

## **Analysis of the resource potential of the coconut crop-cattle in the District of East Likupang**

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### **Abstract**

Coconut land in District of East Likupang, an area of 2,942 ha (8.3% of the area of North Minahasa Regency), mostly used for cattle development. The problem is, whether the coconut land has the potential to support the development of cattle in this area. The purpose of research that has been done is to analyze the potential of carrying coconut-cattle. The research method that has been used is a survey method. East Likupang districts have been determined by purposive, because it has the largest cattle population. Analysis of the data that has been used is the analysis of the Effective Potential of Livestock Development. The results showed that the maximum potential of land resources (PMSL), is equal to 2364.172 UT. That is, based on land resources, can still accommodate cattle of value PMSL. The maximum potential by farmers households (PMKK), is at 6627 UT. That is, based on the availability of labor, livestock population can be increased up to the amount of the PMKK. In conclusion, the land under a palm tree in the district of East Likupang, has the potential for development of cattle. It is, seen from the potential of land as a source of forage, and resource potential farmers. The role of government, is needed in order to increase the potential carrying capacity of land, environmentally friendly in this area.

*Keywords: potential, carrying capacity, coconut, cattle*

### **Introduction**

Environmentally sustainable agricultural approach starting with the ecosystem approach. Ecosystem is a unit arrangement completely and thoroughly between elements of the environment which interplay. Agroekositem, by experts, distinguished on the paddy field, dry land, and the coast. Dry land has the potential for agricultural development, such as plantation crops. Coconut is one of the plantation crops, as a source of income of the people in the district of East Likupang. Coconut plant according Rusdiana & Adawiyah (2013), is a commodity that is most widely spread in the archipelago including in the district of East Likupang. Cattle in this area as the entry point is very beneficial for dry land agro ecosystem. Coconut plantations, has the opportunity to be developed into are gional cattle farming, especially farming from the cow calf operation (CCO) with CLS integration patterns in-situ (Rusdiana & Adawiyah, 2013).

Land of coconut plantations in this area, covering an area of 2942 hectares, which is about 8.3% of the North Minahasa Regency. The land, mostly used for cattle development. However, cattle are still traditionally developed, by way tied under the coconut trees, and

consume the grasses that grow on the land. In fact, cattle require a consistent feed intake, both in quantity and quality.

The problem is, whether the palm plantation in the district of East Likupang has the potential to support the development of cattle. The extent of potential oil plantation in this area in supporting the development of cattle. This research was conducted aiming to analyze the potential of coconut-carrying cattle, in District Likupang East, North Minahasa regency.

## Materials and Methods

This research has been conducted in the district of East Likupang, using survey methods. District of East Likupang has been determined by purposive sampling, namely one in the District of North Minahasa Regency which has the largest cattle population. The data source that has been used, is the North Sulawesi BPS data (2013) and data from BPS District of East Likupang (2013), which has been used as the primary data. The data analysis was conducted, was using Effective Livestock Development Potential Analysis.

## Results and Discussion

The dry land today, faced with the challenge of highland degradation, which causes degraded land sorun productive. Land area, is the determining factor of survival of the agricultural sector. Coconut is an important commodity for the economy of East Likupang districts, and as the brand image of this area. Cattle development can encourage farmers to apply the principles of land conservation, sustainable manner. Dry land management, sustainable, requires professional handling and follows the rules of the environment.

The amount of carrying capacity and sustainability of land productivity is determined by the interaction between the ways humans manage the resource itself with biophysical environmental factors (Salendu et al., 2012). Results of research have been done on the potential development of livestock effective, in the district of East Likupang summarized in Table 1.

Table 1. Effective Livestock Development Potential in District East Likupang.

Coefficient/Variable	Development Potential Value
PMSL	2364.17
KPPTR (SL)	666.17
PMKK	6627.00
KPPTR (KK)	4929.00

The maximum potential of land resources (PMSL) under the coconut trees according to analysis done by 2364.17 UT. That is, based on coconut plantation land resources, can still accommodate cattle with a population of value PMSL. Results of the analysis has been done, the capacity increase in the cattle population by land resources (KPPTR (SL) coconut plantations amounted to 666.17 UT. That is, to meet the maximum potential of land resources, the cattle population can still be increased by 666.17 UT. The indication, land in coconut plantations in this area can be optimized through the introduction of forage. Feed for cattle is a problem faced by cattle farmers (Alfian et al., 2012; Nugraha et al., 2013; Rusdiana & Adawiyah, 2013; Rahmansyah et al., 2013; Salendu & Elly, 2013).

Adequacy of forage, in the sense of quantity and quality is a major requirement in

breeding as well as an increase in the cattle population (Rusdiana & Adawiyah, 2013). Planting forage is a central point for the development of cattle so it is necessary efforts to optimize land under coconut. Availability of feed during the dry season is reduced, but abundant rainy season (Riswandi et al., 2012; Rahmansyah et al., 2013), so the cattle development in the future very promising (Nugraha et al., 2013). Cattle population is difficult to achieve, due to the low productivity of the cattle (Noferdiman & Afzalani, 2013). Cattle development is done integrated with coconut plantations, is the best farm system (Ahmed et al., 2011). This is done to increase the productivity of cattle and land.

Analysis has been done to produce that, the maximum potential based head of family farmers (PMKK) amounted to 6627.00 UT. That is, based on the availability of labor, the cattle population may be increased to 6627.00 UT. Results of the analysis of the cattle population by KK farmers (KPPTR (KK) can be increased up to 4929.00 UT. In the agricultural system, which is based populist, labor generally come from the farm household itself (Abdullah et al., 2012).

## Conclusions and Suggestions

Based on the results of research conducted, shows that the land under of coconut trees in the District Likupang East, has the potential for development of cattle, seen from the potential of land as a source of animal feed, and resource potential farmers. The role of government is needed in efforts to increase the potential carrying capacity of land environmental friendly in this area.

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