Smallholders’ farms account for 95 percent of the total livestock population in Indonesia, while large-scale private enterprises account for the remaining five percent. Large-scale poultry farming, pig farming and, recently, beef cattle fattening on feedlots are most attractive to private sector firms. Accordingly, government policies towards increasing livestock production have focused on smallholders. The objectives of the livestock development policies have been to improve income, to develop exports and to reduce imports through substitution, to provide rural employment and to improve the nutritional status of the population.

With increased global interdependence, the impact of domestic livestock policies of a country like Indonesia could be transmitted to neighbouring countries in the region or even to the rest of the world. Domestic policies that could influence other countries include those that affect trade in livestock products and the consumption of livestock products, as well as macroeconomic factors such as fiscal and monetary policies. To gain more benefit from the livestock, livestock production and livestock inputs that are being traded between countries at the regional or international market level, it becomes necessary to identify the interests of each country, particularly if regional economic co-operation is to be promoted.

Analysis of international markets can conveniently begin with the standard concepts of supply and demand for a particular commodity. A country can produce low-priced products if it is favourably endowed with resources (leading to low costs) or if it has low domestic demand relative to domestic supply. This country can produce more than domestic consumers buy. Therefore, the excess supply of this country can be viewed as the supply of exports onto the world market.

Government intervention in the livestock sector has a variety of objectives. It can enhance prices and income for producers, as a way of subsidizing consumer prices and as a source of taxation revenue. Intervention, whether in exports or imports, alters the country’s interface with world markets and therefore alters conditions in world markets as seen by other
countries. Two impacts can be distinguished: (1) the effect on the world price level, and (2) the consequence for world price stability. The impact on the price level depends upon the relationship between domestic and international prices. The stability effect arises from the extent to which the domestic price is fixed by policy or is allowed to react to changes in the world price level.

Governments of developing countries such as Indonesia, in response to high inflation rates, intervene in the food markets by enforcing price controls or subsidizing various products to keep retail prices low. Livestock products such as meat, milk and eggs are important in family expenditure, so changes in the prices of livestock products have a major impact on the cost of living.

Needless to say, the livestock sector in Indonesia plays an important role in the national economy: its contribution to the national agricultural sector has reached at least 10 percent per year and continues to increase even when the agricultural sector’s contribution to Indonesia’s economy has declined. However, until recently Indonesia has been classified as a net importer of beef feeder stock and dairy products as well as feed ingredients such as corn and soybean. Indonesia also imported poultry products during the period 1969-1984. Since then, Indonesia has become self-sufficient in eggs and broiler meat as a result of the poultry Mass Guidance Programme (Bimas) that was launched nationally in about 1979. Until 1990, domestic beef production satisfied demand, but imports of meat and feeder cattle began to increase in 1991. Domestic milk production has only been able to satisfy 35 percent of the national demand and about 65 percent of the supply is imported.

Demand for livestock products in Indonesia has grown because the income elasticity of demand for livestock products (meat, eggs and milk) is high. Empirical evidence indicates that as per capita income rises carbohydrate consumption declines and animal protein consumption increases.

The Government of Indonesia has anticipated the trend to a shortfall in the demand and supply of livestock products by issuing new regulations and by de-regulating the trade and domestic production of livestock and feed grains. This has been done to provide incentives to producers and to protect consumers from the impact of price fluctuations. As examples: (a) commercial credits can be obtained by individual farmers from the bank, (b) Bantuan Presiden (Banpres) or presidential aid, presidential instructions (Inpres) and cash programmes are provided for smallholders and poor farmers, (c) there are government programmes on livestock development, and (d) some livestock projects are funded through foreign aid.

**INVESTMENTS IN THE LIVESTOCK SUB-SECTOR**

The complexity and length of time required for licensing have slowed investment in the livestock sub-sector. The level and growth rate of investment in livestock in Indonesia are considered low, although the only source of data on actual investment relates to large investment only. The BKPM (Investment Coordination Board) approves large investments, such as those that are seeking special consideration such as tax and import duty relief. In a recent four-year period, the levels of domestic investment (PMDN) recorded by BKPM in the livestock sub-sector were as follows: three projects, US$61 million (1993); seven projects, US$101 million (1994); five projects, US$232 million (1995); and seven projects,

Indonesia has banned the export of live animals since the 1970s when live cattle were exported to Hong Kong. Nowadays, the government allows only day-old chicks and pigs to be exported. During the late 1980s, when the international demand for small ruminants was strong, the government reconsidered its policy and permitted the export of live sheep and goats. This followed the signing of the IMTGT (Indonesia, Malaysia, Thailand Growth Triangle) memorandum between the three countries. Imports of live beef and dairy cattle, feeder steers, breeding pigs, day-old chick parent stocks, and other poultry for consumption are permitted.

Exports of all livestock products declined from US$68 million to US$66 million, while imports of livestock and livestock products shot up from US$219 million to US$711 million in the five years 1991-1995. Of the 1995 imports, US$109 million was for imported slaughter steers and US$26.6 million for dressed beef and beef liver. In just two years, the number of slaughter cattle imported increased from 188 000 head in 1994 to 378 000 head in 1996 while beef imports increased from 12 700 to 26 100 tonnes.

Poultry

Poultry exports have fallen because of the rapid growth in poultry consumption. Indonesia exports day-old chicks but the number has decreased from some 702 000 head in 1991 to 76 700 head in 1995. Imports of parent stock for day-old chicks increased from 254 700 head in 1991 to 1 500 000 head in 1995 because of the increase in domestic demand for poultry products, while imports of eggs for hatching grew from 11 900 in 1992 to 2 540 300 in 1995.

Cattle

Indonesia was a net exporter of live cattle in the 1970s. However, increasing demand for beef which is highly income elastic has lowered the national supply. The rate of increase in demand for beef has been faster than Indonesia’s ability to produce beef and therefore meat imports have helped meet consumer demand. Imports of beef in Indonesia started in the 1980s in the form of fresh or frozen meat, boned and boneless, but these have slowed because of a greater supply of meat from the broiler and layer industry as a result of the Bimas programme.

The increase in beef consumption has also stimulated the fattening business which aims to produce meat through fattening feeder cattle imported from Australia. Imports of this type began in 1991 when around 12 000 head were imported. By 1996, 367 000 head were imported and these numbers continued to increase, reaching 407 000 head in 1997. Feeder steers are more uniform in size and quality, and supply is more certain than the supply of domestic cattle. Domestic cattle are scattered across Indonesia and they vary greatly in age and body size. The growth of feedlot operations based on feeder cattle imported from Australia resulted in a significant expansion of the industry from only five feedlot operations in 1992 to 41 in 1997. The increasing demand for feeder cattle from Australia reflects the inability of the local industry to supply feeder cattle.

In recent years, the liveweight price in Australia has only been around US$1.30 per kg for Brahman Cross, US$1.25 per kg for Bos taurus, and US$1.20 per kg for culled cows. When
the exchange rate was Rp. 2,400 per US dollar, locally purchased cattle could not compete with imports. (The local cattle sold at Rp. 3,700 per kg liveweight.)

However, beginning in July 1997 when the exchange rate depreciated to Rp. 16,000 per US dollar in January 1998, feeder steer imports were no longer attractive. This was the case even for trading companies with partners in Australia who could therefore purchase directly from farmers. Direct purchase costs much less than purchase through the traders: for instance, the liveweight price from on-farm purchase could be as low as A$ 1.10 per kg or US$0.80 per kg. The trade in feeder steers is still uncertain because it depends on the exchange rate. At Rp. 5,000 per US dollar, the price from Australian traders was US$1.05, which is equivalent to Rp. 5,250 per kg. This is more expensive than local cattle, which cost Rp. 4,800 per kg liveweight.

Sheep and goats

Some 30 percent of the world’s small ruminant population lives within the Asian region. Export prices (FOB) for small ruminants vary between countries and over time. The highest FOB prices are in countries in Asia, particularly in the Middle East, while the lowest are in the Oceania countries, such as Australia and New Zealand. In general, assuming that the animals are uniform in terms of breeds and other characteristics, a low FOB price reflects a competitive advantage of these countries in the small ruminant trade. During the period 1989-1992, the import costs (CIFs) for small ruminant meat in world markets were relatively stable although there were small variations between countries. The highest CIF is found in the European countries. Information on CIF is very important for Indonesia in setting up a strategy to develop the small ruminant industry. If the domestic price were far beyond the CIF, it would be impossible to export without a subsidy. Some countries in the Middle East, particularly Saudi Arabia, the United Arab Emirates, and Syria, have been net importers of small ruminants. Their imports are the highest in Asia, and account for 11.7 million head or about 51 percent of the total world imports in some years.

In many regions of Indonesia, animals are an important component of farming activities, particularly for the smallholder. Year round, the farmers’ needs are provided from food crop production, and animals are kept primarily as a way of storing capital or generating a cash income. The role of animals in a farm’s activities is demonstrated by the small ruminants kept by most farmers on the island of Java. Sheep and goats are raised with minimal inputs and low maintenance costs. They use and recycle waste products from cropping activities. Furthermore, they have a relatively high reproductive rate and there is always a ready market for them. The productivity of small ruminants on-farm is low compared to that obtained at experimental stations. Thus, increasing on-farm productivity could enhance national efforts to increase rural income and raise the level of national protein consumption. Further, increased small ruminant productivity would have economic implications because so many smallholders keep them.

There are two specialized small-ruminant markets in Saudi Arabia: one is for complete rams, which are required for sacrifice, and the other is for fat-tailed sheep, for which there is a strong consumer preference. An interesting aspect of this market is the price for different classes of sheep and goats in Saudi Arabia. Australian sheep dominate the retail market and sell for about US$48-58 per head; Turkish fat-tailed sheep retail for about US$110 per head; and the local Nadzi or Awassi fat-tailed breed sell for more than US$250 per head, or about five times the price of imported Australian sheep. These were the prices in the mid-1990s.
The CIF varies between countries, and fluctuates. The variability of the CIF can be due to breed, age and liveweight as well as the cost of freight and insurance. Similar reasons are probably behind price fluctuations over time, making the price of the live animal highly uncertain. It is possible that in the trading of live animals, an importing country, through its import association, can have a monopsony and can determine the price at the time when the animals reach the port of entry. Import costs per head in Saudi Arabia and Qatar in 1992 were US$80.4 and US$74.7, respectively, which were far higher than in other Middle Eastern countries such as Oman (US$33.3), Yemen (US$35.0), and United Arab Emirates (US$42.0). As indicated earlier, the difference might be due to breeds, liveweight and other trade specifications. Information on the CIF price is very important for a country like Indonesia that is in setting up a strategy for development of small ruminant production. When the domestic price is far beyond the CIF, it is impossible for the country to become an exporter without an export subsidy.

Just as for the CIF, the FOB price (export price) for small ruminants also fluctuates between countries and over time. The highest FOB prices are found within Asian countries, particularly in the Middle East, while the lowest prices are found in Australia and New Zealand. In general, assuming that the animals are uniform in terms of breeds and other characteristics, a low FOB price reflects a comparative advantage and provides a competitive advantage in the world small-ruminant trade.

Prices for meat from the small ruminant sector are a different matter. The price of meat is more stable than the price of live animals and it varies little between countries. It is important to note that world meat imports have increased from 865 000 t in 1989 to 911 000 t in 1992, or by 1.7 percent per year. In 1992, European countries were the largest importers of meat, reaching 415 000 tonnes or about 45.6 percent of the world import share, followed by Asia (31.9 percent). The rates of increase of meat imports by European and Asian countries within 1989-1992 were 3.4 percent and 1.2 percent, respectively. Even with a low import share, African countries recorded significant increases in meat imports from 13 000 t in 1989 to 23 000 t in 1992, a rate of increase of 21.5 percent per year. Within the European countries, France and the UK have been the largest importers of small ruminant meat with import shares of 16.9 percent and 11.9 percent respectively. On the other hand, Iran (7.5 percent), Japan (7.3 percent), and Saudi Arabia (4.2 percent) are the largest importing countries in Asia.

Between 1989 and 1992, the CIFs in the world market for small ruminant meat were relatively stable compared to the CIFs of live animals, and there were only small variations between countries. The highest CIF prices were in the European countries while those in Oceania were the lowest.

Pigs

The government effort to push export of non-oil commodities in the late 1980s also led to consideration of the role of the livestock sector, particularly poultry and pigs, as sources of foreign exchange. Indonesia only allows poultry and pigs to be traded internationally as live animals. The export of pigs is feasible because the domestic demand for pork is lower than production capability. An agreement in the form of Notes of Understanding between Singapore and Indonesia in the live pig trade has created good prospects for in-country pig enterprises, particularly in North Sumatra. This is because of its cultural situation and its proximity to Singapore. In this agreement, Singapore imports live pigs from selected farms in Indonesia, while the operators of pig farms in Indonesia must co-operate with pig farmers in Singapore. To the qualified pig farms, a licence is issued by the Government of Indonesia through the Decree of Minister of Agriculture No. 406/Kpts/019/6/1980 on foreign investment.
The licence is issued after the farm meets technical requirements that accord with the regulation set by the Directorate General of Livestock Services (No. 775/Kpts/071/Deptan/1982).

Export of live pigs to Singapore developed after the 1980 decree was introduced. However, this has not always benefited the pig farmers because Singapore’s market is also open to other potential exporting countries such as Malaysia, China, Thailand and Vietnam. The basis for competition is product quality. Three types of live pigs were to be exported: suckling pigs weighing 3-5 kg per head, weaned pigs weighing 60-70 kg per head, and finished pigs weighing 95-105 kg per head. Indonesia’s weaned and finished pigs could not compete in quality and price with other countries, and so only suckling pigs continue to have a market in Singapore. The reason is that other exporting countries consider exports of suckling pigs to be less profitable than weaned and finished pigs. The advantages of concentrating on suckling pig production are three fold: (1) separation of suckling pigs from the sow stimulates faster mating (two and two and a half times a year); (2) barns are used for shorter periods; and (3) there is faster generation of income for the enterprise.

A problem with the export of weaned and finished pigs is also the effect of the oligopolistic market in Singapore which is dominated by transactions through auctions, and non-contract sales between pig farmers in Sumatra and buyers in Singapore. Frequently, the pigs sent to Singapore market do not go through the auction. Therefore, they have to be sold at whatever price can be obtained, instead of being taken back to Sumatra.

Although Sumatra, with a domestic resource-cost ratio of less than 1 (somewhere between 0.25 and 0.75), has a comparative advantage in the export of pigs to Singapore compared to other areas of Indonesia, its major market is the local market. Traditional pig farmers experience difficulties in obtaining export certificates. This has forced the traditional farmers to go out of business because they are unable to compete with large-scale commercially operated farms that also sell products to local markets. These commercial farms in turn have to face the fact that imported inputs, including breeding stock, will be more expensive. The exports of live pigs have shown a decreasing trend, from 284 000 head in 1991 to 161 000 head in 1995, while imports of breeding pigs decreased from 4 300 head in 1992 to less than 100 head in 1995.

**LIVESTOCK PRODUCTS TRADE**

**Beef and mutton**

Beef is considered a luxurious product for upper- and middle-income urban people, who on average consume five times as much as those in rural areas. Beef consumption is the second highest after chicken meat, and the trend shows continued increasing demand as the population grows. Beef imports increased from 1 867 t in 1991 to 7 259 t in 1995. In addition, offal (mainly liver) imports increased from 3 665 t in 1991 to 12 000 t in 1995. Beef exports were only about 20 t in 1993 and 1995.

Despite the growth in production of small ruminants as well as beef, good quality mutton is also imported to meet the demand of special hotels and restaurants. Mutton imports have been steadily increasing from 335 t in 1991 to 737 t in 1995. The export of small ruminant meat was about 200 t in 1994, after several small export volumes in the late 1980s.
Dairy

The need to develop the dairy industry is a classic economic situation to meet the domestic demand for milk. It is also in line with the government objectives of increasing farmers’ income, spreading the distribution of income, creating employment opportunities, increasing foreign exchange earning, and improving the nutritional status of the population. The industry is also dominated by smallholder operations, through which income distribution and employment opportunities are created. Dairy farming has a high linkage multiplier effect with other industries because large amounts of dairy products are used as raw materials by other industries. Expansion of dairy production is expected to reduce imports of milk and milk products and lead to exports of processed dairy products when domestic production is high and is competitive in international markets. Because of this, the development of the dairy industry has become very important in terms of the balance of payments. Unfortunately, the dairy industry in Indonesia has not been competitive for all types of enterprises, but it has been one of the most rapidly growing parts of the livestock sector since its introduction in the 1970s to support the milk-processing industry. At the start, the milk processing industry in Indonesia produced only sweetened condensed milk. Later it added milk powder and liquid milk, both of which have since developed more rapidly.

Unfavourable climatic conditions, combined with poor dairy farming management and milk marketing, slowed down expansion of the dairy industry from Java, where the industry is concentrated, to other islands. The government imported large numbers of dairy cattle in the 1960s and 1970s to stimulate the industry, and established joint ventures with foreign companies. However, production continued to be stagnant due to technical and marketing problems. A major boost in production occurred in the 1980s when the government introduced a regulation that forced local processors to process domestic raw milk before they could get access to imported dairy products. The sharp rise in the number of dairy cows from 193,000 in 1986 to 302,000 in 1991, through the import of some 110,000 dairy cows from Australia and New Zealand between 1979 and 1990, resulted in milk production increasing from 204,000 t to 329,000 t.

Despite the increasing level of milk production, only 35 percent of milk comes from domestic production, with the rest being imported. This amounted to 533,000 t in 1993 and 1,026,200 t in 1995. The Government of Indonesia introduced four major regulations into the dairy industry: an import ratio, import tariffs, import licensing, and restriction on investment in the industry. However, with the latest presidential instruction (Inpres No. 4/1998), as a response to the 50 IMF commitment items, all of these regulations have been lifted. With the new Inpres, the dairy industry is expected to prepare itself for the open market sooner than was agreed upon during the APEC meeting in Bogor (‘the Bogor Declaration’) that set 2003 as the deadline.

Except during a short period covered by the regional monetary crisis, the high demand for milk and milk products has resulted in a local milk price that is far lower than the world market price. Hence, consumers are now looking at local fresh milk and pasteurized milk in place of powdered milk and other processed milks. In addition, the low exchange rate between the Indonesian rupiah and the US dollar has made domestic milk and milk product prices even lower. The question is whether or not this means that domestic milk production now has a greater competitive advantage than imported milk.
Broilers

Poultry farming is extremely important in the livestock sector in Indonesia, and the demand for poultry products is very high. However, the raising of broiler and layer chickens is relatively new to Indonesia, having started in the 1970s through the *Bimas* programme. The rapid increase in broiler production has outpaced beef production since 1979. At present, the domestic market for broilers has been saturated by the large volume produced in compliance with the national campaign to increase non-oil exports. This may be one of the reasons why the price of broilers has fallen drastically in recent years. Export of broilers is expected to increase each year. Statistics show some 213 400 t was exported in 1991, growing to 1 000 400 t in 1995.

Eggs

At the same time as broiler production was being developed in the 1970s, modern layer poultry farms producing eggs were also developing into highly specialized operations. There are high concentrations of layer chickens in West Java because it is close to large markets around the big cities, including Jakarta. The cities are the largest market for chicken eggs. Hence, the factories that supply inputs to farms, as well as the feed industries, are located near the production centres. Exports of eggs from Indonesia are small and negligible, and started in 1986. At that time, the production of eggs for consumption was only 6 t; it jumped to 55 t in 1987. This was an indication that Indonesia had the potential to export eggs, contrary to the situation before 1984 when Indonesia was a net importer of eggs for hatching, for fresh consumption, and for their yolks. Recent exports of eggs for consumption amounted to 959 500 eggs in 1991 decreasing to 198 200 eggs in 1995, while exports of eggs for hatching fell from 1 756 300 eggs in 1991 to 737 500 eggs in 1995. The reduced volumes for export were due to increased domestic demand for eggs for consumption as well as increased demand for hatching eggs.

Leathers, bones and horn

Livestock products in the form of skins, mainly from ruminant animals, are a prospective export commodity. Exports increased from 1 578 t in 1991 to 2 958 t in 1995, while bone and horn exports decreased from 4 124 t in 1991 to 1 706 t in 1995. The increase in skin exports is indicative of the increasing number of ruminant animals being slaughtered. However, imports of leather have been extremely high; they increased from 10 186 700 sheets in 1991 to 162 550 600 sheets in 1995, valued at US$100 206 700 and US$347 136 400, respectively.

LIVESTOCK INPUT TRADE

Livestock feed generally takes the form of forages, agricultural by-products and concentrate feeds. Ruminant animals such as beef cattle, sheep and goats, buffalo, and dairy cattle are raised on forage-based operations, although the fattening of beef cattle, sheep and dairy cattle also uses concentrate feeds. Poultry and swine enterprises use concentrate feeds composed of basic ingredients such as corn, soybean, rice bran, cassava, wheat pollard, fishmeal, meat meal and crude palm oil.

Government intervention in the feed industry in the past was only concerned with rice (which indirectly influenced rice bran production), corn, soybean and cassava. Floor pricing was
introduced for corn and soybean at the farm level but not for cassava. With new regulations, only rice is subject to government intervention through the National Logistic Agency (BULOG). Domestic rice production has been provided with input subsidies, price support, extension services, irrigation and other supports. The production of feed grains and tubers, which are important raw materials for feed industries, has not been given the same level of assistance. Until 1997, BULOG controlled the trade of corn, soybean, soybean cake and fishmeal, most of which is imported. Domestic markets for these feedstuffs were controlled through market intervention to satisfy both producers and consumers by stabilizing their prices.

**Corn**

Corn is considered the most important feed ingredient in poultry rations and constitutes around 50-60 percent of the rations. It can be produced in almost all provinces of Indonesia. The domestic resource-cost ratios in most provinces are less than one, indicating its comparative advantage. In general, corn yield in Java is higher than in other parts of the country and the increase in production is mainly associated with the increase in yield. In the late 1990s, Indonesia was importing and exporting corn, but on the whole it is a net importing country. Indonesia became a corn importing country for the first time in 1976 with imports of 68,773 t and these increased to 169,398 t in 1987. Corn exports fluctuate with the season and occur at the harvest time when the domestic price falls. Exports began in 1970 when 282,196 t was exported, but had decreased to only 50,723 t by 1975.

Most domestic corn is for human consumption, but the share is decreasing (70 percent in 1970 and 56 percent in 1986). The share of corn in livestock feed has increased from 15 percent in 1970 to 44 percent in 1985, and industrial use has been steady at 3.4 percent in 1970 and 3.6 percent in 1986. Before 1980, the food balance sheets (FBS) estimated 2 percent of corn went to livestock feeds, but the estimate was later adjusted upward to 6 percent. In 1995 it was estimated that 547,000 t of corn, or about 6 percent of the domestic supply of 9,113,000 t, was used in livestock feeds. According to the Directorate General of Livestock Services (DGLS) in 1996 Indonesia’s 60 largest feed mills used 3,551,190 t, six times the estimate of the FBS, while actual use by these same large feed mills was 40 percent of availability in 1995.

**Soybean**

Another important feed ingredient is soybean, used as a protein source. Central Java is the largest soybean producing region of Indonesia, while Sumatra and Sulawesi are the most important regions outside Java. Indonesia has imported soybean since 1975 in the form of grain, soybean cake and soybean flour. Soybean production is not economically feasible, as indicated by the domestic resource-cost ratio of greater than 1.0. Soybean is imported from countries such as USA, China, and Brazil, because the local soybean production of around 1.5 million tonnes is not sufficient to satisfy domestic demand both for livestock feed and human consumption. Soybean imports have been increasing at the rate of about 9 percent per year.

For soybeans, the FBS approach derived the 1995 consumption estimate by adding domestic production of 1,689,000 t to imports of 607,000 t, plus stock changes. Imports of soybean cake for livestock feed were almost equal in value to imports of the beans (US$194 million of cake versus US$216 million of beans in 1996).
**Drugs and vaccines**

The number of veterinary medicine producers, distributors, wholesalers and special shops increased from 1 300 in 1991 to 1 500 in 1995. The shops sell a variety of animal production requisites including vaccines, pharmaceuticals, premixes and other types of biological products. Biological products in the form of vaccines for poultry which are locally produced increased from 929 million doses in 1991 to 1 564 million doses in 1995, while imported products rose from 1 029 million doses, overall (1991), to 2 679 million doses (1995). Imported vaccines for ruminants (small and large) represent a smaller portion of the total available biological products. They numbered 88 000 doses in 1991 and 76 300 doses in 1995. The total value of imported veterinary medicines increased slightly from Rp. 100 739 million in 1991 to Rp. 131 690 million 1995, while the value of domestic products amounted to Rp. 159 656 million in 1991 and rose to Rp. 233 200 million in 1995. The increased value of domestic veterinary medicines reflects the government objective of reducing Indonesia’s dependence on veterinary medicines supplied by foreign sources.

**CONCLUDING COMMENTS**

International trade in livestock products in the free trade era means that strong competition will have to be faced in the future. While the livestock trade in Indonesia is important to meet the increasing demand for meat, milk, and eggs, the present distribution within the country is more important. Production centres are generally concentrated in the village areas, while consumers are in the urban areas.

Domestic production has initially satisfied the national demand for meat, but the industry faces competition from the cattle-producing countries that have entered the domestic market. It is apparent that Indonesia, in its effort to develop livestock production for domestic consumption, has to take international trade in livestock and livestock products into consideration when deciding where its comparative advantage lies.

**REFERENCES**

