Dedication

To South Kordofan people to home I .belong
To my family member, Teachers and .friends
ACKNOWLEDGEMENTS

I would like to express my deep gratitude and sincere appreciation to my supervisor Dr. Abdel Hafeez Ali Mohmed for his helpful supervision, valuable advice, encouragement and continuous supports throughout this work. My appreciation extends to staff of Kadugli research station for their great help in data collection. I would like to record my special thanks to staff of College of Forestry and Range science for their great help in data analysis. My especially thanks to range science staff for their encouragement and supports throughout this work.
Abstract

The traditional integrated rangeland management for agriculture and animal production in Sudan is classified generally as less effective for increasing local people income. Despite the richness of rangeland resources, there is still a weakness in production systems in Kadugli locality.

The best approaches to increase rangeland production capacity, is to introduce integration approaches in rangeland management, for agriculture and animal production in sustainable manner.

The study was conducted in Kadugli locality rangeland in Southern Kordofan, as one of the richest rangeland in the Sudan. Kadugli locality is characterised by large area with fertile soil. Despite the numerous efforts in agriculture extension conducted by IFAD and the ministry of agriculture, still poor systems are used in Kadugli locality.

The study aimed to assess the opportunities for increasing the current contribution to improve efficiency in the management and use of natural resources. Demonstration of low-input integrated agriculture and animal’s production systems for sustainable rangeland production is necessary.

The primary data was collected using two different questionnaires. The first questionnaire targeted the settled village’s people, while the second one targeted the Government related bodies that deal with natural and agriculture resources. The secondary data was collected from books, and scientific papers.
The first questionnaire was designed to obtain information from five villages, namely Meri Bara, Tellow, Colba, Shaeir and Koyia. The interview covered (40) households from the five villages, eight household from each.

The second questionnaire was prepared to collect information from the related corporations, namely Ministry of Agriculture and Forest, Ministry of Animal Production and Animals Wealth, Animals Union, Agriculture Union and Range and pasture Administration.

The result showed that livestock in Kadugli locality depend mainly on rangeland vegetation and crops residues. The feed resource provides a direct link between crops and animals. Rangeland becomes traditionally socio-economic component and cultural systems in kadugli.

Integrated farming and livestock is an old practice consisting of the culture associated with the husbandry of domesticated animals, and mixed crop production with animal production systems. The integration of livestock and crop production is important in the sense that the soil is fertilized by animal dunk, to make integrated culture economically feasible. The traditional farming systems in Kadugli locality have been based on adaptation of variable rainfall and widely available land. Integrated farming plays major role in increasing employment opportunities, and increases income of rural people.

The study recommended that using traditional knowledge to develop and to regulate rural production systems for increasing local people income. Farming combined with animal husbandry should be introduced and developed in small scale rural farming. Employment integration approaches
for agriculture, animal production, resources assessment and planning is needed.

The summary

The integrated traditional management of agricultural and animal production in Sudan is classified as ineffective in improving the livelihood of the farmers, despite the availability of livestock resources and rich lands in Sudan. The study was conducted in Kaduli locality, one of the richest lands in South Kordofan, which is characterized by large areas and fertile lands. However, its potential is not fully utilized due to the traditional production methods, in particular, without the participation of the livestock sector. The study aimed to assess and improve the management of agricultural and animal production in Kaduli locality, using natural resources, in addition to the integrated approach. 

The study collected information through questionnaires and interviews with farmers and government entities. The study aimed to assess the current situation and improve the management of agricultural and animal production in Kaduli locality. 

The study found that the traditional methods of livestock and agricultural production are not efficient in improving the livelihood of farmers. Therefore, the study recommended the use of natural resources and the integrated approach to improve the management of agricultural and animal production in Kaduli locality. 

The study recommended the use of natural resources and the integrated approach to improve the management of agricultural and animal production in Kaduli locality.
خلصت الدراسة إلى أن سكان محلية كاد قلي يعتمدون على المراعي الطبيعية والمخلفات الزراعية في تغذية حيواناتهم بصفة رئيسية. بالإضافة إلى أن الموارد الغذائية خلتت ربط مباشر بين الزراعة وتربيه الحيوان وأصبحت اراضي المراعي تقليدياً من المكونات الاجتماعية من النظم الثقافية في محلية كاد قلي. وكذلك خصصت الدراسة إلى أن تكامل الزراعي والحيواني من أقدم طرق الإنتاج المستخدمة في الإراضي المراعي، وأيضاً تعتبر هذه الطريقة من انجح طرق في رفع المستوى المعيشي لسكان وتقليل مستوى الفقر.

وايضاً خلصت الدراسة إلى أن عملية التكامل الزراعي والحيواني توفر أسمادة رخيصة وهي الطريقة الوحيدة التي تستخدم في محلية كاد قلي، بالإضافة إلي ذلك تعتبر هذه الطريقة متوافقة مع الاختلافات المناخية في كاد قلي.

وكذلك خلصت الدراسة إلى أن التكامل الزراعي والحيواني يوفر فرص عمل للسكان المحليين مما يؤدي إلى زيادة دخل الفرد. وصست الدراسة على استخدام المعرفة المحلية لتطوير وتنظيم طرق إنتاج لرفع مستوى أدخل للسكان المحليين. كما أوصت الدراسة أيضاً على إدخال نظم التكامل الفعالة في إنتاج الزراعي والحيواني في مستوى القاعدة، بالإضافة إلى أن هناك حاجة ملحة لتوظيف المداخل التكاملية في إنتاج الزراعي والحيواني. 
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Integrated Rangeland management for Sustainable
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(Case study (Kadugli Locality

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والحيواني المستدام (دراسة حالة محلية كادقلي)

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