

Dedication

To the Great Prophet Mohammed

To the spirit of my father

To my mother, and

To all my family; brother and sister, I dedicate this research.

Acknowledgement

I would like to express my deep gratitude to my supervisor professor Ahmed Suliman EL Wakeel for his useful suggestions, valuable advice, sincere interest and supervision during the whole period of this research.

Also my thanks extend to Dr Hala Abd elmajeed Head of Range Science Department, College of Forestry and Range Sciences. Thanks are due to Dr Gammer Eldein Abdel Rahman for his friendly assistance during the field work, the help of Mr.Mhomed Bakheet and my brother Moujahid is also appreciated.

I am also very grateful to the staff of the **Ministry of animals wealth and fishers**. I will never forget M, Osman Abdel Raziq. Finally, appreciation and thanks are to my relatives and close friends, especially Ms Amna Ibrahim, Nancy Ibrahim, Mona Hassan, Mahassin ElAmin, Galal Abbas and Mohammed for their invaluable help, patience in data analysis and typing of this thesis.

Table of Contents

Title	Page No
Dedication	I
Acknowledgment	II
Table of Contents	III
List of tables	VII
List of figures	VIII
Abstract	IX
Abstract (Arabic)	X
CHAPTER ONE: INTRODUCTION	
1.1. General	1
1.2. Location	2
1.3. Geology	2
1.4. Topography and drainage	2
1.5. Water Resources	3
1.6. Rainfall	3
1.7. Surface Water	4
1.8. Groundwater	4
1.9. Climate	4
1.10. Soils	5
1.11. Vegetation	5
1.12. Population and Economic activities	6
1.13. Land Use	8
1.14. Problem statement	8
1.15. Justification of the study	8
1.16. Objective	9
1.17. Hypothesis	9
CHAPTER TWO: LITERATURE REVIEW	
2.1. General	11
2.2. The importance of rangelands	11
2.3. Production systems	11
2.3.1. Traditional production systems	12
2.3.1.1. Nomadic	12
2.3.1.2. Semi-nomadic pastorals	12
2.3.1.3. Transhumant	13
2.3.1.4. Sedentary	13
2.3.2. Modern production system	13
2.3.3. Other systems	14
2.4. Transhumance Routes in North Kordofan	14
2.4.1. Transhumance Routes at ELRahad Locality	14

2.4.2. Transhumance Routes South of EL Obied	15
2.4.3. Transhumance Routes at Abu Haraz locality	15
2.4.4. Transhumance Routes at Um Ruwaba Province	16
2.5. Types of Livestock markets in Sudan	16
2.5.1. Domestic Markets	16
2.5.2. Terminal Markets	17
2.6. The Export Trade	18
2.6.1. Live Animals	18
2.6.2. Meat Exports	19
2.6.3 Hides and skins	20
2.7. Constraints to livestock production	21
CHAPTER THREE: MATERIALS AND METHODS	
3.1 General	23
3.2 Data collection	23
3.2.1. Primary data	23
3.2.2. Secondary data	23
3.3. Methods for data Analysis	23
CHAPTER FOUR: RESULTS AND DISCUSSION	
4.1. General	25
4.2. Social characteristics	25
4.3. Range practices and livestock marketing constraints	28
4.3.1. Family movement	28
4.3.2. Animal feeding	29
4.3.3. Main water sources	29
4.3.4. Tribal conflicts	30
4.3.5. Reasons of tribal conflicts	31
4.3.6. Types of animals raise	32
4.3.7. Animal production	33
4.3.8. Marketing of animals' products	34
4.3.9. Specific local markets	35
4.3.10 Distance to livestock markets	36
4.3.11. Change in prices of live animals and milk	37
4.16. Obstacles in marketing animals	38
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS	
5.1. CONCLUSIONS	39
5.2. RECOMMENDATIONS	40
REFERENCES	41
ANNEXES	45

List of Tables

Table	Titles	Page No
1	Estimates of animal population in (000) head in Sudan	7
2	Estimate of livestock population in north kordofan state	7
3	Live Animals Exports from Sudan (heads)	19
4	Meat Exports (Ton) in Sudan	20
5	Distribution of household according to age	26
6	Level of education of families investigated	27
7	Main meal eaten by the respondents	27
8	Distribution of respondents according to family members who move with the herds	30
9	Distribution of respondents according to animal feeding	30
10	Distribution of main water source in the area	31
11	Distribution of respondents according to reason of tribal conflict	31
12	Distribution of household investigated according to how they market the animals' product	34
13	Results of respondents according to specific local market	35
14	Distance to livestock markets	36
15	Distribution of household investigated according to obstacles in marketing animals	38

List of figures

1	Ecological zones of North Kordofan State	10
2	The percentage of type of animals they raise	32
3	The percentage of type of animal production	33

ABSTRACT

The study was conducted in North Kordofan State around El Obied area (ELAin community forest). The study aimed to come up with, and suggest solutions and recommendations, that can possibly help remove livestock marketing constraints.

Primary data were collected using a questionnaire to obtain information from pastoral tribes such as Hawazma, Bederia, Messeria, Gawama and Fallata. Secondary data were collected from books, annual reports and scientific papers.

The results showed that there are many constraints facing livestock marketing. These constraints are including insufficient water supplies, poor market structures and fluctuating prices, in addition to the fact that markets are seasonal. Continuous movement of pastoralists from one place to another affected livestock condition, livestock marketing and animals' products since they don't have daily permanent markets. Transportation facilities constitute the most serious limitation when selling animals and animal products. Moreover, diseases affect animal production and marketing.

The study suggest that markets should be improved by government through availing animal services such as veterinary services and proper distribution of water points and transportation to markets should be provided through developing feeder roads.

ملخص الدراسة

أجريت هذه الدراسة بولاية شمال كردفان فى منطقة الأبيض (غابة العين) لمعرفة معوقات تسويق الثروة الحيوانية التى تواجه الرعاة. كان الهدف من هذه الدراسة هو إيجاد الحلول والتوصيات التى يمكن أن تساعد فى حل معوقات تسويق الثروة الحيوانية . تم جمع المعلومات الأولية عن طريق الإستبيان للحصول عن المعلومات من الرعاة الموجودين فى المنطقة وهم من قبائل الحوازمة ، البديرية، المسيرية، الجوامعة والفلاتة . اما المعلومات الثانوية فقد تم جمعها من الكتب والتقارير الدورية بالاضافة الى الأوراق العلمية.

خلصت الدراسة الى أن هناك العديد من المعوقات التى تواجه تسويق الثروة الحيوانية بالولاية. تشمل هذه المعوقات قلة المياه ، عدم توفر البنيات التحتية للأسواق ، بعد المسافات بينها وبين الرحل، تذبذب الأسعار وموسمية التسويق بالإضافة إلى حركة الرعاة الموسمية من مكان لآخر وهذا بدوره يؤثر على الإنتاج والتسويق . وأيضا خلصت الدراسة إلى أن الترحيل والأمراض يعتبران معوقان أساسيان عند تسويق الحيوانات ومنتجاتها.

أقترحت الدراسة أن تقوم الوزارات المعنية بتحسين الأسواق وذلك من خلال توفير الخدمات الضرورية المتمثلة فى الخدمات البيطرية والتوزيع السليم لقاط المياه و توفير الترحيل إلى الأسواق من خلال تحسين الطرق الجانبية.