MEETING THE DEVELOPMENTAL CHALLENGES OF THE LIVESTOCK INDUSTRY IN PAPUA NEW GUINEA.

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ABSTRACT

The paper outlines livestock production systems in PNG, the economic aspects of livestock industry development, the nutritional needs, education and training as tools of rural development. Ways and means to foster production and slaugther facilities and value addition are briefly examined.,

***Key words**: Livestock development, nutritional needs, education, training.*

INTRODUCTION

Sustainable development of the Livestock Industry in Papua New Guinea as the next decade approaches will place a high premium on evolving a clear and comprehensive national policy on beef production, improvement of slaughter facilities, meat processing for value addition and matching of livestock production systems to the available resources in the country. At present the livestock industry operates at below potential levels of productivity. Government policy on beef production is not clear. For instance, it has been observed that when protection was provided to the domestic beef production systems against imports by expensive or cumbersome shipping in the late 1980's, local beef producers had a good market. The national herd, only able to satisfy about 30 percent of the fresh or chilled beef requirement, enjoyed the status of sellers' market. Recently the market status became disturbed, prices have declined since 1987 and there is buyer resistance against prices demanded by producers. Consequently, producers are disenchanted and wonder what to do with their herds, which represent considerable investment backed by expensive bank loans.

LIVESTOCK PRODUCTION SYSTEMS IN PNG

Domestic livestock production consists primarily of beef, poultry and pork. Of these only pigs are considered indigenous to the country. Both pigs and poultry are raised in villages while cattle, which are comparatively new to smallholders, are beginning to acquire social importance. Pig breeding has remained a small-holder operation but both cattle and poultry production are based primarily on large-scale, commerical operations.

Beef: The cattle industry is organized around 4000 small-holders who account for about one third of the national herd of 100,000 cattle and about 270 ranches which comprise the remainder. Many of these ranches are owned by non-nationals; 12 of them, with 1000 ha or more, accounting for 25 percent of the national herd. Over half of the national herd is located in three provinces: Morobe, Madang and Central. Government policy in recent years has been to limit the expansion of ranches while promoting the growth of smallholders.

During the past few years, a number of problems have developed among small-holders, evidenced by the decline in the number of loans being requested from the banks and in the sale of cattle from ranches. On the technical side, difficulties have been experienced over grazing control and poor maintenance of pastures and fences. The net cash return has been declining in some cases because input costs have doubled while the gross return has risen marginally.

The pressure to increase beef production arises from the prospects for future growth in consumption. During the 1970s, beef consumption grew by 7 percent. Domestic production increased at an average annual rate of almost 25 percent, but because of the low base, it accounted for only about one quarter of the total supply in 1976. Assuming that total consumption continues to grow at the past rate and the rate of growth of domestic production declines to about 8 percent annually due in part to slowdown in small-holder production, beef imports could double over the next decade.

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Poultry: Over three fourths of the country's poultry production comes from several large scale, fully integrated commercial units located near the main urban areas. Annual village production is estimated at only 500 metric tons. The poultry industry is leading other livestock industries in terms of development by increasing its output to a level where it is estimated that the total value of the local livestock industry including village production is approximately K55.6 million at current prices. This increase can be attributed to the activities of the poultry industry through forward, backward and employment linkages as well as its investment in improving the quality of human skills.

Porks: Because of the complex role of pigs in the country's social structure, it is difficult to estimate production or consumption. However it is reported that commercial pig industry has increased its output to a level where it is capable of supplying more than 90 percent of apparent market demand. It is important to point out that the current level of self-sufficiency in the poultry and pig industry is related to the government protection policies introduced in 1983.

ECONOMIC ASPECTS OF LIVESTOCK INDUSTRY DEVELOPMENT

Animals are grown and slaughtered to provided nutritious meat for humans, and without this utilization, few of what we consider "meat" animals would be allowed to exist except as examples of species in Zoos. As the economic stature of a country increases, there is often a shift in its diet and nutrition to include a greater percentage of tasty, well-balanced protein from animal sources. With all of the natural advantages of animal food products, there still remains a greater quantity, often in excess of 50 percent, of animal by-products of rather unusual physical and chemical characteristics which are not part of the normally consumed steaks and roasts. The efficient utilization of these edible and inedible products creates value added to the normal process. The economics of the meat industry demands that animal by-products be utilized so that the livestock industry can stay economically competitive with vegetable protein sources. Today the cost of the live animal often exceeds the selling price of its carcass; therefore the value of the by-products must pay the expense of slaughter and generate the profit for the meat slaughtering operation.

In addition to this, the meat industry has the obligation to eliminate waste by salvaging as much of the animal as possible, since this is a valuable natural source. Non-utilization of animal by-products would create a major aesthetic and catastrophic public health problem. The issues raised above have not been explored to any extent by the livestock industry of Papua new Guinea.

STRATEGIC ISSUE AND POLICY OPTIONS

When looking at the viability of the livestock industry in PNG, one recognizes that there are some positive factors which give the industry an advantage. Temperatures are not extreme, there are no predators, there is very little competition for food from other ruminants and land is readily available although its usage is limited by customary constraints. However the need to achieve economics of scale in the industry has to be addressed.

Institutional Needs: The number of parastatal organizations operating and/or controlling significant components of the livestock industry needs to be addressed. There is substantial investment made by parastatal bodies such as the Agriculture Bank, the Investment Corporation and the Livestock Development Corporation in the livestock industry. These organizations are reported to be directly controlling beef cattle ranches, poultry and pig activities, abattoirs and small goods. The structural machinery of these agencies, interactive function and their individual roles and operation need critical re-evaluation, revamping and streamlining.

Education and Training as tools of Development: Livestock research should be directed mainly to breeding a more indigenous stock able to survive in PNG environment and with less demanding management systems. Since the cost of production in poultry and pig industry is linked to feed costs, the reduction of feed costs is another factor for research. Basic raw materials for feed formulation are available in the legume crops, cereals, root and tuber crops and waters of Papua New Guinea. Efforts should be made to use these in the production of livestock feeds. In addition to adaptive research, some increased support from government extension services is necessary.

Beef Production Development: The pressure to increase beef production arises from the prospects for future growth in consumption. Im-

provements in the conditions of small-holder cattlemen would require a widespread, intensive and extensive effort. Consideration should be given to developing different ways of improving management methods for small-holders, but under national ownership.

Feedlotting is not only meant for large enterprises; small-holders could do the same especially in areas where there is a dry season free-ranching problem, but also where farm roughage and industrial offal is available.

Protection To Foster Production: It is certainly necessary to give the producers some protection that will encourage the serious entrepreneurs to produce. Protection can take several forms. Increasing the import duty on selected categories of meat cuts, particularly the top grades, since local producers cannot as yet provide top quality beef for the manufacturing and canning industries. A further protective measure which has been suggested is to institute an officially posted floor price for the top grades based on the cost of imported beef with a theoretical import duty of 35 percent rather than the actual current eight and one-half percent.

Slaughter Facilities and Value Addition: All improvements on the farm have to be matched by increased efficiency in the abattoirs otherwise much of the good effort will be undone. It has been observed that even in places where abattoirs have been constructed, conditions are frequently unsatisfactory. Consideration should be given to a fully mechanised plant incorporating such activities as deboning and meat processing.

Satisfactory conditions for slaughter and processing are vital if the products from the abattoirs are to meet the standards set by the manufacturing and canning industries. By-product recovery and treatment must be examined in a way that aims for economic optimization rather than biological maximization.