

## Livestock and Poultry Industry Development in The Philippines: Potentials, Problems and Policies

D.B. Roxas

Institute of Animal Science, U.P. Los Banos, College, Laguna, Philippines

**ABSTRACT:** The livestock and poultry industry in the Philippines contributes a major share in the economic stability of the country. While the population of swine and chicken are increasing, that of ruminants, especially cattle, is decreasing. Efforts of the government to curb this alarming decline in population have been embedded in the medium term program for livestock development. Among the important steps include importation of breeder females to improve the breeding base, intensified use of artificial insemination, and strengthening of support facilities for promotion of livestock. Research in animal science and

production are geared towards more practical application especially at the farm level. While commercial farms continue to rise as a result of promising prospects in livestock business, the role of smallholder farms should be considered in the light of their traditional importance as a main supplier of livestock products. Genetic conservation of indigenous stocks of livestock and poultry is necessary to maintain a source of germplasm for development of breeds/strains more adapted to local conditions. Government policies on importation of meat products need to protect the interests of local producers.

Key Words: Philippines, Livestock and Poultry Industry

### Introduction

Livestock and poultry production in the Philippines is a major component of the country's economy, contributing as much as 6% to the gross domestic product. The industry has a big potential to contribute greatly to the foremost objective of the country's agricultural development program that of increasing farmers' incomes.

It is evident that the livestock and poultry industry contributes a significant portion of the livelihood of the workers involved in animal raising. It is estimated that the industry has paid as much as P7 billion worth of salaries and wages to its employees. This represents more than 50 % of the total operational expenses in animal raising. The livestock industry will have an annual growth rate of more than 4.5%. The poultry subsector is expected to register a 7% annual growth rate. These projections are based on increased productivity, increased supply of feedstuffs, notably corn, and increased consumer demand for meat products, among others.

### Status of Livestock and Poultry Industry

#### *Livestock and poultry production systems*

The swine and poultry components of the industry are relatively well developed. While the smallhold farmers still form the majority of the raisers, the contribution of large integrators and medium scale raisers are also substantial. On the other hand, the ruminant sector is largely on smallscale basis, as its population accounts for more than 90% of the total. The dairy industry is practically non-existent.

#### *Animal population*

Hog and chicken dominate the animal population in the Philippines (Table 1). Traditionally, the Filipinos prefer pork and chicken meat over beef. Also, beef supply is quite low and is more expensive than the pork or chicken. Some 15 years ago, cattle population was about 3 million head, and carabao population, 3.5 million head. At present there is a decline in livestock population to 1.8 and 2.6 million, respectively. Hog and chicken populations are quite stable. Duck population increases, and duck meat is slowly gaining popularity among consumers, although its



price is still lower than that of chicken. It is raised mainly for eggs. Meat from small ruminants are not yet commonly found in public markets. However, its important role in providing additional protein for smallhold farmers is being given due attention.

### Potential for Development of the Industry

#### *Demand for meat and meat products*

The present human population in the Philippines is more than 60 million, with a steady annual growth rate of more than 2%. With the continued population increase, the livestock and poultry industry is expected to grow proportionately, to meet the corresponding increase in demand. The Philippines is on its path to economic recovery. Family incomes are also increasing, brought about by increasing opportunities for employment, better investment ventures and a general improvement in the standard of living among the Filipinos. These trigger subsequent increase in purchasing power, thus improving the per capita consumption of meat and meat products. Table 2 shows that the per capita beef consumption is increasing, while those of pork and chicken meat are not changing very much. This indicates consumer shift to the more expensive meat as a result of increased purchasing power. Table presents the increasing trend in number of head of slaughtered animals in the Philippines.

#### *Efficiency of production*

With the use of new improved strains of livestock and poultry, productivity as well as production efficiency have also been improved. Nowadays the average daily gains (ADG) of growing swine reach as high as .7-.8 kg, with feed conversion efficiencies (FCE, kg feed/kg liveweight gain) of 2.5 or better. Imported feeder cattle raised in feedlot could reach ADG of 1.4 kg with increased level of management, including use of higher amounts of concentrates and high quality forages in the feeding program (Aranez, 1993).

#### *New and alternative feed resources*

Animal scientists are continuously searching for ways to improve the feed resource base of especially the smallholder livestock raisers. Introduction of high yielding varieties of forage grasses and legumes into the farming system is being demonstrated in order to show the farmers the

potential increase in their income with assured feeds for their animals (Roxas and Topark-Ngarm, 1988). The use of urea-molasses-mineral block for cattle and carabaos is being promoted as a means to ensure protection from mineral deficiency, plus additional energy and NPN. Ensiling of forages is perceived as a better alternative to hay making, since forage supply is most abundant during the rainy season, when it is also almost impossible to process forages into hay.

Even the principal crop residues such as rice straw, corn stover, legume stovers and sugarcane tops are given attention for possible increases in feeding value. Improvements by way of genetic considerations are being explored, especially in the use of dual purpose crops (Roxas et al. 1984; Khush et al. 1988; Roxas et al. 1989).

In swine and poultry feeding, the use of alternative protein feeds such as cowpea (*Vigna unguiculata* Walp) (Millamena and Lopez, 1988) and mungbean (*Vigna radiata*) has produced promising results. These legume species are already being utilized by farmers in their cropping systems. Thus, the market problems for these products are also solved.

### Biotechnology

The recent upsurge of interest in the application of biotechnology in livestock and poultry production has opened up new avenues for improvement of the industry. The renewed interest in the use of artificial insemination as a tool to carry out the animal breeding programs has resulted in development of improved strains of animals that have better productive and reproductive efficiencies. Semen of superior breeding records are imported into the country, for use in upgrading the native stock. Artificial insemination offers an advantage in effecting a rapid genetic improvement in animals; it also limits the importation of superior bulls into the country to the minimum (Bondoc et al., 1994).

The Philippine Carabao Center has been entrusted by the government to improve the carabao by infusing superior genetic bloods of riverine type water buffaloes (Murrah or Nili-Ravi), and also, by selecting for superior native carabao males. The crossbred Phil-Murrah or Phil-Ravi are characterized by bigger calf, better ADG and higher mature weight, compared to native carabaos. In their extension program, the



staff of PCC uses both artificial insemination and estrus synchronization especially in remote rural areas wherein there is a need to carefully program the insemination in order to attend to as many carabao cows as possible. The response of the farmers to this program has been very encouraging.

The use of multiple ovulation and subsequent embryo transfer in taking advantage of obtaining as many offsprings as possible from a genetically superior animal, particularly in cattle, is opening new horizons to genetic improvement in animals, together with artificial insemination. This is a possible alternative to importation of live animals for breeding purposes, thus saving the country's foreign reserves. However, the development and widespread use of this technology has been hampered by expensive equipment involved, as well as insufficient training of technicians who do the job.

### Problems of the Industry

#### *Declining livestock population*

Cattle population continues to decline at the rate of 1.1 % a year, from 1980 to 1992. This is mainly due to uncontrolled slaughter of animals even if they are still fit for breeding, brought about by the existing demand for beef. There is a need to build up this population, otherwise, the country will eventually depend wholly on imported beef. The recent shortfall in beef supply has been partly solved by easing up the import restrictions; thus allowing importation of as many as 74 thousand head of beef cattle from Australia in 1993 (Taylor, 1994).

#### *Low productivity*

More than 70% of the industry is classified as smallholder (or backyard) raisers. The productivity of backyard raisers, however, is limited by inefficient feeding and breeding management, processing and marketing problems, which are normally ably tackled in integrated commercial livestock and poultry operations. Beef cattle, especially those being used for dual purposes (meat and draft), could gain only about 200-400 g per day, while feeder cattle in commercial feedlots could gain as much as 1.5 kg per day. It is noteworthy to state that the more modern systems of livestock production are being disseminated to farmers, with encouraging results.

#### *Lack of breeding stock*

One of the biggest problems hampering the development of cattle industry is lack of breeding base. In many cases, even pregnant animals find their way into the slaughterhouse, because of increasing demand for beef. Carabaos being used for draft purposes are normally bred; it is not unusual to find 5-6 year old female carabaos that have not yet given birth. Laws to protect breeding animals (carabao slaughter ban) have not been strictly enforced.

#### *Feedstuff supply inconsistencies*

The poultry and livestock industry is dependent to a large extent on the corn industry. However, corn production is having its own problems, such non-availability of adequate post-harvest facilities like grain drying, storage, and transport facilities. The country's big corn farms are located in Mindanao, and its transport to the processing areas which are located mainly in Luzon, entails higher landed cost. It is four times more expensive to transport corn from Davao to Manila than from Bangkok to Manila. In cases whereby corn harvest is booming, the excess has to be marketed at lower farmgate prices, thus causing the farmer to lose money. This is mainly due to the limited capacity of the post-harvest system to absorb such excess. It is estimated that as much as 30% of corn produced is lost due to improper post-harvest handling. This is equivalent to more than 1 million metric tons per year!

The corn raising areas are also situated in places wherein there is distinct dry and wet seasons; thus about 70% of the corn is mainly raised during the rainy season. This further aggravates the processing problem. This contributes further to the seasonality and hence, instability of corn supply. Importation of corn has to be resorted to as a stop-gap measure especially during lean periods.

Market structures. One of the biggest problems faced by livestock farmers is market stability. The prices of both live animals and meat fluctuate so often. This results from unstable supply of these products in the market. The net benefits of the farmers are reduced tremendously.

The other problem is transport of animal products from the farms to highly populated areas such as in Luzon, wherein MetroManila is located. As far as swine and poultry sector is concerned, this is not much of a problem; however, cattle



raised from ranches are grossly affected. Most of the ranches are located in Mindanao and the Visayas, and the transport cost of these products to Manila causes reduced farmgate prices, to the detriment of the ranchers.

#### *Law constraints*

For quite sometime, the law called carabao slaughter ban, prohibits slaughter of female carabaos under 11 years old and male carabaos under 7 years old. It also prohibits transfer of carabaos across provinces. This law was promulgated to prevent the wanton slaughter of carabaos, thus considerably reducing the population. This animal plays a very vital role in agriculture as a main source of draft power, especially in rice culture. Carabao meat is passed on as beef in the market. The government, however has not been very effective in enforcing the law.

### **Government Policies for Livestock and Poultry Development**

#### *Laws on importation of feedstuffs*

Under the new value-added tax system, all agricultural products in their original forms are exempt from payment of value-added tax. This includes corn, the basic ingredient in feed mixing. There is a move to exempt veterinary products from VAT as well.

#### *Laws on importation of meat and meat products*

The poultry and livestock industry is provided some kind of protection from imported products through a 50% tariff being imposed. At present, the difference in costs of production between local and imported meat products is accounted for mainly by subsidies provided by foreign countries to their farmer-producers.

#### *Medium term livestock development plans*

The swine and poultry components of the industry appears to be well developed considering that much of the local demand is met by domestic production. Thus, the emphasis of the livestock development plan of the government is on ruminants, such as beef cattle, dairy cattle, carabaos, and small ruminants. The Department of Agriculture (DA) has set the objectives of increasing cattle population to 3 million, carabao population to 2.5 million, small ruminant population to 3.5

million hog population to 10.8 million and chicken population to 100 million by 1998 (BAI, 1993).

A major focus for the swine industry development program is on exploring the possibilities of producing hogs for export. This would require setting up of export processing zones with the necessary prerequisites for acceptance to world markets: disease-free zone, accessible to air and sea transport, processing facilities meeting international standards. In addition, the establishment and maintenance of production center for grandparent stock will insure the availability of genetic material for continuous propagation of desirable breeds/strains of swine.

The poultry industry sector is likewise to be backed up by the grandparent breeding stock similar to that for swine. This will address the concern of the poultry raisers' heavy dependence on breeding stocks.

The breeder cattle development program aims to improve the country's breeding base by: (1) importation of breeder animals; (2) importation of feeder stocks; and (3) implementation of "buy-back" and "save the herd" schemes. The DA will require all feeder cattle importers to include in their shipments 10 % breeding pregnant heifers to boost the country's dwindling cattle stock. It will also encourage importation of breeding females to improve the local breeding base. Table 3 shows the importation of cattle for breeding and feedlot fattening purposes.

The carabao sub-sector of the Medium Term Livestock Development Program addresses its concerns to the development of rural farming families. Its overall strategy is to infuse riverine buffalo blood into the native carabao in order to increase its production potentials for milk, meat and draft power. The four major concerns of the program include: (1) strengthening of the Philippine carabao elite herd; (2) Establishment of the National Riverine Buffalo Gene Pool; (3) Buffalo-based enterprise development; and (4) carabao research development.

The Philippines' dairy industry program consists of strengthening the dairy cooperatives that can effectively handle the aspects of production, processing and marketing of dairy products. About 37,500 head of dairy animals will be infused and distributed in key livestock provinces from 1994 to 1998. This will involve a total of 216 dairy cooperatives with about 5-6 thousand members. The integrated dairy production will also



call for establishment of 85 chilling stations, 10 mini-dairy plants and 11 integrated dairy plants in designated areas. More than half of the P2.4 billion budget of the dairy program will be allotted for stock procurement.

The carabao program aims to improve the production potential of the carabao using the riverine breed (Murrah or Nili-ravi). The Philippine Carabao Center has been created for this purpose and some 3,000 Murrah bulls and 5,000 Murrah cows will be imported.

The small ruminants program will integrate goat and sheep production in the farming systems of especially the smallholder farms.

#### *Infrastructure improvements*

There is a need to improve farm-to-market roads, establish government accredited slaughter houses, improve breeding stations to cater to the needs of especially the backyard livestock raisers.

The improvement of post-harvest facilities, especially for corn will help stabilize the supply of basal feed ingredients, in addition to lower prices; thus it will also benefit the livestock and poultry industry.

#### *Genetic conservation of indigenous stocks*

In order to meet the increasing demand for animal products, the country promotes use of improved breeds of livestock and poultry which are characterized by higher productivity. However, the role of native animals in a sustainable livestock and poultry agriculture should not be ignored. Native animals are known to be more hardy and disease resistant than the exotic ones; they adapt fully well under the existing local conditions. The blood of indigenous breeds had been used in the past to develop strains which are more tolerant to the country's environment than the purebreds. It is necessary to conserve these genetic materials so that there is always a source of germplasm for future breeding efforts that would call for development of well-adapted animals (Penalba, 1993; Lambio, 1993; Parker, 1993).

#### *Effects of GATT on the industry*

One aspect of the GATT treaty that has initiated fears on the possible adverse effects on Philippine agriculture is that which requires quantitative import restrictions (QRs) to be removed by all GATT member countries. These QRs have been protecting Philippine agricultural producers

from competition of agricultural imported products (Clarete, 1994). It is alleged that the country's agricultural productivity is not yet ready for world competition; thus, such removal of QRs will affect the livelihood of millions of small farmers dependent on agriculture. The pro-GATT arguments, however, contend that the treaty is consistent with country's agenda for reforms in the agricultural trading system in the world.

It is also a way to increase access to industrial markets worldwide as well as to enable the country to penetrate new markets and expand the current ones.

Corn farmers who may be affected by GATT could shift to using corn as silage, which has proved to be a profitable venture (Sebastian, 1994). There were reports that corn farmers from marginal lands in Mindanao were able to realize annual gross sales of about P80,000 per hectare compared to only P50,000 per hectare when they were selling corn on the cob.

### **Implications**

The livestock and poultry industry in the Philippines will continue to play a major role in the country's economy. However, it has to keep itself abreast with new technologies for increasing production efficiency, in order to meet the additional demand for animal products due to increasing human population as well as to be competitive with the world's prices for animal products. The potential is always at hand; but if the farmers don't take advantage of the technologies generated, it will be difficult to meet even the local demand for animal products. The Philippine government, on the other hand, must ensure that continuous search for ways to improve farm productivity is being done, by means of supporting the research institutions of the country. While the agreements reached during the GATT talks seem to potentially benefit the farmers, the initial impact may cause a slump in agricultural output during the initial stage, and the government must be ready to impose the necessary policies to keep agricultural production going.

### **Literature Cited**

- Aranez, G.B. 1993. The relevance of cattle and corn to our national economy. *Anim. Husb. & Agric. J.* 27(10):9.

- BAI, 1994. The medium term livestock development program: 1993- 1998. Bureau of Animal Industry. Dept. of Agriculture, Philippines. 66 pp.
- Bondoc, O.L., O.A. Palad, B.A. Parker, N.C. Veracruz. 1994. Utilizing beef breeding biotechnologies in the Philippines. 1st Nat. Beef Congress. Cagayan de Oro City, 23-25 Sept. 1994. pp.10-16.
- Clarete, R.L. 1994. The Uruguay round agreement in agriculture: Will it immiserize the Filipino Farmers? (mimeo copy). pp.1.
- Khush, G.S., B.O. Juliano, D.B. Roxas. 1988. Genetic selection for improved nutritional quality of rice straw - a plant breeder's viewpoint. In: Plant Breeding and the Nutritive Value of Crop Residues. (Reed et al., eds.) ILCA. Addis Ababa. pp. 261.
- Lambio, A.L. 1993. Conserving the Philippine native chickens. Anim. Prod. Tech. J., 8(1):9.
- Millamena, A., P.L. Lopez. 1988. Cowpea (*Vigna unguiculata*, Walp) as a substitute for soybean oil meal in broiler ration. Anim. Prod. Tech. J. 4(2):25.
- Penalba, F.F. 1993. Philippine native pigs: performance and potential. Anim. Prod. Tech. J. 8(1):2-7.
- Parker, B.A. 1993. Generic improvement of cattle and proposed breeding strategies. Anim. Prod. Tech. J. 8(1):14
- Roxas, D.B., L.S. Castillo, A.R. Obsioma, R.M. Lapitan, V.G. Momongan, B.O. Juliano. 1984. Chemical composition and in vitro digestibility of straw from different varieties of rice. In: The Utilization of Fibrous Agricultural Residues as Animal Feeds. (P.T. Doyle, ed.) AIUDP. Canberra. pp. 39.
- Roxas, D.B., A. Topark-Ngarm. 1988. Forage crops for smallholder livestock production. Anim. Prod. Tech. J. 4(2):19.
- Roxas, D.B., I.O. Aycocho, B.O. Juliano. 1989. Voluntary intake and in vivo digestibility by cattle of straw from IR36 and IR58 rice cultivars. Phil. Agric., 72(2):161.
- Sebastian, R.S. 1994. The GATT Uruguay round agreement: A boon for Philippine agriculture. Dept. Agriculture. 18 pp.
- Taylor, D.M. 1994. Market-led growth strategies for beef and dairy in the Philippines. Agribusiness Systems Assistance Program. USAID. 79 pp.