project, farmers, households, and communities which were adapted from UNIDO (Navid and Barrientos, 2004). They consisted of poverty reduction impacts, revenues, standard of living, dependency, skill, credit, information flow, and governance. For the project's staff, the indicators were standard of living, work status, skill training, employment benefits, and work conditions. At the household level, the indicators were increased income, migratory movement, and social network. Lastly, the benefits for local community were services and social capital. The results can be used to explain the relationship between clusters and poverty and the keys to determine the success factors as well as the performance of the cluster in terms of cash and capabilities provided to actors.

### **Data collection**

In order to reveal the results of clustering, primary data were collected by using interviewing and semi-structured questionnaires designed for each stakeholder. The data providers consisted of production, marketing, and research and development experts from supporting organizations as well as customers. In the area of production, farmers, three staff and an expert (the leader of the

production unit) were interviewed. The interviewees representing the marketing side were a volunteer and the manager and staff of the purchasing unit and the sales managers from the Bangkok and Chiang Mai sales units. The chefs in five-star hotels were interviewed as customers. Data were analyzed by using the framework of cluster analysis. Secondary data were collected from the research and annual reports of the Royal Project Foundation. The results from the survey were used to conclude the relationship between clusters and poverty and keys to determine the success factors of cluster development in terms of the increase in human capital and the increase in the income of farmers.

## **RESULTS**

Support from all organizations helped the project to overcome the constraints to the production and marketing of high value crops. After the cluster was established, the project promoted cluster initiatives internally and externally, as well as performing a series of cluster actions. Currently, there are multiple relevant actors, and they relate to the projects in different ways. The main reasons for bringing together the experts of the clusters from the organizations were; first, they wanted to volunteer as the projects have been initiated directly by the King; secondly, their organizations have policies to support the project; and third, the director of the project gave them opportunities to work and share visions.

### **Actors and roles of actors in the cluster**

There are 19 organizations involved in the Bresse chicken cluster as shown in Table 1. The small-scale farmers joined the cluster as producers. They received all production inputs, credit, and knowledge of production arising from the project.

#### **Firms or companies**

Five private enterprises have been involved in the cluster. They are local merchants; an upper class hotel, two modern trades, and one volunteer

**Table 1** Actors in the clusters

Types of actor	Organization
Firms or companies	<ol style="list-style-type: none"> <li>1. Local merchants</li> <li>2. Private company: one upper class hotel and two modern trades</li> <li>3. Volunteer from private sector</li> </ol>
Government and state enterprises	<ol style="list-style-type: none"> <li>1. Central Government</li> <li>2. Department of Forestry</li> <li>3. Office of Tourism, Chiang Mai</li> <li>4. Bureau of the Royal Household</li> <li>5. Modern Nine TV</li> <li>6. French Bresse Chicken Association</li> <li>7. Royal Project Research Unit</li> </ol>
Academic organizations	<ol style="list-style-type: none"> <li>1. Chiang Mai University,</li> <li>2. Kasetsart University</li> </ol>
Financial actors	<ol style="list-style-type: none"> <li>1. Central Government</li> <li>2. Office of National Research Council of Thailand</li> <li>3. Bank of Agriculture and Agricultural Co-operative</li> <li>4. Donation from Private Sector</li> </ol>
Institution for collaboration, cluster engineer, hybrid organization	<ol style="list-style-type: none"> <li>1. The Royal Project Foundation</li> </ol>

Source: Results from the 2011 survey conducted to ascertain the important actors in each of the clusters

from the private sector. The local merchants are chicken feed suppliers who supply chicken feed to farmers via the Royal Project Foundation. People within the private sector have useful knowledge of business, especially on the market side. Therefore, they play a supportive role in the cluster by helping with the business aspects, especially expanding the market for this product. There are two types of support from individuals in the private sector—those working as volunteers and those working as business partners. The private companies who are business partners or customers often joined the cluster through their own interests as it helps the project promote products sold in their businesses.

#### **Government and state enterprises**

Actors from government and state enterprise organizations were the central government, Department of Forestry, Chiang Mai Tourism Office, Bureau of the Royal Household, Royal Project Research Unit, Modern Nine TV, and French Bresse

Chicken Association. The central government and the Bureau of the Royal Household play a supportive role by managing funds. The Department of Forestry supports the projects indirectly by allowing farmers under the project to live and produce agricultural products in the national forest, albeit with restrictions. Modern Nine TV, the Office of Tourism Chiang Mai and private companies support by helping to promote the project's product. The Royal Project Research Unit manages the funds (with the support of the Office of the National Research Council of Thailand) given to the researchers who help to develop the project's crops. The French Bresse Chicken Association is another important organization which gave the right to produce Bresse chicken in Thailand to the project at the beginning of the development.

#### **Academic organizations**

The involved academic organizations are Chiang Mai University and Kasetsart University.

They provide knowledge on the production of Bresse chicken and enabled the project to set up outlets—namely, the Royal Project shops in Bangkok and Chiang Mai. Chiang Mai University played a role in Bresse chicken quality by conducting research to improve product quality. In terms of production management, an expert from Chiang Mai University works as a volunteer and manages the livestock production unit.

#### **Financial actors**

Financial actors who support the budget are the central government, the Office of National Research Council of Thailand, the Bank of Agriculture and Agricultural Co-operative and companies in the private sector. The continuing research budget support from the Office of National Research Council of Thailand provides funds to the project for research. The fund grant helps to enhance productivity and knowledge sharing between staff and experts from outside. The Bank of Agriculture and Agricultural Co-operative provides loans to farmers via the project's guarantee.

#### **Cluster engineer**

The director of the Royal Project Foundation is a cluster engineer who is an important actor. It was found from informal interviews that personality traits such as openness, and kindness, as well as competencies such as being visionary, facilitative, and excelling in networking influence the success of the cluster initiative.

#### **Institution for collaboration**

The Royal Project Foundation is an institution for collaboration and a hybrid organization to promote the cluster initiative, co-ordinate, and implement clustering action. Monthly meetings between the project's director, experts and staff have been arranged to share the vision, mission, and strategies as well as solve problems. All involved organizations are linked by giving power to the experts of each organization to manage and make decisions in the important working areas such as production, processing, and marketing.

### **Performance of cluster and benefits to actors in the cluster**

The stakeholders who gain from the cluster included the actors who are directly involved in the cluster such as the farmers, the project staff, volunteers from academic and government organizations, and financial actors. The cluster also provides benefits at the community level. The benefits to the main actors are detailed here.

#### **Farmers**

Bresse chicken provides a high return to farmers. The average number of chickens that a household can raise is 50–150 per year, and the average weight per live chicken sold to the project is about 2.5 kg. The profit per kilogram for farmers is about THB 80. Therefore, one household can achieve an annual profit from this product of approximately THB 10,000–30,000. This additional income as Bresse chicken raising is a part time job.

#### **Local community**

In local communities, the cluster under the Royal Project Foundation helps to improve services and the basic infrastructure in villages through the networks of the project. Infrastructure such as roads, the communication system, and electric power are supported by related organizations.

#### **Project and staff**

The strong links between actors in the cluster help to increase the skills and knowledge of the project staff which results in improved working conditions. The successful cluster helps to create jobs as well as provide stability for the project staff. Further the project's staff have the opportunity to learn and share knowledge face-to-face with the specialists from outside as the experts have worked as mentors to undertake research with the project's staff.

#### **Volunteers from academic and government organizations**

As the project has been set up directly by His Majesty King Bhumibol, the experts involved in the cluster feel they are working for the royal family. The project has provided research funds for any

experts who can help to develop the works. This also impacts positively on the key performance indicators of the academic organizations.

#### **Financial actors**

The loans provided by the Bank of Agriculture and Agricultural Co-operative via the project to farmers are an opportunity to access credit that small-scale farmers usually do not have as they do not usually have property rights over land to act as surety for the loan. By granting funds to researchers via the Royal Project Foundation, the Office of the National Research Council of Thailand ensures the effectiveness of its supported budgets due to its bottom-up problem solving and productivity enhancement for rural people.

#### **Capability improvement**

The farmers under the Royal Project have chances to increase their capabilities, especially in terms of improving skills to produce agricultural products, an increased standard of living, and to become more independent. In the Bresse chicken cluster, information and knowledge on production can be transferred directly to the farmers via volunteers and the project's staff in terms of formal or informal training. The project staff who work in the Highlands provide suggestions regarding products during their farm visits which enhance the farmers' abilities to manage the chickens. Food security in households can be met because Bresse chicken can be used as a source of nutrition. Bresse chicken raising has been promoted as an additional product, which can be used to reduce a farmer's dependency on single crop production. Finally, the risks of producing and marketing have been reduced via credit support and information access. The farmers receive all farm inputs from the project and pay for the costs when they sell all the products to the project. This helps them to increase accessibility to farm inputs.

## **DISCUSSION**

Small-scale farmers always face the same difficulties of market accessibility and the ability to produce a product that meets the customer's demands. Therefore, the factors affecting the success of many agricultural product clusters are similar—namely, knowledge and information on production processes as well as strong participation by members, the strength of the network along the value chain, equality of benefits provided to stakeholders, and the ability of cluster coordinators which leads to the effectiveness of product launching into the market. However, the critical key success factors of each agricultural product are different, depending on the characteristics of the farmers, products, and markets. In the case of Bresse chickens which are sold as a premium grade product to gain a premium price, enhancing the capabilities for farmers in remote areas who have scarce resources and face difficulties accessing inputs, the provision of knowledge and information to develop the product as well as the ability to access high-end market consumers are important aspects of the project. The support from many volunteers along the supply chain who have different types of expertise helped the project launch this chicken product into the high-end market efficiently. In terms of human capital improvement, the Bresse chicken cluster managed by the Royal Project Foundation has effective management to transfer knowledge from outsiders to the project's staff and from the staff to the farmers involved in the project in a successful manner. This system empowers the project's staff to work efficiently as well as enabling the farmers to rely on themselves which leads to successful, long term pro-poor outcomes.

## **CONCLUSION**

The major factors affecting the success of the cluster are the support provided along the supply chain from many organizations in terms of

knowledge and finance, and the collaboration among involved actors and institutions. The presence of strong functioning networks and continual support from organizations are the results of effective management as well as the personality of the project's director. Each organization plays significant roles along the chain. The academic and government organizations provide knowledge to develop the quality of Bresse chicken. Adequate physical infrastructure and access to sources of finance are also factors that contribute to success on the supply side. The financial organization provides an opportunity to farmers who usually face difficulty in accessing credit. The support funds used to set up adequate infrastructure help to create vertical integration and result in autonomous management of the whole supply chain. Continual research support is one of the factors that help to facilitate continuous improvement of the work process and products to gain competition in markets.

The major performance outcomes of the Bresse chicken cluster are providing additional income to and increasing the capabilities of farmers in a remote area and of the staff involved in the project as well as the sound management of the geographical knowledge-based transfer throughout the cluster to develop a premium quality chicken product. Further, the cluster provides benefits to involved stakeholders which result in the long-term strength of the cluster. By getting support from various organizations, the project can help farmers overcome the weakness of scarce resources, as well as improving market and information access to supply Bresse chicken to upmarket consumers. The supported knowledge and funds enhance small-scale farmers' abilities to produce high quality agricultural products which lead to increasing income. The vertical integration in the cluster managed by the project can help farmers gain access to and coordinate activities in this market channel as well as help to transmit signals from the market and guide production to meet consumer preferences.

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