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THE CHANGING DEMAND FOR LIVESTOCK PRODUCTS

by

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Introduction

Livestock is an important and integral component of the agricultural sector providing gainful employment and producing useful animal protein foods to the population. Livestock farming includes the production of poultry meat, eggs, pork, beef, mutton and milk as food items.

The Malaysian livestock industry contributed RM2.85 billion in the ex-farm value of livestock and livestock products and imports about RM1.03 billion in 1990 (DVS, 1992). The non-ruminant subsector contributed more than 95 % of the total ex-farm value and is able to cope with the increasing national requirements. The pig and poultry sub-sectors have been able to transform itself from a backyard subsistence farming 40 years ago to a highly modern and efficient production system today. The ruminant subsector, however, is not well developed inspite of the emphasis it has received from the government in its development plans. Cattle, buffalo, goat and sheep constitute the ruminant sub-sector and is reared in small numbers mainly by smallholders. Attempts at large scale cattle ranching has met little success and has failed to generate interest amongst investors. However, keen interest had been shown in integrating ruminants (particularly, cattle and sheep) in the plantations to utilise the excess herbage within the inter-rows while producing useful animal products.

The demand for all livestock products is on the increase because of the population growth and through increase in per capita consumption. The non-ruminant industry has responded to this demand through balanced increases in domestic supply of poultry, eggs and pork, while the ruminant sector faced severe stress imposed on its production system. In order to satisfy domestic requirement for beef and dairy products larger percentage of these products are imported. Further increase in demand is projected for both fresh and processed products as disposable income gets higher.

Table 1. Production and consumption of animal products (1990)

| Item | Local production | Total consumption | % Self sufficiency | Percapita consumption ⁻¹ |
|---------------------------|------------------|-------------------|--------------------|-------------------------------------|
| Beef, mt | 12,245 | 50,874 | 24.07 | 3.49 |
| Mutton, mt | 657 | 7,283 | 9.03 | 0.50 |
| Pork, mt | 176,014 | 150,093 | 131.45 | 10.29 |
| Poultry, mt | 366,000 | 297,000 | 117.27 | 20.40 |
| Eggs, x 10 ⁶ | 5,029 | 4,085 | 123.11 | 280.01 |
| Milk, x 10 ⁶ l | 26.2 | 561.06 | 4.67 | 38.47 |

DVS (1992) Livestock Statistics.

-1kg; except for eggs (number) and milk (l).

Malaysia is able to produce its own requirements for pork, poultry meat and eggs but have to import milk, beef and mutton (Table 1). Further increase in demand for pork and poultry products would likely result in increase in imports of feed ingredients and breeding stocks while for increase in beef and

mutton requirements would result in further increased imports.

The livestock industry is faced with the task of increasing both total quantity of available animal products as well as improving the quality of such products to meet the changing needs of the consumer.

Animal Production

Beef and mutton production

The current national red meat requirement of about 50,000 m.t. is supplied through local production estimated at 12000 m.t. from the slaughter of cattle and buffaloes (Omar, 1992). The rest of the requirements are imported frozen or chilled from India, Australia, Thailand and the United States. The per capita consumption of beef is about 3.5 kg and is expected to increase further. In order to sustain the present level of about 24% self-sufficiency, the base population of 765,000 heads of cattle and buffaloes need to be doubled in the next 10 years. Internal generation of the breeding herd is limited due to the small base population, estimated at 350,000 heads, while the import route is constrained by the choice of suitable breed and availability of suitable feeds.

To accommodate for the increased number, individual holdings is expected to increase from 3-5 heads to 5-10 heads and increased use of integration with plantation crops. Currently, it is estimated that about 170,000 heads of cattle are integrated with rubber and palm oil plantations. About 25% of the 4.3

million hectares under plantation is suggested to be suitable for livestock (Chen, *et al.*, 1991). This system could support about 1 million heads. Another system through which beef production could be intensified is through feedlotting using agro-industrial byproducts such as palm kernel cake, pineapple cannery waste and brewers waste.

Goat and sheep are two species used for mutton production. Although the percapita consumption of 0.5 kg is low, this figure is not expected to increase substantially in the near future. The domestic production of mutton is only able to provide about 10% of the national requirement. The local contribution is expected to increase with concurrent effort to popularise sheep farming in the plantation. Locally produced mutton is competitive in price and quality in all segments of the market except in frozen mutton market (Wan Mohamed and Mohammed, 1992). However, further promotion work to popularise the locally produced mutton is required.

Poultry production

Poultry, mainly chicken and ducks, has contributed greatly to the agricultural industry especially towards providing the quantity and quality protein foods. The industry has undergone rapid technological, genetics, management and structural changes to cope with the increased demand of chicken and duck meat and eggs with some surplus for export.

The consumption of chicken meat almost doubled in the last 10 years and have appeared to level off at about 20 kg. Similar pattern is observed for

eggs. The current per capita consumption is 280 eggs. Dramatic structural changes have taken place within the broiler industry with the introduction of broiler integration. The integrator provides feeds, day old chicks, health services to the farmer who in turn is contracted to sell the chicken at a mutually agreed price. These integrators presently controlling about 50% of production either process the chicken at their own processing plants or wholesale the birds at the wet markets, retailing dressed, whole or chicken parts or further processed into various poultry products. Demand of chicken meat is expected to increase further through the diversification of processed poultry products which is fast expanding.

Dairy production

The national consumption of milk is in excess of 560 million litres of milk equivalent, about 95% is imported. About half of the local production of fluid milk of 24 million liters is produced by the government sponsored programme in the 40 milk collecting centres (MCC). The centres became the moving factor in stimulating the dairy industry since it not only act as a marketing outlet for the farmers, but also provide artificial insemination services, supply of concentrates, crossbred dairy cows and at some centres processed the milk.

Although the demand for fluid milk is large it is unlikely that Malaysia would be able to increase its self-sufficiency level beyond the 5% mark. High milk producing breeds such as Friesians and Jerseys lacked the adaptive ability,

had low disease resistance and poor fertility. On the other hand, crossbred Friesian-Sahiwal has performed better in the tropic but lack the number and homogeneity.

Changing consumer demand

While the primary duty of the livestock producers is to increase their efficiency in production and the quantity of various categories of livestock products to cater for the increasing demand of the products, the consumers are looking for quality for their money, safe food and are getting more health conscious. Today's market is consumer driven. Thus, the processors must also consider other important criteria such as food quality characteristics, consumer preference and overall product acceptance. Quality in food product refers to all attributes pertaining to eating quality and safety.

Improvement of quality

Feeder cattle finished in the feedlot generally takes shorter time to bring them to their final slaughter weight than grass fed beef because of the faster weight gain. Thus, the meat is generally tender. Current practices of slaughtering and selling as hot beef does not capitalise on the fact that carcass of superior quality could be retailed higher if aging is done to the carcass to develop the full meat flavour. Aging of carcass is the process of allowing enzymatic activity in the meat for improvement of tenderness and the desired meat flavour under controlled conditions. Additional cost of aging and processing could be realised because well-aged carcasses can be marketed with a premium in the up market rather than retailed at the wet market. Some structural

changes and proper meat works facilities are required before full benefit could be achieved.

Processed meat products

While satisfying demand for varieties of animal products available in the market in order to meet the changing life style, these products actually add value to the raw material. Appropriate processing technology for meat and poultry are available to produce new range of products using in some cases the less expensive cuts or parts. Value added meat and poultry products such as burgers, hot dogs, cocktails, nuggets, bologna and luncheon meat are beginning to find their way in the market and are gaining popularity especially amongst the younger generation.

The future for further processed animal products looks bright. Malaysian food manufacturers have the technology and know-how to further propel this growth. No doubt that more extensive research need to be done on new product development but safety and confidence of the consumers is utmost important. The large food processors using modern technologies have adopted good manufacturing practices and have the support services of R & D and quality control but the traditional backyard manufacturers lack these facilities. Although some of these products such as beef serunding, rendang, chicken and pork floss have found their way into the retail outlets, their quality and safety is yet to be desired (Babji, 1993).

Equipments are now available to reform and portion animal products. The advantages of reforming and portioning are that new products of any shape and size can be produced.

Dairy products

Although Malaysia does not produce much milk locally, her consumption is relatively high by Asian standards. A most visible difference to note in Malaysia's dairy market is the increasing sophistication among its consumers. Fluid milk market is the fastest moving item. Demand for pasteurised milk, it being fresher in quality as opposed to the UHT, is growing despite vast price differences, perhaps this could spur local milk producers to produce more milk if the benefits is passed to them. The growing health awareness also caused the introduction of many low fat dairy items. In the past the local market had only skim milk. Recently, there has been an increase in new products with extra health benefits thrown in, such as low cholesterol, low fat, and low salt but high in calcium. Notably among the dairy product that had the fastest market is yoghurt and yoghurt drink.

Diet and cardiovascular disease

A major health issue faced by the industry producing animal products is on the relationship between the consumption of animal products with cardiovascular diseases.

The relationship between diet and cardiovascular diseases is quite controversial. The primary and secondary risk factors in heart disease that are thought

to be responsive to nutrition intervention include elevated blood cholesterol, obesity, elevated blood pressure and glucose intolerance. Blood cholesterol levels, especially, low density lipoprotein (LDL) are generally acknowledged to be so tied to the occurrence of cardiovascular disease as to play a causative role. However, does diet definitely influence blood cholesterol (LDL)? In other words, can a diet lower in saturated fat and cholesterol bring down cholesterol levels and significantly reduce the risk of cardiovascular disease and death?

Saturated fat increases blood cholesterol levels and polyunsaturated fat decreases blood cholesterol levels. Lowering cholesterol intake alone produces inconsistent results. The food containing the most cholesterol are eggs and organ meat such as liver.

Recent studies show interesting findings concerning saturated, monosaturated and polyunsaturated fatty acids. A study reported in 1988 showed that stearic acid, one of the major saturated fatty acids in beef, may actually lower blood cholesterol levels and thereby moderate the cholesterol raising effect of the saturated fatty acids in foods.

The general trend, therefore, the conscious consumers will avoid the consumption of animal products that is known to be associated with this risk factor.

Conclusion

Producers, processors and marketing people need to be aware of the changing demand of the consumers and prepare for change. Today's consumers are getting more knowledgeable, health conscious and are willing to pay good money for premium products. While the primary goal is to increase the quantity of animal products available in the market, quality of the products are equally important. The animal industry should be congratulated on its ability to respond to the national needs for high quality animal protein. The number, type and variety of animal products both processed and semi-processed available in the markets have increased considerably. Further growth is expected in the future for more variety and higher quality products while satisfying for concurrent increase in the population.

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