

## Competitiveness And Potential of Sheep Livestock as Source Increasing Income And Provider of Meat Animal in North Sumatra

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**Abstract**-Development of sheep in North Sumatra has a promising future as a source of animal protein provider and increase income. The potential of these animals can be seen from DRCCR<1 and the analysis of the feasibility such as NPV +, B / C ratio> 1 and IRR > discount rate shows that sheep deserve to be developed. Development efforts can be done by increasing (1) production and sheep population (2) quality and standards of weight (3) continuity of effort to improve the availability of animal protein and income throughout the year. Development of sheep breeding in accordance with the vision of agribusiness development that sheep can be provider domestic needs and prepare appropriate standards of export markets.

**Keywords**-Sheep, Comparative advantage, Feasibility analysis, income

### INTRODUCTION

Population of sheep in North Sumatra in the period 2010-2015, an average rise of about 10% each years. Sheep population in 2010 amounted to 300.2 thousand heads and in 2015 increased sharply to over 620 thousand [1]. Developments of sheep farms in North Sumatra to date relatively stagnant. The development of production and productivity has not shown the results encouraging. This is also part of the pattern that is still traditional maintenance with a small-scale ownership, maintained without a clear plan for developing more productive, and more profitable.

Sheep has contribution as provision of meat and as savings for farmers Indonesia. Since 2010 the national meat availability is still low and is only available by 62.6% or 259.2 thousand tons of national needs [2]. Until 2014, these conditions are not much changed [3]. Based on this condition, the potential development of sheep in North Sumatra for self-sufficiency in meat and support national needs.

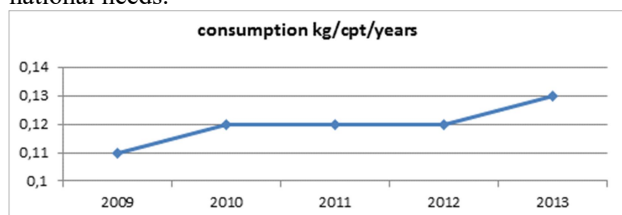


Figure 1. Consumption of lambs 2009-2013

Total consumption of lambs from 2010-2014 respectively in the range of 0.11 to 0.13 kg / capita / year. As for Total Population in 2010 was 12,985,075 people and in 2014 had reached 13,766,851. [4].

As for production from 2010 to 2014 has increased 10% each year. So North Sumatra surplus for the availability of mutton for higher availability than consumption. The consumption level and availability Mutton in North Sumatera (Table1)

Table.1.Production, Consumption 2010 to 2014 in North Sumatera

Year	Production (ton)	Consumption (ton)	Description
2010	1.549,87	1.428,35	Surplus
2011	1.588,62	1.572,87	Surplus
2012	1.706,98	1.585,80	Surplus
2013	1.852,71	1.599,14	Surplus
2014	1.901,62	1.789,69	Surplus

Note : Production were secondary data, consumption capita/years and population

Besides, the number of productive ewes cuts to local needs is quite high, so if productivity is not enhanced and developed significantly and on a large scale, it is feared will happen draining the national sheep population, because the development of the sheep population is not in line with the increase in demand due to population growth.

Another issue that must be faced in the development of the concept of food apart from the quality of seeds, to overcome the disease, so that when the sheep is done

with proper supervision, can increase lamb weight 150g / head / day [7].

Sheep development efforts need to pay attention to the quality standards that must be met for such needs. Requested at this time is to have a standard weight of 35 to 45 kg.

The problem is difficult to obtain the weight of the standard and also the continuity of supply of cattle is not guaranteed. Today generally have a weight of 20-30 kg. Although there are cattle that can meet the standards but still in very small amounts, so that today many imported from abroad [6]. For sustainability requires the development of appropriate business to enter the market and analyze the sheep farming and the factors that support as a provider of animal protein.

The purpose of this study are to identify potential sheep and competitiveness and to analyze the feasibility sheep. Research sheep are maintained and developed at this time is a potential for export purposes. The results of this study will be information very interesting and relevant to the construction and development of the sheep good for business sustainability is based on the feasibility as well as to increase the competitiveness of the livestock population including development and attention to quality standards.

Karo-Karo [7], in his research stated, the value of the business contribution to the agri-scale goat farming palm oil was 81.8%. System maintenance goats scale agribusiness with 20 breeding that can meet the family income of farmers with the minimum standards, with a note that the value of investments are not accounted for in the cost of production. [9], clarifies that livestock are also a significant source of income prior to plantation crops and in addition generate income when crop production, as well as improving soil fertility of feces and urine. [10] Since lamb is a commodity. Variable costs represented 64.15% of total cost, while 21.66% were represented by operational fixed costs, and 14.19% by the income of the factors.

### COMPARATIVE ADVANTAGE

Classical trade theory states that a country will produce and export commodities which have a comparative advantage. [11], [12], [13] argues that a country has a comparative advantage in producing a commodity if the social cost to produce one additional unit of a commodity is smaller and the price limit.

The definition shows that production costs are expressed in social value, and the price shows that the cost of production is expressed in social values, and commodity prices assessed in the price limits, which means also the social price. Thus the analysis of comparative advantage is economic analysis (social). Economic activity has a comparative advantage, if DRCCR <1.

Deli Serdang and Asahan North Sumatera has competitiveness for sheep with 0.46 or DRCCR <1, Asahan and Deli Serdang have a comparative advantage. That both have the potential to not import sheep, instead

of the results of this DRCR there is great to export. Comparative advantage indicates that it is better to use domestic products because it is more profitable than import, as domestic resources to meet the needs, instead of commodities which have a comparative advantage are opportunities for sheep export.

Table 1. Goat and Sheep in North Sumatra has Comparative Advantage.

No	District of North Sumatera	Size Competitiveness	Livestock
1	Deli Serdang	DRCR PCR 0,44	Goat
2	Asahan	0,42 0,50	Sheep Sheep

Source : [14] and primary data

### FEASIBILITY ANALYSIS

Analysis of the feasibility a measure commonly used value of NPV, B / C ratio and IRR. The Net Present Value (NPV) is the entire current net cash flow multiplied by the discount factor which is said businesses. the NPV is positive with respectively Rp.972.879. The Benefit / Cost ratio is a comparison between the present value of the discount factor (Pv.df) 12% revenue with a present value factor discount spending. In this study North Sumatra with the B / C ratio of 1.7, if B / C ratio greater than 1 (B / C Ratio > 1) is feasible. Value of Internal Rate of Return (IRR) is a rate of profit of the capital invested in the business. Sheep farming is feasible can be seen from the IRR. IRR is always in the form of a percentage (%) and compared with the level of interest rates. In this study imposed by 12%. The results obtained showed that in North Sumatra is 21 % it mean the value of IRR is greater than the bank rate

### CONCLUSION

Sheep farm in North Sumatra has a comparative advantage with Domestic Resource Cost Ratio (DRCR > 1). Sheep farming has potential as a provider of meat and able to increase income based on the value at which the feasibility analysis NPV +, B / C ratio < 1, and the IRR > bank interest rates. North Sumatra needs to cooperation with government, researchers, investors to keep the sheep population and the quality of the standard weight

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