*International Journal of Academic Research in Business and Social Sciences*
*September 2014, Vol. 4, No. 9*
*ISSN: 2222-6990*

# Trend Analysis on Egg Production Business in San Jose, Batangas, Philippines

**Anunciacion C. Bernardo**
Paralegal Studies Department, College of Education, Arts and Sciences. Lyceum of the Philippines University, Batangas, Philippines

DOI: 10.6007/IJARBSS/v4-i9/ 1175 URL: http://dx.doi.org/10.6007/IJARBSS/v4-i9/1175

**Abstract**
This study explored on the trending analysis on the egg production industry in San Jose, Batangas. Specifically, this study described the performance of the egg production for the past four years (2009-2012) in terms of chicken layer population, production and annual gross sales; determined the commercial potentiality of the business based on the four-year period and identified the challenges confronting the industry. Using ex-post facto method, the study included municipal agriculturist, resident-owners and backyard poultry farms and members of Batangas Egg Producers Cooperative. According to results, the business is profitable and will continue to prosper in the next five years. Its commercial potentiality is sustainable and viable. However, challenges encountered by the business are high feed costs, disease outbreaks, trade liberalization, technological advances in poultry raising and changing consumers' interests.

**Keywords:** Egg Production, Poultry, Livestock

## Introduction

Batangas has a total of 32 municipalities and two key cities and is divided into four congressional districts. San Jose belongs to the fourth congressional district, which is designated as the agribusiness area of the province. Established on April 26, 1765 as the old *San Jose de Malaquing Tubig*, the fertile soil of San Jose is good for planting coffee, lanzones and black pepper. As a third class municipality, San Jose has experienced major shift in its agricultural patterns over the years.

At present, San Jose is known mainly for its robust livestock, poultry and egg industry. What started as primarily backyard enterprise, the egg production business in this town has now evolved into commercial scale proportion. The proximity of San Jose to Batangas City, Lipa City and to the Metro Manila areas ensure the municipality of commercial linkages. As a matter of fact, the municipality is dubbed as the *Egg Basket of the Philippines*, generating an estimated five (5) million eggs daily (Office of Municipal Agriculturist, San Jose).

Entrepreneurs have the awareness of past, current and future issues affecting their future business enterprise (Laguador, 2013). Premised on this socio-economic milieu and as a potential resident- entrepreneur, the researcher was inspired to examine the commercial potentiality of the local egg industry in San Jose, Batangas within a span of four (4) years, from

2009 to 2012, and determine the challenges or problems that have confronted said industry over the same period.

The outcome of this study will be useful for local egg producers and agricultural land owners not only in the Municipality of San Jose, but also for the Province of Batangas in order to determine whether egg production is a better alternative than crop production (black pepper, coffee and *lanzones*). This study will also aid also aid the farmers' organizations like cooperatives and corporations, feed-milling entities and local government officials in funneling financial assistance focused on the improvement and expansion of agri-business in the Province.

**Objectives of the Study**

This study performed a trending analysis on the egg production industry in San Jose, Batangas. More specifically, the following are the objectives of this research, to present the performance of the egg production business in San Jose for the past four (4) years (2009 to 2012), in terms of chicken layer population, production and annual gross sales, to determine the commercial potentiality of the this business based on this four-year period and to identify the challenges confronting this industry.

**Methods**

This action research employed the *ex-post facto* method. Informants of the study included the Municipal Agriculturist of San Jose, Batangas, as well as resident-owners of commercial and backyard poultry farms and members of Batangas Egg Producers Cooperative (BEPCO). The interview method was utilized to corroborate the numerical figures or data obtained from the Office of the Municipal Agriculturist and Environment and Natural Resources (MAENRO) of San Jose, Batangas. This study utilized the frequency distribution and regression analysis to present the trend analysis of the performance of the egg industry business in terms of chicken layer population, egg production and gross annual sales of San Jose, Batangas. Verbal request was made by the researcher to the Head of MAENRO of San Jose, Batangas. The same procedure was undertaken with the private individuals, most of whom are residents who own poultry farms, from backyard to commercial scale. Selected cooperators and members of the Batangas Egg Producers Cooperative (BAEPCO) were also interviewed.

**Results and Discussion**

**Performance of the egg industry in San Jose based on chicken layer population, egg production and sales**

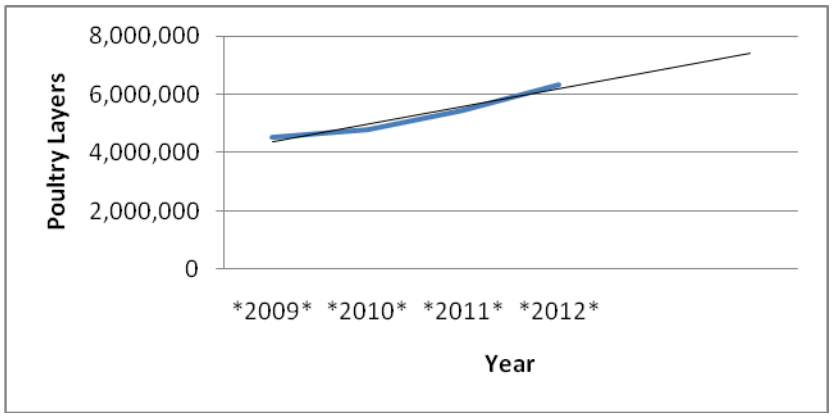


Figure 1. Population of Poultry Layers
(Based on Annual Reported Chicken Layer Population in San Jose, Batangas)

**Figure 1** presents the population chicken layers from 2009 to 2012. It can be gleaned from this figure that there was substantial increases in the number of laying chickens year after year. Between 2009 and 2010, there was population growth of 1.06 percent, between 2010 and 2011, there was 1.13 percent increase and between 2011 and 2012, there was 1.16 percent increase.

Based on the linear forecast presented in **Figure 1**, chicken layers in San Jose will increase in the next two (2) to five (5) years, which is from years 2013 to 2018.

The incremental growth of chicken layers in San Jose is supported by the report published by the Bureau of Agricultural Statistics in Asian Poultry (July, 2012) which presented that the Philippine poultry production rose by 7.06 percent in the first three months of 2012. Chicken egg production went up to 106,100 tons for the first three months, up 6.92 percent year-on-year. This is due to an increase in the number of laying flocks in key producing regions like Central Luzon, Calabarzon, Western Visayas and Central Visayas. Better laying efficiencies were also reported in several regions.

The numerical representation in **Figure I** is likewise justified by BAS 2011 report indicating that the poultry sub-sector (chicken meat and eggs) contributes 13.91 percent to total farm output and posted a growth of 3.99 percent. The gross value of poultry production, meat and eggs, at current prices, amounted to P116.3 billion, up by 2.63 percent from last year's record (Asian Poultry, July 2012).

An informant, Rudy Ona, who is a commercial egg producer in Lumil, San Jose, Batangas discloses that his chicken layers increased from 30,000 to 80,000 in the last five years due to his close supervision. Monitoring of feed efficiency, egg quality and chicken breed livability are critical in egg production business.

In a similar vein, the Asian Poultry (July 2011) reported that the increase in world consumption of eggs is influenced by the production efficiency of increasing number of chicken layers. Egg

quality, egg number and livability of chicken layers are affected by the rising cost of poultry feeds and so good feed efficiency is now more important than ever. World research and development contribute to a great extent to the genomics of chicken layers, which is a fundamental consideration in choosing their breed. In order to register a positive population growth of chicken layers, the "World Nutrition Forum" stated that in recent years, the cost of poultry feeds has risen and so good feed efficiency is now more important than ever. It is therefore critical for geneticists to consider all the demands from the market place, such as egg quality, egg numbers and livability (International Poultry Production, July 2012).

In another interview conducted with a former poultry owner, Dexter Buted, it was found out that raising poultry layers is not an easy task. A hands-on management is a significant relevant consideration for the poultry business to sustain profitability. Profit realization margins are lower if the production efficiency slumps down to 80 percent. Likewise, feed conversion ratio (FCR) must always be monitored since chicken layers are feed *ad libitum.* The success and failure of a poultry business enterprise depend greatly on good management, choice of chicken layer breed, feed efficiency, preparedness for disease outbreaks and egg quality.

Another informant from Barangay Palanca, San Jose, Apolinario Patron revealed that he started his poultry business in late 1990's when he availed of early retirement abroad. He stated that the volatility of egg prices in the domestic markets controls the profitability of an egg production business. During hot months, there is higher rate of mortality of chicken layers. Egg consumption also decreases during the summer months when the most of the student population are on vacation, and therefore egg prices also decrease.

According to Mr. Patron, in order to combat the volatility of egg prices brought about by the hot summer months, the egg processing plant which will soon operate in San Jose, will combat the problem on over-supply of chicken eggs from March to June. As a member of the Batangas Egg Producers Cooperative (BEPCO), he has committed a portion of the egg output from his farm to sustain the required 160,000 daily egg capacity of the plant for interested food and manufacturing clientele.

The numerical presentation in **Figure 2** shows the number of eggs produced on a yearly basis, from 2009 to 2012. The linear forecast also reveals that within the next two (2) to five (5) years, there will be an incremental increase in chicken egg production in San Jose, Batangas. The numbers herein presented will give the egg producers of San Jose a brighter outlook in the industry, considering that most of them are commercialized poultry-raisers and has expanded their businesses in the late 1990's.

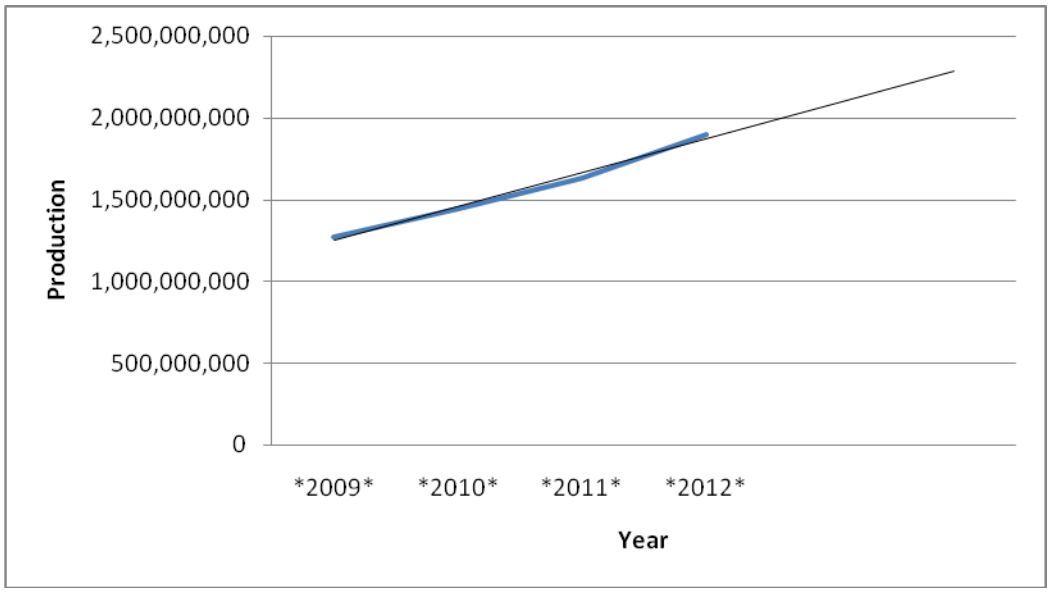


Figure 2. Egg Production in San Jose, Batangas
(Based on Annual Reported Population of Poultry Layers in San Jose, Batangas)

In the figures presented by the Bureau of Statistics (BAS) in 2010, the over-all chicken production grew by 4.01 percent in 2010. Chicken egg production, which is a segment of the over-all chicken production, grew by 5.12 percent. This was a justified figure due to a higher inventory of laying flocks in 2010, combined with increases in the egg-laying efficiency ratio of hens in several provinces.

An informant in this research, Rosel Mendoza, owner of ALROS Farms located in Barangay San Jose, Batangas asserted that egg production is a better business undertaking than swine (fattener) production, because the integrated process in swine business (growing, farrowing, gestating, weaning and finishing) takes more than one (1) year, while the process of producing egg takes less a year. Cost of production in fatteners is higher than in egg production. Besides, importation and technical smuggling of meat is more widespread than eggs. Table eggs are difficult to import due to handling and relatively shorter shelf life than frozen meat, like pork and chicken.

In closely monitoring the egg-laying efficiency of chicken layers, it must be borne in mind that the flock quickly reaches peak egg production (90 plus percent) around 30 to 32 weeks of age. Post-peak production (after 30 to 32 weeks of age) continually decreases to approximately 50 percent around 60 to 70 weeks of age (International Poultry Production, March 2009). At this point, an economic decision must be made by the producer; fifty percent production is near the “break-even” point for egg producers, which is feed cost equals market price of eggs. When the flock reaches 50 percent production, producers commonly decide to molt the flock in order to achieve a higher level of egg production (Animal Husbandry and Agricultural Journal, August 2012). Typical farms have slower production efficiencies which averaged 278 – 303 eggs per layer per year (cited in International Poultry Production, August 2012)

The production efficiency of a chicken layer depends largely on the properties of chicken in terms of weight and other attributes. A day-old chick (DOC) is the final product of cross breeding done started from Purelines. These Purelines are crossed to get Great Grandparent (GGPs) and then Grandparents (GPs). GPs are further crossed to get parents and the offspring of parents are sold as DOC) (International Poultry Production, August 2012)

According to International Poultry Production (August, 2012), a layer DOC takes 18 to 20 weeks before it starts laying eggs and egg production usually happens until the 72nd week of layer's life with an average production of 300 to 320 eggs (250 to 260 table eggs and rest hatching eggs) during its lifetime.

Being a basic food item, the chicken egg is regular component of every family's home. According to "World Nutrition Forum," the growth in world egg production is following the growth of the human population. Over the last two decades, the *per capita* consumption of eggs has risen from six (6) kilograms to ten (10) kilograms (International Poultry Production, August 2012).

The increase in egg production within the period 2009 to 2012 can be accounted for by advances in feed formulation. For one thing, these advances not only result to productivity but also better hen health and welfare than ever before. Better quality feed also means better quality eggs, which bring further benefits to consumers (Verleun, 2011)

According to International Poultry Production (July, 2012), not only the advances in feeds formulation influence the increase in the efficiency of chicken layers to produce eggs. Other factors such as (1) water availability; (2) body weight of layers; (3) lighting facilities and temperature regulations; and (4) culling programs are also primarily considered as contributory to the growth of chicken egg production.

Looking forward, the chicken layer of 2020 is greatly improved hen with the following profile: 10 to 12 eggs per hen, 7 grams less feed per egg, less cannibalism and better livability, many flocks without beak trimming and more flocks dedicated to healthy eggs (Olegario and Veronica, 2011)

The graphical presentation in **Figure 3** illustrates the gross sales in Peso unit of chicken eggs from San Jose, covering the years 2009 to 2012. It must be noted that the basis of the gross annual sales is the average price of chicken eggs for a particular year. Based on the figures obtained from the Office of the Municipal Agriculturies of San Jose, in 2009, the average price was at P3.75, in 2010, at P3.80, in 2011 at P 3.89 and in 2012 at P3.93.

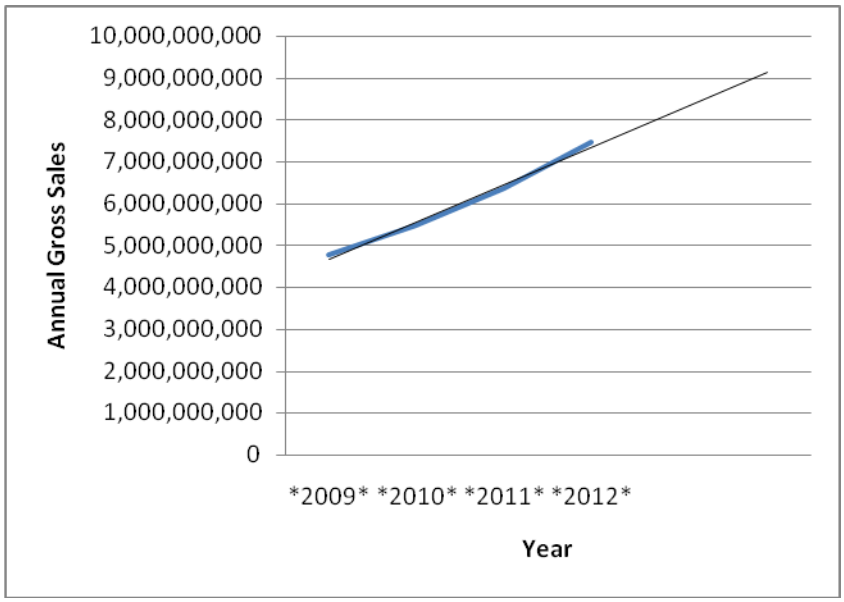


Figure 3. Annual Gross Sales
(Based on Average Price Per Egg)

Noticeably, the price per egg increased only by a matter of centavos. From the gross annuals sales presented in Figure 3, it can also be gleaned that not only the price per unit contributed to the incremental income of San Jose, but also the upward trend in terms of production, due to increase in chicken layers which have already been discussed earlier in Figures 1 and 2 which presented the egg production graph covering 2009 to 2012.

The upward propensity shown in the linear forecast in Figure 3 clearly indicates that the annual gross sales of chicken eggs will increase in the next two (2) to five (5) years.

According to the Municipal Agriculturist of San Jose, the 2012 gross income per day of egg producers in said town is at P19 million, where the average price was at P3.90 per egg, hence the annual gross sales was pegged at close to P7.5 billion.

The widespread adoption of modern technology in poultry equipment, advances in feed formulation, breed trait emphasis, optimal environmental and hygienic conditions and disease outbreak preventive measures are among the factors that contribute to the positive growth in sales of eggs in San Jose (Animal Husbandry and Agricultural Journal, October 2011 and Sluis, 2012).

The graphical presentation in Figure 3 is supported by the national data presented by the Bureau of Agricultural Statistics for year 2012. According to BAS report, the poultry sub-sector, which comprised 14.3 percent of the full year farm output in 2012, registered a 4.5 percent growth, grossing at P167.1 billion. Chicken meat production grew by 4.6 percent and egg by 4.4 percent respectively (www.poultrysite.com). These findings are further supported by the report of Philippine Association of Feed Millers, Inc., (PAFMI) which declared that the top egg-

producing region in the Philippines is CALABARZON Region, where the bulk of chicken eggs originate from Batangas Province. Numerical figures point to 41 percent of the total egg supply in the entire country come from the Province of Batangas. San Jose alone accounts for 22 percent of egg supply in the whole nation.

**Commercial Potentiality of The Egg Production Industry in San Jose, Batangas**

From all the graphical presentations earlier discussed, it is not difficult to conclude that there is a great potentiality for the egg production industry in San Jose, Batangas. From the backyard poultry-raising which the 1960's saw in this little town, the early 21st century witnessed how the industry has grown into large commercialized proportions. This breakthrough business in egg production created San Jose to be the *Egg Basket of the Philippines,* a town that eggs made and a town that is home to over 6 million heads of chicken layers.

An interview with Rudy Ona, owner of Ross Farms in Barangay Lumil, San Jose, Batangas, has an estimated chicken layer population of 75,000. He stated that there is greater sustainability in the business of egg production than in crop production, such as coffee beans, *lanzones* and black pepper. Market-based consumption greatly influences the increase in chicken layer population, production and annual gross sales of San Jose's prime commodity, the chicken egg. In the 1960's, a large part of San Jose's agricultural land was tilled to grow the above-mentioned crops, but most farmers shifted to poultry farming at the outset of 1970's. The continuous fertility of agricultural land becomes less effective and no longer yield good crops with the passage of time.

As a food commodity, the chicken egg has become a staple component in the table of every Filipino family. This is the general statement of informant, John Paul Briones, sole proprietor of Goodwill Farm Enterprises, with over 75,000 chicken layers in Barangay Salaban, San Jose Batangas. According to him, there is great potential for the industry to grow both in production and in sales, owing to the affordability and nutritional benefit that can be derived from the chicken egg, coupled with the continuous increase in the country's population. With much pride as a farmer-entrepreneur, he further stated that the chicken egg is a good source of animal protein, even better than pork and chicken meat.

Another research conducted in 2012 reveals that by 2015, 7.2 billion people will be living on the planet Earth of which 2.6 billion will live in China and India. An increasing share will reside in urbanized areas totally dependent from food produced at remote distances. Meanwhile, average income will grow which will fuel egg consumption and consumer preference, while facing a growing insufficiency of food, water and energy on a global scale (Sluis, 2012).

Reverting to Aho's research (2010), it was declared that while economic recessions in the world provide a preview of the limits of growth in food sufficiency, poultry is the most sustainable major meat compared to pork and chicken. Eggs are the most sustainable animal protein. The growth in world egg production is following the growth of the human population (International

World Poultry Production, 2012) and the world will need 70 percent more food in 2050 and by the same time 70 percent of the population will be urbanized (www.dels.nas.edu/resources/).

**Challenges in the Egg Production Industry of San Jose, Batangas**

Based on the interviews with San Jose egg producers, the more difficult challenges they constantly have to deal with can be ranked in terms of the degree of relevance in the egg production business, to wit: (1) high inflation rate; (2) low farm-gate prices and (3) high feed costs, combined with supply shortage of corn. Chicken layer feeds account for 60 to 70 percent of the cost of production. Hence, if prices of major feed ingredients such as soya and corn increase in the world market, then the local price per unit of chicken egg is likewise affected.

Tracing the trend in egg prices beginning in 2005, the market prices slumped down during said period due to oversupply of table eggs and layer chicks. As a result, local breeders and poultry owners cut back on their production. Consequently, prices of eggs commanded a good price between 2006 and 2007 as a result of the cutback and many egg farms in San Jose expanded their production capacity to commercialized proportions. As a consequence, the national layer population in 2006 was reported to be between 23 and 24million (San Diego, 2012)

In relation to the nutritional benefit of the chicken egg, a study conducted by Martinez (2007) reveals that despite consumer realization that chicken egg is the usual type of egg available in local markets and is affordable by the ordinary citizen, its production is often beset by high cost of production due to expensive vaccines, unfavorable environmental conditions not conducive to high production output, high vulnerability to disease outbreaks, lack of logistical support such as poor farm to market roads and the compounding competition from imported eggs and meats (Thidakan, 2009).

In another vein, the differences in the perspective of egg producers and consumers likewise pose a challenge in the industry. Interviews conducted among farmers-businessmen of San Jose reveal that being entrepreneurs themselves, they are mainly concerned with the profits that they will reap out of each unit of space in their poultry buildings, while consumers demand for a highly nutritious food product like the egg, that can be purchased at the lowest possible cost. Ordinary consumers, whether educated or not, complain that egg prices are high in the retail market, but farm-gate prices are low (Olegario and Mataran, 2011). Coupled with global concerns on food safety, animal welfare and environmental protection, the conflicting and often dichotomized perspective between food manufacturers and consumers constitute a gargantuan challenge to the entire egg production industry.

To worsen the conflicting scenario between the egg producer and an ordinary consumer, the latter's interests change with the advancement of technology. They are no longer content with the nutritional value of the egg, but how the egg is produced. Thus, the production method is no longer just the concern of the egg producer, but has now become a major point of attention for the educated consumer. This is particularly so in developing countries like the Philippines (Olegario and Matawaran, 2011).

*International Journal of Academic Research in Business and Social Sciences*
*September 2014, Vol. 4, No. 9*
*ISSN: 2222-6990*

It must however be borne in mind that even economically-efficient production of high quality products for an affordable price is no longer the latest state of the art for meat and egg producing integrations. Next to a rising number of legal requirements, retail, non-governmental organizations and increasingly educated and interested consumer groups make high demands on food safety, animal welfare, traceability, transparency and sustainability. To keep up with these **challenges,** comprehensive solutions for the whole supply chain and a holistic approach is the key to the future in the egg production business (Nagy, 2012)

While there is much optimism in the future of the egg production business in San Jose, Batangas as illustrated in the graphical presentations in **Figures 1 to 3,** it is also submitted that such enterprise also brings about revenues in the allied industries which it creates. These linked industries include feed milling, marketing and distribution, manufacture of veterinary drugs and supplies and importation of feed ingredients and modernized poultry equipment and facilities (Asian Poultry Journal, June 2011).

With the growing number of egg producers in San Jose, it is therefore not difficult to conclude that another huge enemy of the local egg industry resides in the volatility of fuel prices, often dictated by the oversupply or scarcity of sources of energy. The availability or insufficiency of reliable sources of energy required for manufacturing animal feeds could either sustain or destroy the entire egg production business and its allied industries, not only in San Jose, but also in the entire country.

The challenge posed by the high feed cost for chicken layers brought about by staggering economic recessions and global climate changes are exacerbated by the entry of a multi-national food manufacturing conglomerate in the Philippines. According to John Paul Briones, from Barangay Salaban, San Jose, and Rudy Ona from Lumil San Jose, both egg producer tycoons from this town, the presence of Charoen Pokphand Foods (CPF), Philippines will surely cripple the growing industry not only in their own hometown where the egg is considered by the Department of Trade and Industry as its OTOP (One-Town-One-Product), but all throughout the Province of Batangas, which supplies almost 42 percent of the nation's demand for chicken eggs (www.dti.gov.ph).

Charoen Pokphand Foods, Inc. a leading Thailand-based agro-industrial and food conglomerate manufacturing company which is already operating in Europe and neighboring Asian countries. Armored with a vision to be the *Kitchen of the World,* the core businesses of this company are primarily concentrated on livestock and aquaculture (www.cpf.co.th/new/public/cpf/corporate/company09).

Given that this company is already enjoying subsidies from the Thai Government and that it is still enjoying a five-year tax holiday from the Philippine Government, it is not difficult to forecast that soon, this food conglomerate will command a "predatory pricing" of locally manufactured chicken eggs and will cause most poultry farms to close shop (Sotelo, 2013).

*International Journal of Academic Research in Business and Social Sciences*
*September 2014, Vol. 4, No. 9*
*ISSN: 2222-6990*

While it is true that in any business enterprise, the main challenge lies in competition, the local egg production industry which looks upon the Government as its protector, shielding it from foreign competition, it is still unthinkable for most egg producers in San Jose, how this same Government has allowed the entry of a foreign "corporate behemoth" upon whose hands the food security of the nation will in the future depend (Sotelo, 2013).

The status of San Jose as the *Egg Basket of the Philippines* was not simply magical. It was an economic milestone which the town earned throughout the years through perseverance and industry. From a basically upland rice-dominated economy, it became a fruit and plantation-based agricultural economy and is now known as a major egg producing municipality, hence, the *Egg Basket of the Philippines,* where half of its residents are engaged in poultry farming. Despite the difficulties that abound, this farmer-turned-egg producer from San Jose is not ready to surrender this milestone.

**Conclusions and Recommendations**

The business of egg production in San Jose is profitable and will continue to grow in the next five (5) years. The commercial potentiality of the business is sustainable and viable. The challenges encountered by the business are high feed costs, disease outbreaks, trade liberalization, technological advances in poultry-raising and changing consumers' interests.

It is recommended that the Philippine Egg Board, in coordination with farmers' organizations in San Jose must pursue promotional campaigns to boost egg consumption in the country and enhance the production and marketing efficiency of the egg industry through manuals, media and electronic sources. The Department of Agriculture (DA) must provide an environment that is conducive to investment and productivity improvements to backyard poultry-raisers by extending agricultural financial assistance through cooperatives.

The Department of Trade and Industry (DTI) must continuously support its One-Town-One-Product (OTOP) program by providing business counseling, appropriate technologies, skills and entrepreneurial training, marketing and product designs and development to resident-entrepreneurs of San Jose, Batangas.

The Batangas Egg Producers' Cooperative must come out with a protocol for best practices in chicken egg production by initiating seminars and conventions among farmers' organizations on the profitability of liquefied egg production in the Egg Processing Plant in San Jose, Batangas.

In coordination with the Department of Agriculture, the Board of Investments must initiate protectionist economic policies to guarantee the growth of the local egg industry despite the threatening effects of trade liberalization in 2015.

Philippine Congress must review, revise and amend the oppressive provisions of the Foreign Investments Act to equalize opportunities for locally-manufactured poultry products.

*International Journal of Academic Research in Business and Social Sciences*
*September 2014, Vol. 4, No. 9*
*ISSN: 2222-6990*

To move toward international cooperation, the Department of Agriculture must eye for new overseas markets for locally produced poultry products, following the removal of trade barriers under the Asean Free Trade Agreement (AFTA).

To future researchers, a separate study on the profitability, viability and sustainability of livestock production of pork and chicken meat in San Jose, Batangas is suggested.

**References**

*A Brief on the Philippines and Asean Free Trade Agreement,* (2010), retrieved on March 8, 2013 from http://philippinesintheworld.org/sites/default/files/

Aho, Paul (2010), "*Feeding the World and the Role of Poultry,"* retrieved on February 16, 2013 from http://dels.nas.edu/resources/statis_assets/

Bas, Rodenberg, *"Preventing Feather Pecking in Laying Hens,"* Animal Husbandry and Agricultural Journal, June 2011.

Belzer, Les (2012), *"Objectives of the Asean Free Trade Agreement,"* Market Reports 2013 – 2016, retrieved on March 12, 2013 from www.ehow.com/info_8072618_objectives-asean-trade-agreement/

Bureau of Agricultural Statistics official website – www.bas.gov.ph

*CPF Jumps to Philippine Opportunity.* (2012), retrieved on March 20, 2013 from http://www.cpf.co.th/new/public/cpf/corporate/company09/

*Chicken Industry Update,* (2009), retrieved on February 27, 2013 from http://www.thepoultrysite.com/articles/1364/Philippines_poultry/

*DA Seeks More Poultry, Livestock Exports,* March 4, 2013, retrieved on March 12, 2013 from http://www.thepoultrysite.com/poultrynews/vars/country/ph

Department of Agriculture official website – www.da.gov.ph

Department of Trade and Industry official website – www.dti.gov.ph

*International Egg and Poultry Review: Philippines,* (2011), retrieved on March 12, 2012 from http://asianchicken.wordpress.com/2011/04/25/philippines-international-egg-and-poultry-review-philippines-april-20-2011/

Laguador, J.M. (2013). A Correlation Study of Personal Entrepreneurial Competency and the Academic Performance in Operations Management of Business Administration Students, International Journal of Academic Research in Business and Social Sciences, 3(5): 61-70

Martinez, Czarina (2007), "*Beef Up – Feast on Meat and Eggs"* retrieved on February 16, 2013 from http://www.philegg.com/eggnutrition/

Nagy, Katalin *"Integrated Solutions,"* International Poultry Production, August 2012.

Olegario, Paul and Matawaran, Veronica (2010), "*Future of Poultry Breeding and Production: Profile of the Chicken Layer of 2020,"* Animal Husbandry and Agricultural Journal, July 2011.

San Diego, Gregorio, *"What's Troubling the Philippine Chicken Industry?"* Asian Poultry Journal, October 2012.

Sotelo, Yolanda (January 12, 2013), "*Traders ask gov't to shield from Thai 'corporate behemoth'* (January 12, 2013), retrieved on March 12, 2013 from www.inquirer.northernluzon.net

Sluis, van de Wieber, *"Poultry Processing Companies to Follower Consumer Demands,"* World Poultry Journal, September 2012.

Thidakan, Rujipattanakul (2009), *"A Chilled Egg a Day, Keeps the Doctor Away,"* International Poultry Production, August 2012.

Verleun, Theo, *"The Health and Value Equations in Egg,"* Asian Poultry Journal, June 2011.

Zigger, Dick, "*The Value of Bio-Fuel Co-Products as Livestock Feed,"* All About Feed Journal, September 2012.

**Poultry and Eggs: Volume of Production**
**Poultry Products, Period and Year, in thousand metric tons**

| | Chicken eggs | Duck eggs | Chicken | Duck |
|---|---|---|---|---|
| 2000 | 243,381 | 53,465 | 997,816 | 51,490 |
| 2001 | 246,700 | 53,913 | 1,098,793 | 53,520 |
| 2002 | 260,830 | 53,633 | 1,173,738 | 54,107 |
| 2003 | 274,813 | 54,044 | 1,188,738 | 53,903 |
| 2004 | 296,576 | 56,593 | 1,231,794 | 53,195 |
| 2005 | 320,322 | 53,232 | 1,215,674 | 49,380 |
| 2006 | 330,288 | 50,027 | 1,205,951 | 45,987 |
| 2007 | 335,104 | 46,990 | 1,211,622 | 42,456 |
| 2008 | 350,789 | 42,454 | 1,281,343 | 39,206 |
| 2009 | 368,464 | 39,617 | 1,300,898 | 35,928 |
| 2010 | 387,335 | 36,676 | 1,353,127 | 32,978 |

Source: Bureau of Agricultural Statistics, www.bas.gov.ph