



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Sudan University of Science and Technology
College of Graduate Studies

تقييم دور الإرشاد الزراعي في إدارة نزاعات حيازة الأراضي
بمحلية السلام – ولاية غرب كردفان – السودان

**An assessment of Role of Agricultural Extension
on Land Tenure Conflicts Management in El
Salam Locality, Western Kordofan State –
Sudan**

**A Thesis Submitted to the Fulfillment of the Requirements
for Ph.D. Degree in Agricultural Extension and Rural
Development**

By

Ismail Mohammed Ismail Mohammed

BSc. (2004)- Sudan University of Science and Technology

MSc. (2009) - Sudan University of Science and Technology

Supervisor: Prof. Mahir Salih Suleiman

Co supervisor: Dr. Aisha Ibrahim Ali

2018

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى:

﴿وَإِذْ قَالَ رَبُّكَ لِلْمَلَائِكَةِ إِنِّي جَاعِلٌ فِي الْأَرْضِ خَلِيفَةً قَالُوا أَتَجْعَلُ فِيهَا مَنْ يُفْسِدُ فِيهَا وَيَسْفِكُ الدِّمَاءَ وَيَحْنُ نُسْبِحُ بِحَمْدِكَ وَتُقَدِّسُ لَكَ قَالَ إِنِّي أَعْلَمُ مَا لَا تَعْلَمُونَ﴾

صدق الله العظيم

سورة البقرة الآية مرقم (30)

Dedication

To my beloved father and mother whose affection, encouragement and support guided me to complete this work.

To my supervisors. **Prof, Mahir Salih Suliman** and, **Dr. Aisha Ibrahim.**

To my dear friends with gratitude and respect.

Acknowledgments

First I would like to express my deepest gratitude to Almighty Allah to enabling me complete this study. I would like to express my sincere gratitude for everyone who helped me during the steps of accomplishing this project. Starting with endless thanks to my supervisor **Prof. Mahir Salih Suliman** and **Dr. Aisha Ibrahim** for their continuous encouragement and support, they provided me with valuable comments that guided me to accomplish this study.

Many thanks and appreciation are extended to my parents who have prayed for me in every step of my life. I would like to extend my thanks for those who have encouraged me and supported me during the years of study.

Abstract

The aim of this study was to investigate the agricultural extension's Role under land tenure conflicts situation in El Salam locality of Western Kordofan State. The idea was to come out with some recommendations that can contribute to mitigation and settlement of conflicts in the study area. The social survey was used as the principal research method along with the case study to look into the details of some actual conflicts. Six villages were selected with a total of 200 respondents (170 villagers and 30 officials). The data was collected using the semi-structured interview technique. In addition, secondary data was collected from other sources which included references, previous studies, and the reports of the organizations working in the area. The study showed that 95% of respondents acknowledged having of some kind of tenure-ship over farming land, the great majority of respondents are using their land for subsistence crop production as indicated by 89.5% of respondents, 83% of the respondents agreed or fully agreed concerning the existence of legacy conflict, 89.5% of the respondents indicated consequently boundary conflict, 83% were agreeing or fully agreeing the existence of the tribal conflicts, 92.5% of interviewees indicated that the existence of conflict was due to minerals availability, 77.5% of respondents hold the opinion that agricultural extension could play influential role in conflicts settlement, 97.5% confirmed the willingness of local communities in participation in extension campaigns, 92% see participation in decision making as a condition pertinent to conflict settlement.

Hence, the study forwarded the following recommendations:

- Activation of the role of the local mediators including community, opinion and religious leaders as they have the capacity and capability of getting the conflicting parties together and settle down disputes.
- Activation of traditional laws in resolving disputes as these laws are familiar for their flexibility.
- Promote the participation of the conflicting parties in solving out their disputes and give enough legal room for the acceptance of their agreements.
- Forwarding efforts to spread the peace culture among local communities and enhancing the peaceful coexistence through the societal activities.
- Promoting the role of women in building social peace.
- Raising environmental awareness and encouragement of the collective work for attainment of the social peace.

مستخلص الدراسة

هدفت هذه الدراسة لتقييم دور الإرشاد الزراعي في ادارة نزاعات حيازة الأراضي بمحلية السلام بولاية غرب كردفان، ومن ثم الخروج بمقترحات وتوصيات يمكن أن تسهم في تقليل فرص النزاعات بمنطقة الدراسة. وقد استخدم المسح الاجتماعي وتم جمع البيانات عن طريق الاستبيان ، وسيلتي المقابلة شبه المنظمة والملاحظة المباشرة هذا بالإضافة للمعلومات التي تم الحصول عليها من المصادر الثانوية والتمثلة في المراجع والدراسات السابقة وتقارير المنظمات العاملة بالمنطقة. تم اختيار ستة قرى بطريقة عشوائية وبلغت عينة الدراسة 200 فرد منهم 170 فرد من مجتمع القرى المختارة كما تم اختيار 30 من الإدارة الأهلية والمؤسسات الحكومية وممثلون من الجهات ذات الصلة بالموضوع، واستخدم برنامج الحزم الإحصائية للعلوم الاجتماعية (SPSS) لتحليل البيانات. وتمثلت أهم نتائج الدراسة أن 95% من المبحوثين يمتلكون حيازة أرض زراعية ألت إليهم عن طريق الميراث بنسبة 59.5%. أن المبحوثين يعتقدون بأن أسباب النزاع غالبا ما تكون متعلقة بملكية الأرض الزراعية، 89.5 من المبحوثين يستخدمون الحيازات لزراعة المحاصيل، 75% يستخدم في انتاج محصول الذرة، 83 % من المبحوثين يوافقون علي أسباب النزاع علي حيازة الأرض عن تقسيم الميراث، النزاع حول الحدود الزراعية و النزاع بين القبائل حول الحيازات، 92.5 % من المبحوثين علي أن النزاع حول الأرض التي في باطنها معادن وبتروول، 77.5 % يقولون الإرشاد الزراعي يمكن ان يكون له دور في تسوية النزاعات حول حيازة الأراضي، 97.5 % من المبحوثين لديهم استعداد للتعاون مع الإرشاد الزراعي في المشاركة في تنفيذ الحملات الارشادية، 92% من المبحوثين يرون بأن المشاركة في اتخاذ القرارات لها دور في ادارة النزاعات. وعليه أوصت الدراسة بالآتي:-

- تفعيل دور الوسطاء بما فيهم أفراد المجتمع المحلي والادارة الاهلية ورجالات الدين وذلك بما لديهم من قدرات لجمع الاطراف المتنازعة لحل النزاع على حيازة الأراضي .
- تفعيل القوانين العرفية والتقليدية لتسوية النزاع حول حيازة الاراضي الزراعية
- إشراك أطراف النزاع وإعطاء الفرصة لمقترحاتهم وقبول الاتفاق بينهم.
- نشر ثقافة السلام والتعايش السلمي من خلال الأنشطة المجتمعية.
- تفعيل دور المرأة في بناء السلام الاجتماعي .
- رفع الوعي البيئي للمجتمع المحلي وتشجيع العمل الجماعي لبناء السلام الاجتماعي.

Abbreviations

ACORD	Agency for Cooperation and Research in Development:
CCU	Central Coordination Unit
CDC	Community Development Centre/Committee
CES	Cooperative Extension Service
CIF	Community Initiative Fund
CIP	Council of Implementing Partners
CPA	Comprehensive Peace Agreement
CPM	Country Programme Manager
CPO	Country Programme Officer
CRCs	Conflict Resolution Centres
DLC	Darfur Land Commission
DPA	Darfur Peace Agreement
FAO	The Food and Agriculture Organization of the United Nations
FIDS	Farm Information Dissemination System
GNU	Government of National Unity
GoS	Government of Sudan
GoSS	Government of Southern Sudan
ICB	International Competitive Bidding
ICDC	Integrated Community Development Centre
IFAD	International Fund for Agricultural Development
IRAM	Institute de Recherches et d'Application des Methods de Development
IRD	Integrated Rural Development
JAM	Joint Assistance Mission
KM	Knowledge Management
LEN	Local Extension Network
METs	Mobile Extension Teams

MOAF	Ministry of Agriculture and Forestry
N LC	National Land Commission
NCRC	National Constitution Review Commission
NGOs	Non-Governmental Organizations
NIF	Non-Immigrant Information Form
NRC	Norwegian Refugees Council
NRM	Natural Resource Management
PAU	The Punjab Agricultural University
PCU	Project Coordination Unit
RRD	Regional Rural Development
SOS	Sahel of Sudan
SPLM	Sudan People's Liberation Movement
SSLC	Southern Sudan Land Commission
T&V	Training and Visit Extension
ULA	Unregistered Land Act
UNDP	United Nations Development Programme
UNHCR	Office of the UN High Commissioner for Refugees
UPLB	The University of the Philippines at Los Baños
USA	United State of America
USAID	United States Agency for International Development
VDC	Village Development Committee
W B	World Bank
WSRNP	Western Sudan Resource Management Program

Contents

SUBJECTS	Page No
الآية	I
Dedication	II
Acknowledgments	III
List of Abbreviations	VI
Abstract	IV
Abstract in Arabic	V
Abbreviations	VI
List of contents	VIII
List of Tables	X
CHAPTER One	
Introduction	
1.1 Introduction	1
1.2 Problem context	2
1.3 Research problem and questions	3
1.4 The objectives of the research	4
1.5 General hypotheses	4
1.6 Definitions of terms	4
1.7 Research Justifications	7
CHAPTER Two	
Literature Review	
2.1 The history of agricultural extension	8
2.1.1 Characteristics of different types of extension work	11
2.1.2 Scope of activity and tasks of extension service	12
2.1.3 Extension Systems	13
2.1.4 Alternative Systems in Extension	14
2.2 Alternative approaches to organizing extension	14
2.3 General Clientele Approaches	16
2.4 Extension to Selected Clientele	25
2.5 Client-Based and Client-Controlled Extension	29
2.6 Present and future role of extension staff	30
2.7 Identification of extension approaches	32
2.8 Effectiveness of extension	35
2.9 Land tenure	36
2.9.1 Multiplicity and diversity of land conflicts	37
2.9.2 Conflicts over Land	39
2.9.3 Legal Status of Customary Tenure	44
2.9.4 Key Actors and Institutions	47

2.9.5 Rural Land Tenure	51
2.9.6 Customary land tenure in rural Sudan	53
2.9.7 The role of native authorities in land allocation	55
2.9.8 Pastoral land tenure	56
2.9.9 Rights to wild resources	58
2.9.10 The land registration process and mechanized farming	59
2.9.11 The market in land	62
2.9.12 Land tenure under Islamic Law	63
2.9.13 Urban Land Tenure	64
2.9.14 Rights to Other Natural Resources	67
2.9.15 Tenure and Sustainable Resources Management	68
2.9.16 Land Tenure and Gender Relations	69
2.9.17 Land Tenure, Agriculture and Food Security	71
2.9.18 Land Tenure and Environmental Security	72
2.10 Challenges to Tenure Reform	73
2.11 Opportunities for Tenure Reform	76
2.12 Previous research	79
CHAPTER Three	
Research Methodology	
3.1 Research Methodology	83
3.2 Research Area	83
3.3 Research population	85
3.4 Sampling and sample size	85
3.5 Data Collection Process	85
3.6 Data Analysis	87
CHAPTER Four	
4. 1 Results and Discussion	88 –126
CHAPTER Five	
CONCLUSIONS, RESULTS AND RECOMMENDATIONS	
5.1 Summary of Results	127
5.2 Conclusion	129
5.3 Recommendations	130
5.4 References	132
Appendix	

List of Tables

Table	Page No
Table (4:1) Frequency distribution of respondents by gender	88
Table (4:2) Frequency distribution of respondents by age	88
Table (4:3) frequency distribution of respondents by education	89
Table (4:4) frequency distribution of respondents by Marital status	89
Table (4.5) frequency distribution of respondents by family responsibility	90
Table (4:6) frequency distribution of respondents by main occupation	90
Table (4.7) frequency distribution of respondent by land ownership	91
Table (4.8) frequency distribution of respondents by means of accessing tenure-ship	91
Table (4.9) frequency distribution of respondents based on land size	92
Table (4.10) frequency distribution of respondents according to land use type	92
Table (4.11) frequency distribution of respondents based on means of water sources	93
Table (4:12) frequency distribution of respondents by water delivering responsibility	93
Table (4.13) frequency distribution of respondents based on types of Livestock possession	94
Table (4:14) frequency distribution of respondent based on type of crops produced	94
Table (4.15) frequency distribution of respondent by cultivated area	95
Table (4.16) frequency distribution of respondents based on perception of existence of legacy conflict	95
Table (4.17) frequency distribution of respondents based on state control over land	96
Table (4.18) frequency distribution of respondents by individual and group interests' conflict	97
Table (4:19) Frequency distribution respondents based on their opinion concerning laws implementation	97
Table (4:20) Frequency distribution of respondents based on their perception of the role of agricultural societies	98
Table (4:21) Frequency distribution of respondents based on the perception of effectiveness of state institutions	99
Table (4:22) Frequency distribution of respondents based on their	99

opinion towards the role of police in conflicts solving	
Table (4:23) frequency distribution of respondents based on existence of personal interests	100
Table (4:24) Frequency distribution of respondents based on their opinion as to laws implementation	101
Table (4:25) Frequency distribution of respondents based on opinion as to lack of area boundary between farms	101
Table (4:26) Frequency distribution of respondents based on existence of conflicts with neighbors	102
Table (4:27) Frequency distribution of respondents based on their opinion as to existence of tribal conflict	102
Table (4:28) Frequency distribution of respondents based on opinion as to existence of conflicts with the state	103
Table (4:29) Frequency distribution of respondents based on opinion as to existence of tribal conflicts	104
Table (4:30) Frequency distribution of respondents based on their opinion as to existence of family conflicts	104
Table (4:31) Frequency distribution of respondents based on opinion as to existence of water resource conflicts	105
Table (4:32) Frequency distribution of respondents based on opinion as to existence of non cultivated land conflicts	105
Table (4:33) Frequency distribution of respondents based on opinion as to existence of conflicts on the free land	106
Table (4:34) Frequency distribution of respondents based on their views as to existence of border conflicts	106
Table (4:35) Frequency distribution of respondents based on their views as to the existence of crop land border conflict	107
Table (4:36) Frequency distribution of respondents based on opinion as to existence of conflict on the state's land	108
Table (4:37): Frequency distribution of respondents based on their views that conflicts are related to minerals availability crop lands	108
Table (4:38) Frequency distribution of respondents based on their views as to the current role of extension in conflicts settlements	109
Table (4:39) Frequency distribution of respondents based on their views as to the influential role of extension in to conflicts settlements	109
Table (4:40) Frequency distribution of respondents based on opinion concerning execution of extension campaigns	110
Table (4:41) Frequency distribution of respondents based on opinion concerning extension activities	110
Table (4:42) Frequency distribution of respondents based on opinion concerning instability of community	111

Table (4:43) Frequency distribution of respondents based on opinion concerning of rending relations	111
Table (4:44) Frequency distribution of respondents based on opinion concerning of disable individual interests	112
Table (4:45) Frequency distribution of respondents based on reduction of productivity	112
Table (4:46) Frequency distribution of respondents based on opinion time of consuming	113
Table (4:47) Frequency distribution of respondents based on opinion weakness of productivity	114
Table (4:48) Frequency distribution of respondents based on opinion tearing of the family	114
Table (4:49) Frequency distribution of respondents based on opinion the state weakness	115
Table (4:50) Frequency distribution of respondents based on opinion as to weak state administrations	115
Table (4:51) Frequency distribution of respondents based on opinion the State of threatening	116
Table (4:52) Frequency distribution of respondents based on opinion infrastructure	117
Table (4:53) Frequency distribution of respondents based on opinion of agricultural land damage	117
Table (4:54) Frequency distribution of respondents based on opinion as to wasting of resources	118
Table (4:55) Frequency distribution of respondents based on opinion formulated the law	119
Table (4:56) Frequency distribution of respondents based on opinion of the law enforcement	119
Table (57) Frequency distribution of respondents based on opinion of institutional support in resolution of conflicts	120
Table (4:58) Frequency distribution of respondents based on opinion of the conflicts resolution	121
Table (4:59) Frequency distribution of respondents based on opinion of strengthening customs	121
Table (4:60) Frequency distribution of respondents based on opinion of Ajaweed	122
Table (4:61) Frequency distribution of respondents based on opinion concerning community cooperation with extension	123
Table (4:62) Frequency distribution of respondents based on opinion of individual cooperation	123
Table (4:63) Frequency distribution of respondents based on opinion concerning community participation in decision-making with	124

extension	
Table (64) Frequency distribution of respondents based on opinion concerning of leaders of community	124
Table (4:65) Frequency distribution of respondents based on opinion concerning of members that cannot change their leaders	125
Table (4:66) Frequency distribution of respondents based on opinion concerning community involved in the development activities	126

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

Sudan suffered of civil wars followed by ethnic, religious and economic conflicts. The situation has been very fragile for several decades as a result of neglect by government, internal conflicts, and environmental problems in a range of external factors. These factors combined dramatically in 2003 when Darfur exploded into armed conflict between rebel groups and government-backed forces. The conflict exacerbated existing divisions between different tribes and sparked a range of other conflicts (tribe - tribe, rebel group - rebel group) and an increase in criminality. In most cases, the conflicts that menace human security are related to competition over access, use and security of scarce natural resources. Providing more equitable access to land and increased tenure security is often an important part of rural development. However, secure access to land by itself is not enough; people also need access to complementary productive and institutional resources – including financing training, open and effective markets, technology and rural infrastructure – if the potential benefits of improved access to land are to be achieved. When increasing population pressure results in the size of family holdings decreasing with each generation, the creation of opportunities for off-farm income becomes increasingly important to reduce pressure on the land. The incidence of poverty tends to be greater in ecologically fragile and marginal agricultural areas (FAO, 2006). That the issue of natural resource management is an essential source for tension and loss of stability, and because of its importance in this context has been included in the agreements under the terms of the wealth-

sharing, explaining that the concept of environmental cooperation provides integrated communities in addition to enhancing trust between the parties and works to melt the community tension and alleviate tribal and ethnic prejudices, and turn the conflict into a complementary partnership relationship (Babiker, 2012).

1.2 Problem context

Conflicts over possession of land tenure is one of the most important factors that threaten rural communities in the modern state, we find that the conflicts over holdings old phenomenon relatively where they were monitored carefully between farmers and Bedouin nomads in many rural areas and pastoral in various countries of the ancient world but, the phenomenon has evolved and become more complex making it dangerous to ignore (Chatwin, 1989). The mastery of possession land tenure and natural resources without conflicts one of the factors that increase the optimization of revenue including reduced levels and forms of poverty and limits the growing problem of food, but the inability to provide the appropriate environment to enable individuals and groups to achieve tenure stable quiet represents one of the factors threaten the security of the community and increase the rates of wastage of natural resources and to raise the levels and forms of poverty in the countries dominated by the phenomenon, and in most cases, the increased levels and forms of conflict represents an inevitable result of the competitive process is unequal possession of land or natural resource (Adriana and Guglielma, 2006). And linked to the need to use violence or armed conflict to achieve tenure variety of factors, which include what is legal is the relationship of the structure of laws and regulations, regulations and legislation governing the ownership, possession, and which vary in strength and effectiveness of the state to another, and the prevailing security situation and the state's ability to domination its borders and internal divisions is an important

factor in the need for violence and adopt a method of dealing with this kind of imbalance, the growing sense of insecurity in the land or natural resource as a result of expropriation or the right to use in some developing countries specifically or wishing to grow, without regularization of the owners of these lands or holdings through the provision of satisfactory compensation (Patrick Barron, 2004).

1.3 Research problem and questions

Agricultural extension as an institution has long been involved in promoting sustainability and agricultural development. However, attempts to achieve sustainability under conflict situation have faced agricultural extension with unprecedented challenges. Currently, agricultural extension is fundamentally limited in its ability to promote sustainable agricultural development and natural resource management. This might call for new paradigms and alternative agricultural extension approaches to cope with these challenges.

The question is: how can agricultural extension as a leading institution be transformed to perform its envisaged role under prevailing land tenure conflict situation?

This research question will be tackled by forwarding the following questions:

1. What is a nature of conflicts in the area?
2. What are the main causes of conflict on land tenure and natural resources?
3. What is the impact of conflict on land tenure on agricultural extension as a change institution?
4. Under which circumstances will agricultural extension be able to perform its role in enhancing sustainable development?

1.4 Objectives of the research

The purpose of this study was to investigate the agricultural extension role under land tenure. The specific objectives of study were as following:

1. To identify selected occupational and demographic characteristics of the holders of the agricultural lands in Al salam locality
2. To investigate the character of the conflicts on land tenure.
3. To define the reasons, causes, the social and economical impacts of the conflicts.
4. To evaluate the impact of the conflict situation on agricultural extension's role as a leading development institution.
5. To propose conditions for optimal performance of agricultural extension.

1.5 General hypotheses

There are no differences in the perception of respondents regarding the agricultural extension role under land tenure conflict management.

1.6 Definitions of terms

Land tenure

Land tenure is the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land. (For convenience, "land" is used here to include other natural resources such as water and trees.) Land tenure is an institution, i.e., rules invented by societies to regulate behavior. Rules of tenure define how property rights to land are to be allocated within societies. They define how access is granted to rights to use, control, and transfer land, as well as associated responsibilities and restraints. In simple terms, land tenure systems

determine who can use what resources for how long, and under what conditions.

Customary tenure

The tenure usually associated with indigenous communities and administered in accordance with their customs as opposed to statutory tenure usually introduced during the colonial periods. However, some countries in Africa are giving legal status to customary tenure. It often includes communal rights to pastures and exclusive private rights to agricultural and residential parcels.

Land administration

the set of systems and processes for making land tenure rules operational. It includes the administration of land rights, land use regulations, and land valuation and taxation. Land administration may be carried out by agencies of the formal state, or informally through customary leaders.

Land dispute

A disagreement over land rights, boundaries or uses. A land dispute occurs where specific individual or collective interests relating to land are in conflict.

Land information system (LIS)

a system for acquiring, managing, processing, storing and distributing information about land. It is usually parcel-based.

Land reform

The redistribution of land to the rural poor for equity and agricultural efficiency purposes.

Land registration

The recording of rights to land in some form of public register. It includes information on the rights, their location, and their holders. Registration can be parcel-oriented (sometimes referred to as title registration) or based on the holders or transfer documents (sometime referred to as deed registration). In title registration, ownership is transferred upon

registration rather than on execution of the contract; the state may also provide a guarantee on the validity of the title.

Land rights

Rights held to land and other natural resources. More than one person may hold rights to a parcel of land which gives rise to the concept of a “bundle of rights.

Land tenure reform

Changes to the rules of tenure. It can include the legal recognition of customary tenure rights, strengthening the rights of tenants, etc.

Negotiated land reform

reforms that use the land market as a vehicle for redistributing land, but in which the state plays an important role in providing funds (e.g., through grants and/or loans) for poor farmers to purchase land.

Open access

Tenure where there is no control on access to resources: specific rights are not assigned to anyone and no-one can be excluded. It may include rangelands, forests, etc, where there is free access to the resources for all.

Ownership

The rights to land that are, in everyday language, associated with the ability to use, control, transfer, or otherwise enjoy a land parcel as long as those activities are allowed by law. In statutory tenure it is often associated with freehold. However, land law does not tend to define explicitly what is meant by “ownership”.

Tenure security

The certainty that a person’s rights to land will be protected. People with insecure tenure face the risk that their rights to land will be threatened by competing claims, and even lost as a result of eviction. The attributes of security of tenure may change from context to context: investments that require a long time before benefits are realized require secure tenure for a commensurately long time.

1.7 Research Justifications

Sudan's conflicts have many causes, but at the root of each conflict are questions over the control and distribution of resources. The most important resource is land: whether exploited for agriculture, cattle-herding or subterranean resources such as oil or water, land ownership is the key to wealth and power. Within each dar are a number of hawakeer (singular hakura), the lands of a particular clan or tribal group. The strong relationship between a tribe and its homeland, in which leadership is traditionally restricted to the original landlords, has allowed the major tribes to use and monopolize the natural resources within their dar and to deny minor tribes any claim to rights or ownership which would allow them to exercise political or administrative power .

CHAPTER TWO

LITERATURE REVIEW

2.1 The history of agricultural extension

Agricultural extension work has a venerable, albeit largely unrecorded, history. It is a significant social innovation, an important force in agricultural change, which has been created and recreated, adapted and developed over the centuries. Its evolution extends over nearly four thousand years, although its modern forms are largely a product of the past two centuries. Today, the organizations and personnel engaged in agricultural extension encompass a diverse range of socially sanctioned and legitimate activities which seek to enlarge and improve the abilities of farm people to adopt more appropriate and often new practices and to adjust to changing conditions and societal needs.

The use of the word "extension" derives from an educational development in England during the second half of the nineteenth century. Around 1850, discussions began in the two ancient universities of Oxford and Cambridge about how they could serve the educational needs, near to their homes, of the rapidly growing populations in the industrial, urban area. It was not until 1867 that a first practical attempt was made in what was designated "university extension," but the activity developed quickly to become a well-established movement before the end of the century. Initially, most of the lectures given were on literary and social topics, but by the 1890s agricultural subjects were being covered by peripatetic lecturers in rural areas (Jones, 1994). The growth and success of this work in Britain influenced the initiation of similar activity elsewhere, especially in the United States. There, in many states, comparable out-of-

college lectures were becoming established by the 1890s (True, 1900, 1928). During the first two decades of this century, the extramural work of the land-grant colleges, concerned with serving the needs of farm families, was to expand dramatically and become formally organized; but the use of the term "extension" continued and has persisted as the designation for the work. The overt use of the notion of "extending" relevant and useful information to the adult population at large, however, predates the university extension movement. Earlier in the nineteenth century, a British politician, Lord Henry Brougham, an influential advocate of formal education for the poor and of mass adult education, founded the Society for the Diffusion of Useful Knowledge in 1826. Its objective was "imparting useful information to all classes of the community, particularly to such as are unable to avail themselves of experienced teachers, or may prefer learning by themselves." The society sought to do this largely through producing low-priced publications and establishing local committees throughout the country "for extending the object of the Society" (Society for the Diffusion of Useful Knowledge 1827). During its twenty years' existence, agricultural topics were well covered in the society's publications. Similar, albeit short-lived, societies were also established before 1840 in several other European countries, India, China, Malaysia, and the United States (in Virginia) (Grobel, 1933; Smith, 1972). Agricultural extension is a general term meaning the application of scientific research and new knowledge to agricultural practices through farmer education. The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators from different disciplines, including agriculture, agricultural marketing, health, and business studies. Extension practitioners can be found throughout the world, usually working for government agencies. They are represented by several

professional organizations, networks and extension journals. Agricultural extension agencies in developing countries have received large amounts of support from international development organizations such as the World Bank and the Food and Agriculture Organization (FAO) of the United Nations.

Extension service in agriculture is indispensable and it offers more than just expert assistance in improvement of production and processing, it also enables flow of information and transfer of knowledge and scientific findings to practice. These activities are performed according to rules which regulate establishing of organization, functioning, goals and fields of operation, ways to execute extension activities by the extension agent, their obligations and rights. Extension service has undergone numerous changes and has influenced unevenly application of certain scientific achievements in the practice. First association of farmers was formed in Scotland in year 1723. Similar associations were formed in France in 1756, in Denmark in 1769 and in England and USA in 1784. Analysis of the organization and functioning of extension service in developed world countries and their experiences in this activity are of course very useful for institutional organization of innovation in the field of agricultural technology and knowledge. Developed countries on other continents formed their own national extension services at the end of 19th and beginning of 20th century (Australia 1890, Canada 1907, New Zealand 1910, USA 1910). In Japan, national extension service was established in 1898, but farmers didn't accept it before 1910 and under force.

Diffusion of extension forms is common characteristic of agricultural extension Service all around the world. It is pointed out that in the future, private initiative will gain importance in this field. In a broader sense this occurrence can be characterized as a phenomenon "untying of businesses in companies. (Drucker 1990).

2.1.1 Characteristics of different types of extension work

Depending on the concept and main tasks of the extension service it is possible to define following types of extension work:

1. Compulsory extension service is related to the early stage of the development of agriculture when farmers are economically dependent and are at the lowest educational level, so for the purpose of achieving certain goals the legalized forcing is used and punishing of those who wouldn't subdue to this obligation.

2. Economical extension service, this type of extension work is possible in market conditions and uses economical incentives for realization of its goals, and its efficiency is demonstrated in capital deficiency.

3. Educational extension service provides, offers opportunities for learning through educational materials, publications, organizing of short courses, study trips, etc. This type of extension work is used for protection of the environment and nature.

4. Universal extension service established on legal basis and using economical incentives such as:

- Price bonus/recourse
- Insurance incentives
- Lower interest rates
- Assistance in organization of the market.

This type of extension service is very effective when economical and educational levels of farmers are high.

5. Optional extension service is based on free will of the farmers to receive advice and information on their request and if needed. It is efficient in circumstances, when farmers are able to develop and progress on their own, give initiative and have sufficient level of financial resources.

2.1.2 Scope of activities and tasks of extension service

Agricultural extension service has the objective to assist family holdings or farmers in improvement of the methods and techniques of agricultural production, farm management, and increase of income and of productivity and production quality, increase of standard of living and elevating of social and educational standards in villages. Objective is to help the farm i.e. holding to gain new information and develop new abilities, as well as to apply directly on the farm the latest scientific knowledge (transfer of technology).

- Extension work related to technological, economical and protected area of agricultural operation.
- Extension work in development of new guidelines for small and medium enterprises and agricultural holdings. Investments, business plans, plan for development of regions for agricultural production and processing, and additional activities.
- Extension work and assistance in adoption of measures of agrarian policy (assistance in submission of requests and documents for subsidies and other calls, providing information and keeping records).
- Assistance in organization and work of organizations for primary production and other forms of producer associations.
- Building of capacity of agricultural producers for more successful managements of the farm/holding.
- Directing of rural development of the local community.
- Preservation of natural resources and environment (sustainable development).
- Directing and harmonizing production with natural resources and market demands, as well as development of entrepreneurship in agriculture in rural areas.

- Inducing forming of producer associations and other social groups in the villages. Set goals can be realized if the service is keeping up with latest scientific results and EU trends and market demands, relying on the results, knowledge and experience of scientific, research and expert educational institutions in agriculture. Extension service must establish good cooperation with all mentioned institutions.

2.1.3 Extension Systems

The following are some definitions relevant to the concept of extension systems:

- Extension system: refers to an extension organization, such as a Ministry of Agriculture extension system, department of agricultural extension, a college or university-based extension system, or pastorals -based extension system.
- Extension strategy: is a chosen course of action such as multi-step information flow strategy or multi-media strategy.
- Extension methods: refers to the educational techniques used by the extension system, particularly by field staff in communicating with farmers. Examples include interpersonal and group methods such as farm visits, method and result demonstration, field days, and farmers meetings, as well as methods using a combination of various information media and training techniques.
- An extension approach: is the style of action within a system. According to Axinn (1988), the approach embodies the philosophy of the extension system. It is like the beat of a drummer, which sets the pace for all of the activity of the system. However, it is not merely one of the components of the system. It is more like a

doctrine of the system, which informs, stimulates, and guides such aspects of the system as its structure, its leadership, its programme, its resources, and its linkages. Operationally, an extension approach influences the choice of the target audience and their participation, the resource requirements and allocation, the methodologies employed, and for the monitoring and evaluation of extension activities and extension associated development impact.

2.1.4 Alternative Systems in Extension

In developing countries, national development institutions are familiar for slow pace of agricultural and rural development. Hence, many deliberate efforts were made to improve the efficiency and effectiveness of agricultural extension systems. This brought about the conception of new strategies and approaches to overcome recognized constraints of general agricultural extension of the 1950s. At that time, research results needed to improve agriculture proved to be an illusion. Needed inputs, access to markets and other incentives necessary to motivate the application of most extension recommendations had been overlooked. Training, employing and supporting of staff for countrywide operation posed difficult financial and logistical problems (FAO, 1998).

2.2 Alternative approaches to organizing extension

1. Extension goals

Goals lead the actions of individuals, groups, and organizations. While pointing towards a future state, they are influenced if not determined by past experiences. They reflect the interests of their stakeholders and differ, therefore, according to specific life situations, power positions, and development philosophies. The prominent features of a system, such as

its organizational structure, the choice of clientele, its operational design, and the methods used, are directly influenced by its set of goals and must be evaluated in terms of their contribution to goal achievement.

2. Technology Transfer

For decades the research-extension-farmer linkage, especially in developing countries, was based on a rather simple model. In order to achieve development, "modern" research results had to be transferred to the "traditional" farmer, and extension seemed to be the appropriate means to do so. The general faith in science and the commitment to modernization led to discrediting indigenous knowledge.

Farming systems research and the "rediscovery" of farmers' knowledge have shown that "improved technology is a package of inputs and practices that usually comes from many sources".

3. Human Resource Development

The concept of human resource development is much broader than that of technology transfer, though both are closely interrelated. Increasing complexity not only of technology but also of the life situation of farmers even in remote areas demands new skills. With the help of these skills, rural women and men "acquire a better insight into the network of problems and recognize the alternative solutions available". Human resource development thus aims at what may be called "critical competence." Extension clients know what to ask for, they can evaluate the appropriateness of technical information, they are responsible decision makers. One important task of any extension system will therefore be to extend human resource development to underprivileged groups with less access to formal or vocational education - women farmers, rural youth, and generally small farmers in remote areas.

4. Alternative ways of organizing extension

The goals of extension may vary, as was shown, within the overall system as well as between different extension organizations. In addition, specific objectives may sometimes contradict each other. While smaller systems may come close to pursuing a consistent set of objectives or reconciling conflicting interests, large-scale organizations must work on a compromise basis. The success of an agricultural extension programme tends to be directly related to the extent to which its approach fits the programme goals for which it was established" (Axinn, 1988, p. 135).

The alternatives to organizing extension demand choices on various levels:

- Public versus private
- Government versus nongovernment
- Top-down (bureaucratic) versus bottom-up (participatory)
- Profit versus nonprofit
- Free versus cost-recovery
- General versus sector
- Multipurpose versus single purpose
- Technology driven versus need oriented.

In practice, extension organizations everywhere pursue the overall goals of technology transfer and human resource development, though the emphasis will differ.

2.3 General Clientele Approaches

1. Ministry-Based General Extension:

Shortly before or after independence, organizing agricultural extension work under the wings of the ministry of agriculture seemed to be an ideal solution for many African and Asian governments. All options for

reaching large numbers of clients and serving their needs in terms of quality information and assistance appeared to be open. The original colonial model combined research and extension within the same organization.

All important aspects of small-holder agriculture - plant production, animal husbandry, home economics - could be attended to as the ministry established respective sections under its authority.

The fact that the ministerial hierarchy followed the country's territorial subdivision allowed the systematic expansion of the system "down" to the village.

The generalist nature of field extension staff functions corresponded to the set of problems faced by noncommercial growers. To cater to specific needs - in terms of technology or in terms of target groups - specialists could be employed.

Commercial service and support organizations lacking, village-level extension staff could be expected to supplement information by rendering services necessary to apply it productively.

A uniform and nationwide organizational pattern seemed to facilitate information flow - including the infusion of expatriate expertise - and corrective measures whenever weaknesses were identified.

Public interest was to guide goal setting, programme formulation, and the implementation of fieldwork.

A review of the last thirty years of extension work in Africa and Asia shows that reality is quite far from failure are complex and manifold and cannot be removed from this vision. The reasons for failure are complex and manifold and cannot be reduced simply to incompetence or the ill-will of national governments.

One reason is the contradictory nature of goals. Public interest implies serving farmers and the urban population, securing subsistence

production and promoting cash crops for export, reaching the masses of rural households and serving the needs of specific groups, extending assistance to high-potential and disadvantaged producers. In short, priorities will have to be set, and these are all too often pro urban in terms of price policy, favoring innovative individuals within the modern sector, neglecting poorer strata, and forgetting about women farmers.

In many ways, the hierarchical and highly bureaucratic way in which the services are organized hampers a full realization of their potential. Priority setting for research is rarely based on extension field evaluations because the system does not foster critical upward communication.

The way in which technical (and other) knowledge is transformed into field messages frequently leads to distorted and outdated information.

In the eyes of the ministry, extension has never been a purely educational activity. This is a legitimate view as long as the different functions to be performed by extension personnel are compatible and basically client oriented (such as helping to organize input supply). Non educational activities may include anything from statistical data collection to attending to foreign visitors. Incompatible with and clearly detrimental to regular extension work are such activities as supervising credit repayment, policing disease control measures, organizing "voluntary" community work, and electioneering.

Ministry-based extension has been unable to reach a majority of its potential clientele for economic, sociopsychological, and technical reasons. Even dramatic quantitative increases in personnel - more staff closer to the farmer - have not produced manageable client-to-agent ratios. In recent years, the trend has even been negative. Financial constraints have produced a strong pressure to reduce staff, and the field level has been hit hardest. Those remaining have little if any material resources left to maintain mobility.

In addition, many extension workers select the more responsive section of their clientele. They may have to fulfill production plans, they may want to improve job satisfaction or status, or they may simply be prejudiced against certain target groups. Lastly, extension often has little to offer in terms of messages to large sections of the rural population. Adequate and location-specific answers to a farmer's problem are often not available because it has not been a research concern or the solution has simply not reached the field. Today's situation is aggravated by two additional aspects which refer to the internal structure of the service: management problems and lack of control from below. Ministry extension employs thousands of persons working under a wide variety of circumstances. Decision making and management are highly centralized and formalized. Extension fieldwork, on the other hand, demands location-specific, flexible, and often quick decisions and actions. Managing the "invisible" man or woman must be highly ineffective as long as he or she is expected to receive and execute orders. All these problems are well known, and criticism has come both from within and outside the ministry. What has been lacking is organized feedback from clientele. Farmers may show their discontent by refusing to cooperate with extension, but they have virtually no way of influencing institutional reforms (Chambers, 1974).

2. Training and Visit Extension (T&V):

In the strict sense of the word, T&V is not a separate approach but one way to organize ministry-based extension.

The controversial debate on the merits of T&V tends to obscure the fact that it was originally meant to solve some very specific problems of conventional extension services.

Benor and Harrison critically evaluated the ministry-based extension system of the 1970s. They found:

- An inadequate internal organizational structure
- Inefficiency of extension personnel
- Inappropriateness or irrelevance of extension content
- Dilution of extension impact

When first being introduced, T&V seemed to be strikingly original and promising because it combined a set of rather convincing simple elements in a plausible way.

Rather than trying to reach all farmers directly and thus preprogramming constant failure, the system concentrates on contact farmers expected to pass information on to fellow farmers with similar problems.

To ensure regular field contacts, facilitate supervision and communication, and set clear and attainable objectives, fixed visits at regular intervals are prescribed. Similarly, regular sessions for extension workers to receive training and discuss administrative matters are held.

In addition, T&V operates under the assumption that its extension workers are exclusively engaged in educational activities and that a unified extension service exists. Agricultural research must not only be effective but also work in close collaboration with extension. Both external and internal evaluations are to be used to constantly modify and adapt the system to changing conditions.

Simple as the prescriptions seemed, implementation proved to be difficult.

First, the contact farmer concept - implying a two-step flow of information from the extension worker to the contact, farmer and from there to other farmers - has frequently failed.

Extension workers have been blamed for "wrong selection," but the root of the problem lies within the purely technical philosophy of T&V. Other aspects such as communication skills, leadership, and organizational capacities are neglected.

In practice, T&V has been a top-down approach leaving little possibility for participation and initiative, both for farmers and village extension workers.

Too little emphasis has been put on critical feedback based on self-evaluation. As a result, rigidity rather than flexibility characterizes local fieldwork.

Secondly, Benor's fear that extension services may "rapidly run out of anything to extend" characterizes many T&V field situations. The standardized messages passed on are often of little relevance to local conditions. Once T&V was extended to less favored regions, it soon became clear that technology of the green revolution type showing quick and visible results is not available. Still, training sessions were held and visits made according to schedule, leaving behind disinterested farmers and demotivated extension workers. The limited success of T&V in its present form as a nationwide extension system should not discredit the quality and appropriateness of many of its elements. Applied less rigidly and combined with the tools of human resource development as well as with the concept of participation, these elements may constitute a valuable base for reforming extension organizations, large or small.

3. The Integrated (Project) Approach:

Integrated approaches aim at influencing the entire rural development process.

Extension is only one though often crucial element in this strategy which targets the entire population in a given area.

Integrated approaches are generally implemented in the form of large-scale and foreign-funded projects.

Measures to promote production are coupled with a strong emphasis on self-help. The underlying concept is typically multisectoral.

Evaluations of more than a decade of integrated rural development (IRD) projects have revealed serious shortcomings in reaching the goal of mass poverty alleviation.

Sizeable numbers of the poor were not reached by project activities, nor were positive effects consolidated on a sustainable basis.

Project deficiencies were in part management related and very often due to a serious underestimation of the great complexity of multi sectoral programmers with ambitious goals. The disregard of the target group principle and of due consideration for framework conditions (economic and institutional) played an even more important role, as did the lack of compatible technical solutions.

Recent efforts to improve regional rural development (RRD) projects and enhance chances for a broad and sustainable impact (Rauch, 1993) are relevant for all general extension approaches. The key concept is the availability of locally adapted solutions established on a common basis. This requires not only participatory technology identification, test, and dissemination, but also an active role by the change agency in mediating between different institutions involved and their interests. A particular emphasis is laid on dealing with adverse framework conditions, explicitly taking them into account and attempting to influence them in favor of clients. Finally, in order to achieve these improvements, new efforts must be made to specify and operationalize (extension) objectives and concepts (sustainability, participation, gender-specific target-group approach, and poverty alleviation).

4. University-Based Extension:

While the Cooperative Extension Service (CES) of the United States is still the only system in which the main extension function remains within the university, some developing countries, notably India, have integrated educational institutions into practical extension work. Within the United

States of America, state universities have traditionally cooperated with local counties and the U.S. Department of Agriculture in doing extension besides education and research. Within the last 130 years, extension goals of the land-grant colleges have shifted from practical education to technology transfer and, more recently, to a much broader concept of human resource development. With the emergence of strong private and other public sector research and development organizations and dramatic changes within the agricultural production sector, CES is facing new challenges with regard to coordination and cooperation. Apart from its traditional roles, networking will become a primary role. In this model, industry as well as intermediate and end users of knowledge become part of the extension system. While in most countries, the main contribution of educational institutions to extension will be the training of qualified, dedicated, and responsible personnel; some Indian agricultural universities have come close to the U.S. model without taking over the full load of extension work. In the field, they have taken over functions which are only inadequately performed by the ministry, thus supporting general extension work. Remarkable features are direct assessment of clients' needs, user-oriented research, quality training for state personnel, and a strong linkage between academic education and field practice. Models vary from state to state. The Punjab Agricultural University (PAU) has its own multidisciplinary extension team in each district, engaged in adaptive research, training, and consultancy. Backed up by extension specialists on campus, they are transmitters and receivers of experiences from researchers, farmers, and state extension workers. At PAU, a unique system of processing these experiences is practiced. Regular workshops are held which unite university and department staff from research and extension together with outstanding farmers. New findings and feedback are presented, evaluated, and published as a

"Package of Practices" to be used by all extension staff for the next season. In the Philippines, which works with ministry-operated extension, university field contacts have been combined with practical development work. The University of the Philippines at Los Baños (UPLB) has its own "social laboratory" in rural areas. Transfer of ideas is not limited to production technology, but includes the testing of communication strategies as well as helping farmers to organize themselves. Experiences are channeled back into UPLB teaching and research.

5. Animation Rural:

1. The concept gained importance in francophone African countries such as Senegal, Ivory Coast, and Madagascar.
2. Animation Rural was an answer to the authoritarian and often repressive nature of intervention before independence. Developed originally by the French Institute de Recherches et d'Application des Methodes de Development (IRAM), it shows many parallels to the Brazilian experiments of Paolo Freire.
3. Integration of rural areas into the national system was to be achieved by initiating a dialogue between rural communities (collectivites) and the state.
4. In a dialectical way, increasing competence of villagers to express their own needs was to liberate them from colonial dependence.
5. In order to initiate and perpetuate this process, AR relied on a large number of voluntary collaborators, so-called animators.
6. Selected by the villagers themselves these animators had to be experienced and well-respected farmers but not traditional leaders.
7. Their task was to initiate discussions within the community on local needs and objectives, thus empowering rural people for a dialogue with the state. At the same time they were to "interpret" government plans to the villagers and acquaint them with services available.

8. Training, supervision, and support of animators were organized by the Ministry of Rural Development. The long-term perspective was a replacement of traditional institutions and the creation of "development cells" able to negotiate contracts with the state bureaucracy. AR "did not fail as a philosophy of extension although it did not achieve a large-scale breakthrough on a national level." Lack of sustainable impact was due to internal as well as external factors.

-The objectives of AR were extremely difficult to operationalize and, as a result, the role of animators remained unclear.

- Lack of rewards and selection mistakes contributed to the fact that many animators soon lost interest in their work.

-Farmers, as it turned out, were more interested in receiving qualified technical assistance, and even if animators had successfully initiated village projects, it was the "technicians" who reaped the benefits.

-Lastly, it is highly questionable whether the administration was seriously committed to creating a system which would curtail its own power.

2-4 Extension to Selected Clientele

Commodity Based Extension:

1. Next to the ministry-operated general approach, commodity-based extension run by government, parastatals, or private firms is the most frequent extension organization.

2. Clients may be dispersed over a large area or closely connected, as in the case of large, centrally operated irrigation projects.

3. The original rationale was the generation of revenue as well as the assured supply of tropical products for the colonial powers. Today, goals are still clearly and intentionally production and profit oriented.

4. All aspects of producing and marketing a particular crop are vertically integrated, spanning the whole range from research, advice, and material support given to farmers, to organizing marketing and even exports.

5. Proponents of the approach argue that, by infusing modern technologies and a monetary incentive into traditional farming, a cumulative chain of effects is triggered, thus contributing to overall development.

Advantages in terms of organizing the extension function seem obvious:

- One generally works with well-tested technologies.
- Objectives and targets can be clearly defined and the organizational structure kept simple.
- The focus on only one or two crops facilitates training of extension workers.
- Control of agents and farmers is easy, because they are judged in terms of defined targets.

A closer look at these advantages reveals that they are largely defined from the perspective of the commodity organization. This poses no problem as long as organizational and clients' goals are identical, as was the case for coffee, tea, or sisal boards in the private plantation sector.

For small farmers, the situation may be quite different:

- The rigidity of the system leaves little room for incorporating farmers' needs.
- The border between control and coercion is often crossed, for example, when farmers are forced to plant commercial crops at the expense of traditional subsistence crops.
- Extension workers are regarded as successful once they have brought farmers to producing "what and how" the organization wants.

- The obvious advantage of guaranteed marketing does not automatically entail security for the agricultural producer. Farmers cannot react quickly to price fluctuations, and in some cases quality standards are arbitrarily (subjectively) set in order to increase personal or organizational profits. Many governments have used the approach to excessively extract revenue by dictating low farm-gate prices.
- Strengths as well as limitations of the commodity approach lie in its narrow focus.
- It is useful in terms of technology transfer but leaves out important public interest issues (such as environmental protection), as well as target groups (such as noncommercial producers).
- A successful combination of general and commodity-based extension at the national level, as practiced in East Africa, demands clear policy goals and highly efficient management.

Extension as a Commercial Service:

- Commercial extension is a rather recent phenomenon and typical of either industrialized forms of agriculture or the most modern sector of an otherwise traditional agriculture.
- It may be either part of the sales strategy of input supply firms or a specialized consultancy service demanded by an agricultural producer. In both cases, the goal of the organization or the individual is profit earning, which in turn is tied very closely to customer satisfaction.
- The clients of commercial extension will also be profit oriented. Their objective is the optimal utilization of purchased inputs or contracted expertise.

- The emergence of commercial extension has influenced the debate on who should bear the costs of extension.
- With escalating budget deficits, the idea of extension as a free public service is no longer being generally accepted.
- It is argued that those who can afford it should actually pay for advisory services.
- In the case of commercial input suppliers, the solution is very simple: the costs of extension are included in the product price, as are the costs for research or advertisement.
- Private consultancy, is costly and affordable only to either large-scale or highly specialized producers.
- As a general trend, one observes that public extension in industrialized countries has been under pressure to introduce cost sharing or altogether commercialize advisory work.
- Privatization and cost sharing are propagated in the name of greater effectiveness and efficiency, but are largely motivated by financial constraints.
- It is obvious that the private sector will be active only in case of reasonable returns, and they will not be concerned with public interest issues.
- Hence, the provision of public good types of information will have to remain a public sector responsibility... public and non-profit organizations... will have to work together to satisfy the needs of those in "orphan" areas.
- An approach which combines commercial and public elements is at present being introduced in some of the eastern states of Germany. For example, the Ministry of Agriculture in Brandenburg subsidizes consultancies once they have actually taken place.

Farmers employ their own extension workers or choose an extension consultant who is officially accredited by the ministry. In both cases, up to 80 per cent of extension costs within a certain limit are reimbursed to the farmer.

2.5 Client-Based and Client-Controlled Extension

- One way of dealing with the shortcomings of large extension systems has been to localize extension and utilize the self-help potential of rural groups.
- Often organized by outsiders, these decentralized approaches are in a better position to serve the needs of specific target groups, notably those in disadvantaged positions.
- Close contact with their clients and intimate knowledge of their life situations are essential for the planning of problem-oriented extension activities.
- Local personalities are identified who take over leader functions once the external (nongovernmental) organization withdraws.
- The principles of these organizations (awareness, empowerment, participation, self-help) are close to the philosophy of Animation Rurale without the national dimension.
- The impact of client-based approaches must be seen on two levels: Directly, they provide benefits to their clients. The diversity and large number of small projects forbid a general statement on their effectiveness in terms of human resource development.
- However, their weakness lies more in the technical. Besides, they can reach only a very limited number of people.
- Apart from this, they perform an important role as organizational innovators. They have proved that participation can work in

practice and that many farmers are highly competent partners in technology development. Government extension services have been forced to rethink their top-down approach, to accept human resource development as an equally important extension goal, and to address the problems of rural women.

A rather unique approach has been practiced in Taiwan, where a large share of extension work is done through farmers' associations. Extension education is done by agents employed by the farmers' associations at the township level and financed largely by the farmers themselves. Unlike the small self-help groups discussed above, there are strong and institutionalized linkages with research and other services. The overall extension policy is defined by the government. On the other hand, the clientele is quite different: farms are highly modernized and extension advice is demand driven.

2.6 Present and future role of extension staff

- Person-to-person communication has traditionally been the most important form of information transfer. Print media as well as radio and television were of a supplementary nature because they frequently lacked a target group or location specificity and information was not up-to-date.
- Revolutionary changes in communication technology have dramatically increased the speed and quality of information transfer and changed the role of extension workers in industrialized countries. Electronic communications systems may in part replace personal visits, and one of the major tasks of any agent will be to link her or his clients with other suppliers of information.
- However, the fascination with modern communication means tends to obscure the fact that most extension personnel in developing

countries are working under extremely difficult and disadvantageous conditions.

- In fact, little has changed during the last two decades to remedy the basic ills, and the field agent is still the weakest link within the system.
- There is a wide discrepancy between organizational goals and the potential of even well-trained and dedicated field staff.
- Fieldwork in most developing countries is characterized by conditions that foster low.

Morale:

1. Lack of mobility.
 2. Virtually no equipment.
 3. Extremely low salaries. For many extension workers, tapping additional income sources is a question of physical survival.
- Quality performance is further impeded by low educational qualifications and lack of advancement possibilities.
 - While working conditions of extension personnel have deteriorated, expectations with regard to their role are increasing.
 - They are no longer to be simply transmitters of technical knowledge. to name but a few of the present topics, they are to:
 - Practice participatory methods.
 - Recognize and respect gender issues.
 - Identify indigenous needs and problem solutions.
 - Serve as a link to the world outside the village.
1. The emerging role is closer to that of a "socio-economic community worker" than a technical expert, but their training is insufficient for either.
 2. The situation sketched above is well known and documented.

3. The sheer dimension of the problem surpasses, however, the capacities of poorer countries, notably in Africa.
4. Foreign-funded projects have addressed the issue in a piecemeal fashion and have often drained no-project areas of personnel. Staff reductions on a national level have not even secured the status quo. Neither approach has solved the basic dilemma: Insufficiency of material and human resources to reach universally accepted societal goals.
5. Having to count on their own resources for extension, many countries will not be in a position to implement technology transfer, much less the more demanding strategy of human resource development. Regardless of specific extension approaches, there is no alternative to a strong international commitment to strengthening and revitalizing extension personnel resources (Chambers, 1974).

2.7 Identification of extension approaches

The following seven dimensions can characterize each approach:

1. The dominant identified problems to which the approach is to be applied as a strategic solution i.e. the basic assumptions.
2. The purposes it is designed to achieve.
3. The way in which the control of programme planning is carried on, and the relation of those who control programme planning to those who are the main target for the programme.
4. The nature of the field personnel including such aspects as their density in relation to clientele, levels of training, reward system, origin, gender, and transfers.
5. The resources required, and various cost factors.
6. The typical implementation techniques used.
7. How it measures its success.

Several authors discussed the issue of extension approaches and models:

Axinn (1988) has examined eight extension approaches namely:

1. The general agricultural extension approach.
2. The specialized commodity approach.
3. The training and visit approach T&V.
4. The agricultural extension participatory approach.
5. The project approach.
6. The farming system development approach.
7. The cost sharing approach.
8. The educational institutional approach.

Rivera (1989), cited various sets of extension models, among them are the following:

1. Conventional agricultural extension.
2. The T&V system.
3. University-organized agricultural extension.
4. The commodity development and production system.
5. Integrated agricultural development programme.
6. Integrated rural development programme.
7. Farming system research and extension programmes.

Ray in Rivera (1989) identified four extension models. These included:

1. The directive (top-down) delivery systems.
2. The participatory system (involving farmers' participation).
3. The contractual model (systems where farmers contract directly with public agencies or private companies to receive extension services).
4. The hybrid model, which incorporates the elements of the first three models.

Lele in Rivera (1989), places extension broadly under two major rubrics:

1. The take it or leave it approach, where farmers are free to accept or reject development innovations.
2. The contract farming approach, where farmers are granted a license to produce certain commodities on the condition that they use a particular innovation and follow project guidelines.

Oxenham and Chamber in Rivera (1989), draw attention to another approach. They categorized extension systems according to the representative participation-based on the touchstone of the Taiwanese Farm Information Dissemination System (FIDS), where both local government and farmer associations are involved in controlling the system. Based on the analysis of those previous mentioned systems, approaches and models, Rivera (1989), classified four basic approaches to extension and their relationship to farmers, illustrated in the following table. These are:

1. Top-down delivery approach; here, farmers may take the information proffered or leave it.
2. Participatory acquisition systems, where farmers have influence over extension delivery.
3. Contract farming systems, where farmers must take the information or lose their contract.
4. Rural development extension approaches.
5. Review of recent developments in extension systems
6. The focus on private-sector extension system:
7. Public-sector extension, although not without some success, has generally been disappointing in transferring improved technologies from research to the farmers in developing countries. Extension institutions and

programmes exist virtually in every developed and developing country and yet, in the latter, the coverage of farm families is still limited. The effectiveness of government extension services as viable technology diffusion has been seriously questioned by some developed countries and donor agencies.

8. Private-sector extension is one alternative to the conventional public agricultural extension system. The private sector is diverse, consisting of individual farm enterprises of all sizes, agricultural input industries, marketing firms, and multinational corporations or their subsidiaries as well as cooperatives. The latter should not be ignored in planning national arrangement for extension.

9. According to Rivera (1989), private-sector extension can serve as an important supplement to government extension systems for certain groups of producers under certain circumstances. However, private firms cannot substitute for public agencies when the policy and regulatory environment is poor, when target population is remote, when infrastructure is lacking or when production is mainly basic food commodities grown by subsistence farmers.

2.8 Effectiveness of extension

Many authors have identified guidelines for effective extension: First, Garforth (1986) explained that the extension effectiveness is supposed to achieve some of the following possible objectives, which may vary from country to country and from time to time. These are:

1. Increase in agricultural and animal production.
2. Increase in food supply.
3. Reduce dependence on inputs of raw materials.
4. Reduce dependence on imports of food.
5. Improve living standards of rural people.

6. Increase rate at which new technology is adopted.
7. Establishment of dependent farmers' organizations.

2.9 Land tenure

Land tenure can be defined as the right to hold property (and other property like homes on land). The way that tenure is determined may vary depending on the country and sometimes land tenure exclusively refers to the way that land was distributed in Medieval Europe under the feudal system. Of course, the word tenure must be taken into account too, and it can be defined as right to hold or conditions on which right to hold or possess are established. The conditions get complicated when determining how people might have land tenure today. In the feudal system in Europe, much of the land was belonged to rulers, but these rulers gave land tenure to a variety of people, including the nobility. The upper nobility held the land, but with their tenure could distribute to others like knights, who might distribute it even more. Payment for this land was ultimately duty to the king, the noble, the knight, or whoever had allowed someone else to live on it or hold it. At the very basest level, serfs occupied small rights to their living spaces and paid for them through their work. Conflicts related to natural resource management, and especially land tenure, tend to be more and more exacerbated. Judicial systems responsible in theory for the settlement of land conflicts have failed to find efficient solutions in the particular context of African countries, where national legislations and traditional customs coexist. This perspective prompts consideration of alternative land tenure conflict management mechanisms as the appropriate option for these countries. Land tenure management is a complex and sensitive issue, especially in the context of Sub-Saharan Africa where national legislations coexist de

facto with deep-rooted customs. This reality is mostly apparent in conflicts between the different users of natural resources. African countries have devolved the powers of land conflict settlement exclusively to the judicial authority. Therefore, whenever land conflict involves individuals or communities, the judge is left to decide according to the law, i.e. he or she simply lets the law take its course. However, practice shows that this judicial approach to land conflict settlement is not always effective. What happens is that it is not to statutory law that parties refer for justice, and besides, the judge is not the authority they spontaneously resort to for arbitration of disputes. Moreover, there is enough evidence to prove that for a variety of reasons; even the intervention of a judge is no guarantee of subsequent law enforcement.

2.9.1 Multiplicity and diversity of land conflicts

land conflict is a disagreement over land and occurs when specific individual or collective interests relating to land are in conflict .The dispute is likely to owe as much to the general psychology of neighborly relations as to actual problems relating to the land. Therefore, land conflicts differ from each other and their intensity varies according to the actors involved, the nature of interests at stake, or the periods when and the places where they break out. All the stakeholders of land systems in West Africa are increasingly concerned by conflicts, as these conflicts tend to increase in number and seriousness, resulting sometimes in the destruction of property and even human death. Land is a central issue for both rural and urban communities in Sudan. It is not just a means for livelihoods and basic survival, but also has profound cultural and socio-political dimensions. Historically, established elites have managed to lay successful claims to the lands of poor communities, especially in rural areas. This tampering with established rights has been a recurrent cause

of unrest and conflict in the country. There is no unified land tenure legal framework across Sudan. In the North, despite the fact that official land law has undergone transformations under successive governments, the legislation is essentially founded on colonial land laws. Customary land rights are generally not recognized by the government and statutory legislation has traditionally been used to bypass local customs by the state or for private interests in rural areas. Government laws concerning land tenure have been rooted in the principle, introduced by the British colonial administration in 1898, that unregistered land is assumed to be owned by the government unless the contrary is proven. Successive legislation on land introduced in the 1970s and 1980s (particularly the Unregistered Land Act of 1970 and the Civil Transaction Act of 1984) has further strengthened the privileges of the state and has allowed elites close to government to acquire land at the expense of rural people. Expropriations were common particularly in South Kordofan (namely in the Nuba Mountains area), where illiterate farmers and pastoralists in the 1970s saw their land assimilated into mechanized farming schemes or simply registered in someone else's name. The grabbing of land led to massive displacement and was a main reason that in the late 1980s led people in South Kordofan to join the SPLM insurgency in the South. Similar displacements occurred in the 1990s, particularly in oil concession areas such as Unity State. Land issues were also at the heart of the conflicts in Eastern Sudan and Darfur. Unlike the government's reliance on statutory law rooted in colonial legislation, in the South the SPLM and later the Government of Southern Sudan (GoSS) judicial systems have been largely based on customary legislation, especially when regulating access to rural land and dealing with land related problems. During the civil war the SPLM rejected Government of Sudan statutory law in its areas of control. The Power Sharing Protocol of the

Comprehensive Peace Agreement (CPA) enshrines the creation of parallel legal systems in northern and southern Sudan, but the situation in the contested areas (South Kordofan and Blue Nile) as well as Darfur remains somewhat unclear. The problem of land ownership has been deferred by the CPA to the post-agreement phase for political expediency because of its complexity. The CPA does not per se address issues regarding the ownership of land and natural resources, but establishes a process to resolve this question through the establishment of a National Land Commission and a Southern Sudan Land Commission. Similarly, the Darfur Peace Agreement (DPA) has delegated the resolution of land issues to the establishment of a Darfur Land Commission (DLC). However, the National Land Commission is to date one of the few national level Commissions yet to be established within the process of implementing the CPA. The deferral of the question is already creating fresh problems in the post-conflict phase (Sara Pantuliano, 2007).

2.9.2 Conflicts over Land

Until recently, it was rare in North Kordofan to have conflicts of any significance pertaining to competition over natural resources. Up to the 1980s, competition over natural resources in the southern part of North Kordofan rarely escalated to the level of violent conflict. It commonly involved sedentary cultivators and pastoralists, and almost invariably pertained to incidents where herds trespassed onto cultivated land (Babiker, 2002). However, pastoral competition and conflict is more common and frequent in the northern and northwestern parts of North Kordofan. The pastoralists (notably the Kababish, Kawahla and Shanabla) keep both camels and sheep, and undertake long range nomadic movements. During the rainy season they spread wide to make use of distant pastures and wadis, reaching as far north as the outskirts of

Dongola along the Nile in Northern State. A grazing area of particular significance is the Gizu, a common grazing territory divided by international boundaries between Sudan, Libya and Chad. It is an area of considerable tribal intermingling, frequented by pastoral nomads from three countries. The Sudan part of Gizu is in North Darfur State, and the pastoralists of North Kordofan come into contact with those from North Darfur, notably Meidoub, Zaghawa and Northern Rizaigat camel pastoralists. In the context of both drought and administrative chaos in the 1970s, conflicts among pastoralists in the north-western corner of the country started to escalate. A 'nomadic settlement scheme' in Jiraih el Sarha gave impetus to conflict between Kababish and Kawahla: the former claiming that the land is theirs while the Kawahla (chiefly family in particular) benefited from the scheme (Khogali, 1987). The scheme helped Kawahla to keep their livestock through the spells of drought periods, while the livestock in the rest of Dar Kababish were wiped out. The area also witnessed a bloodier conflict over a rich grazing area between one section of Kababish (A'ttawiya) and the Meidoub of North Darfur. Conflict reached an unprecedented scale, with each group invading and 'colonising' the (government-owned and run) watering point of the other (i. e. Khytaimaya and Malha wells). Of late, however, sedentary cultivators, particularly the dar owners, seem to have wilfully instigated a proliferation of trespassing incidents through the manipulation of 'customary tenure' norms. Farmers can gain considerable sums through fines to pastoralists who allow their animals onto fields within the pastoral areas, irrespective of the value of the crop itself, and small, isolated fields surrounded by pasture have become known as "trap fields" that render vast tracts of pasture effectively unusable by herders. Furthermore, it is likely that a tenure commission, once established in the zone, would support claims by farmers to land cultivated by them unless

some form of pastoral rights is recognized, so the incentive for farmers to continue this practice is strong (Babiker, 2002; UNDP, 2003).

The Legislative Assembly of North Kordofan State has issued an act to sanction pastoral routes and makharif (rainy season grazing grounds), but this Act is believed to be generally ineffective. A major problem in the Act is its limited geographical coverage, as it pertains mainly to El-Obeid and its vicinity – excluding the ‘blazing’ pastoral areas to the north and northwest. Another deficiency in the Act is the failure to demarcate a grazing line beyond which large-scale agricultural investment is to be banned. However, the latter drawback has been subsequently addressed by the Regulation of Use of Agricultural Machinery in North Kordofan State Act 2002, which banned the use of agricultural machinery north of lat. 13° N. However, in practice the latter Act seems not to have constituted enough deterrence for the gerdud, hard clay soil, north of lat. 13° N to be ploughed by tractors, a process that is environmentally unsustainable and destructive. The North Kordofan State Government has partly been responsible for this development, as it tended to grant urbanbased groups licences to establish mechanized farming schemes (250 feddan in size) on gerdud soils, which may be spoiled by the use of disc harrow ploughs. The grants started to become larger and larger in area, a situation that began to alarm both sedentary cultivators and pastoralists. Currently there is much debate and controversy in North Kordofan revolving around two such allocations: the Jandail Plantation and the Shanabla ‘nomadic settlement scheme’ (Egemi et al., 2003). Jandail is a plantation with an area of 38,000 feddans granted to the Malaysian-African Agricultural Company under the Encouragement of Investment Act 1990. There is ambiguity regarding the authority that granted the area and whether it is federal or state. There are also rumours concerning “handsomely rewarded collaboration” on the part of local

sheikhs. The Company seemingly has ambitious plans to plant acacia in the soft clay, ultimately enhancing the already dwindling exports of gum Arabic from Sudan. The plantation area is largely a forest that encompasses village farmland, important pastoral routes (masarat), as well as vital wet season grazing ground (makharif). Sedentary cultivators and pastoralists alike look upon Jandail as an infringement to their customary usufruct rights. When concession was granted, little regard was given to the customary rights of the pastoralists and cultivators inhabiting the area and to the adverse socio-economic impact such a concession would have on their productive and living conditions. The use of the vast tracts of land stretching from Kazgil to Rahad for the planting of Acacia trees has robbed the pastoralists of their traditional migration routes as well as of two of their most important wet grazing areas (Mugshasha and el-Ghannamamakhras), and has restricted the food gathering and hunting activities of the local communities. Some even point to a ‘conspiracy’ and ‘hidden agenda’ behind the grant, as acacia is not normally planted on, or even suited for clay soil. The ‘natural’ site for such trees is said to be sandy soil. They thus doubt the stated ‘developmental objectives’ of the plantation, and tend to think that it might be a form of land speculation or else an attempt to lay claim over an area rumoured to be rich in mineral resources. The Company tried to pacify the local population by making token donations for social and community services, notably the building of village mosques. The second allocation was to the Amir of Shanabla nomadic pastoralists, a group that traditionally had no territorial land rights in the area, except with the consent of leaders of the local land-owning groups. The politically motivated allocation was ostensibly aimed at the resettlement of the nomads, whose traditional grazing areas to the north suffered environmental deterioration. The settlement is said to facilitate the spread

of basic education. There is evidence, however, that the Amir of Shanabla wanted the settlement primarily for cultivation. Subsequently, the area became a court case issue, as it falls in two different omodiyas and former nazirates. Again, there are speculations about the 'rewarded' role of Gawama'a Amir in approving the grant of a land part of which is not under his mandate. A further important issue is that government few years ago had announced the creation of two new Emirates within the Bedeiriya traditional homeland: Shiweihat and Bergo. The two are 'landless minority groups' formerly 'affiliated' with the Bedeiriya tribal confederacy. Their access to natural resources continues to be subject to the consent of Bedairiya sheikhs. The Bedairiya fear that the creation of these Emirates may be a prelude to a re-demarcation and re-division of their 'homeland'. The Shuwaihat now have their Amir, but no appointment has yet been effected for the Bergo, who seemingly lost leverage when the Bergo State Wali was dismissed in the aftermath of the split of the ruling 'National Congress Party'. The concern of the dar owners over the continuity of their (usufruct) rights is re-enforced by the observed increasing settlement of 'outsiders' in the area. The civil war in South Kordofan has forced numbers of Hawazma pastoralists to settle permanently in Dar Bedeiriya and Dar Gawama'a. Most of the Hawazma settlements, however, seem to have been established in accordance with local traditions, including the consent of village sheikhs to whom dues are paid. Some other settlers, however, do not seem to abide by local traditions. They rather validate their settlement by access to state authorities and, in apparent defiance to local customs, tend to have their own omdas. There is currently a latent conflict over a settlement established by a group of Zaghawa from Darfur. The concerned Gawama'a omda sought the protection of the rights of the dar owners and ordered the Zaghawa to demolish their settlement. The latter, however, filed a

court case against the omda, who was accused of violating their rights as Sudanese citizens to live in any part of the country. The court, apparently aware of the abolition of the colonial principle of dar adjudicated that the Zaghawa as Sudanese did have a right to establish their settlement. This case seems to be particularly important in two respects. Firstly, it was handled in a strictly legal style that apparently failed to see the ‘ethnic’ ramifications for the future of inter-group relations in the area. Secondly, and perhaps even more significant, the case constitutes a precedent entrenching the abolition of the principle of dar, thereby exacerbating the sense of insecurity among the local populations concerning the continuity of their customary land tenure systems. Two important issues are raised by the above cases. First, the cases point to the fact that conflicts over resources in North Kordofan involve a number of actors and interested parties including the Federal Government, the State Government, national and foreign investors, local residents, and Abbala and Baggara pastoralists. Secondly, the cases represent good examples of the insecurity of the usufruct rights of both sedentary cultivators and pastoralists. A formidable challenge in North Kordofan is therefore to institutionalise a legal system of land tenure that is not readily amenable to manipulation by state political appointees. Basic to this challenge is to clearly stipulate and guarantee the customary rights of both the local sedentary cultivators and the visiting pastoralists. (Babiker, 2002).

2.9.3 Legal Status of Customary Tenure

Following independence, the customary laws governing pastoral areas were progressively being ignored by the state. Land which was not cultivated, had no infrastructure, and was “uninhabited”, was considered “vacant” and became state-owned property. In contrast, land legislation under colonial rule recognized prevalent local customs as one of the

major sources of legal rights in Sudan. One of the most important features of the customary land tenure system is the right exercised by the native traditional leadership in the allotment of land and the settlement of disputes over land. Accordingly, an outsider has no right to settle in a land area even if it is unoccupied, unless he is permitted to do so by the native authorities. The customary land tenure system has its advantages and disadvantages. One of its advantages is that it is a system which is well understood by all involved and where native authority administering the “customs” relating to land and interests in it inhabit the same area and can easily be contacted as opposed to dealing with the land registries which are located far away in the provincial headquarters and some of the district headquarters. The most important disadvantage is the embodiment of judicial and executive authority in a single individual (a village headman), which makes him a person of considerable powers in the allocation of tribal land rights and the settlement of tribal disputes over land. As a preparatory step for the replacement of the “traditional forms of rule in 1971”, the Unregistered Land Act (ULA) of 1970 abolished authority vested in native administration with respect to land allocation. Nevertheless, it has not been possible to apply the Act in many remote areas where the rural people continued to maintain their allegiance to the leaders of native administration thereby making it deficient to administer these territories without the consent of tribal authority as observed by the newly constituted officials of local government administration in the different regions of Sudan. There is no substitute in the short run for the continuity of the native systems and administration authorities over the acquisition and utilization of pastoral and agricultural lands. Nevertheless, many native administrators have to be subjected to controls including the possibility of the right of appeal to prevent misuse (or exploitation) of the system. Any change with respect to the land law will

require careful and effective monitoring at the local level. Pastoralists in Sudan have great difficulty in establishing their claims to land. The nomadic pastoralists are not settled in one place, but have been forced to be on the move all the time by the uneven distribution and seasonal incidence of the annual rainfall. Custom among the pastoralists presumes the possibility to use large tracks of land held communally for the grazing of the livestock herds. Colonial rule had attempted to regulate the use of land by specifying the time during which the pastoralists can move in a manner essentially conducive to the reduction of conflicts between pastoralists and cultivators over land and water rights as well as to the prevention of animal encroachment on crops prior to harvest. Land laws during both the colonial and post-colonial periods have not recognized any pastoralists' rights to land other than usufruct rights, and even those were most generally not observed. The concept of dar or tribal homeland is one of the most important constituents of customary land law, and it is intimately related to the principle of native administration. A tribe has its own means of assuming control or ownership over a particular tract of land, both inclusive of the restricted use of such a tract of land by other pastoralists. However, such a restriction is usually not carried to extremes and well beyond the limit of excluding the others from the rights of the use (cultivation, grazing and water) given that a negotiated settlement is arrived at between the two parties regarding the exercise of that right by strangers subject to their complete recognition of the fact that the fundamental rights to the land lie with the original owners of the dar (the tribe from which the name of the area derives). The promulgation of the Unregistered Land Act of 1970 coupled with the abolition of the rights exercised by the native administration in 1971 demolished the legal basis on which the dar concept is founded. Theoretically, it was possible for any pastoralist to graze his animals in unoccupied land, and for any

cultivator to acquire and cultivate any plot of land through land clearing. Recently, cultivation has expanded enormously, frequently in areas that are ecologically unsuited to cropping. This has been the most significant factor in the ecological deterioration of north Kordofan (Babiker, 2002).

2.9.4 Key Actors and Institutions

1. According to the provisions of the CPA, the Government of National Unity (GNU) is required to establish a National Land Commission (NLC). The Commission is mandated to arbitrate between willing contending parties on land claims, enforce the application of the law, assess appropriate land compensation and advise relevant levels of government regarding land reform policies and recognition of customary land rights or law. The NLC was to be established after the approval of the Interim National Constitution and the enactment of a National Land Commission Act, which should have been initiated by the Presidency with the support of the Ministry of Justice. A Commission Preparatory Team was established in 2005 to prepare a draft of the NLC Act. However, fundamentally diverging views by the National Congress Party and the SPLM precluded progress. After further delays, the task of drafting the enabling legislation for the NLC returned to the National Constitution Review Commission (NCRC), which appointed a Senior Legal Expert to produce the draft National Land Commission Act. The Act was submitted to a wide range of stakeholders for discussion and revision at a high level workshop in Khartoum in late February 2007.
2. The Southern Sudan Land Commission (SSLC) was established through a Presidential Decree; however, a draft bill giving the SSLC a legislative basis and clarifying its mandate has yet to be passed into law. The National and Southern Sudan Land Commission are required to

coordinate their activities and set guidelines for the resolution of conflicts. There are however uncertainties concerning the nature of the law upon which arbitration will be based. According to the CPA, if the NLC and SSLC fail to resolve a disagreement, the matter is to be referred to the Constitutional Court, but it is unclear whether the Constitutional Court will base its decision upon statutory or customary legislation or equity principles.

3. The State Land Commissions in South Kordofan and Blue Nile have also not been established to date and the decision of the Abyei Border Commission has not been accepted by the government.

4. A satisfactory reform of land policy, management and administration in the country is particularly urgent for a large category of affected populations, which includes returning IDPs and refugees, residents in rural areas with no codified title to land (especially those who have communal customary land rights, e.g. pastoralists), IDPs residing in urban areas and women. A detailed description of the main problems affecting each of these categories.

5. An important actor in the evolution of land issues in the post-conflict phase is the military, especially SPLA soldiers in Southern Sudan. Returning soldiers are said to be occupying (temporarily) abandoned urban plots in key Southern Sudanese towns such as Juba and Yei without the consent of the owner; these plots are normally not vacated when absentee owners return. The military are also being accused of building infrastructure on non-owned plots and illegally selling non-owned plots in urban areas. These actions are generating tension over urban land, both amongst long-term town dwellers and returnees. The military are profiting from their close relationship to the new Southern Sudan administration. Many boast that they take precedence in ownership of

land over those who fled the war, since they are the ones who fought to gain it back.

6. Others benefiting from a special relationship with the new authorities to acquire access to land and natural resources are private sector investors and speculators both in the North and the South. The prevailing conditions in rural areas, especially in Southern Sudan and in the transitional areas, and the current legal vacuum are excellent for opportunistic land grabbing and speculative activities.

7. Illegal land occupation is also taking place in Darfur at the hands of pro-government tribes. Research conducted by NGOs which are monitoring returns in the region show that secondary occupation of land has taken place in western and south-western Darfur, where nomadic Arab groups like the Mahariya, the Missirya, the Salmat and the BeniHalba have occupied or are using for grazing land originally inhabited by non-Arab sedentary groups such as the Masalit and the Fur.

8. The Native Administration and local tribal chiefs, who were customarily entrusted with the management of rights to land ownership and use, especially in rural areas, have been losing strength and capacity to control ongoing land alienation. In the North many, especially more radicalized youth, consider the Native Administration as elitist, undemocratic, highly politicized and gender blind and feel that it should undergo profound restructuring if it wants to play a meaningful role in genuinely representing communities and mediating disputes over land. In the South war has greatly reduced the power and status of tribal chiefs, particularly given the fact that military tribunals have been operating in place of customary courts.

9. National and international NGOs are playing an important role in documenting customary land traditions and examining key land issues of relevance to IDPs and refugees return. Oxfam, SOS Sahel and

ACORD have been working with UNDP to document customary communal land rights and traditional land management systems in North Darfur, North Kordofan and the Sobat Valley. In Southern Sudan, the Norwegian Refugee Council has carried out studies on land and property issues relevant to the return of IDPs and refugees in collaboration with UNHCR and FAO. In Darfur, Intersos has been monitoring and mapping secondary land occupation in a number of districts in south-western Darfur. Amongst national organizations, the South Sudan Secretariat of Legal and Constitutional Affairs, with the support of World Vision International, has conducted research on customary laws in Southern Sudan aimed at analyzing and recording different tribal systems. It is however unclear to what extent the array of studies on land which have been conducted so far have found any practical application.

10. Amongst the UN agencies, UNDP has been focusing since 2002 on land legislation reform, particularly aimed at the recognition of customary law, in collaboration with NGOs working with communities at the state levels to recognize and register practice. UNHCR has supported the preparation of studies on land and property in Southern Sudan and Darfur. The Land Tenure Unit at FAO has been active over the last couple of years in providing technical support to the GNU and its designated committees for the establishment of the National and Southern Sudan Land Commissions. The agency is currently organizing the high level workshop for the discussion of the Land Commission Act. In the South, FAO has been working in close collaboration with UNHCR and NRC on land and return issues and has been providing technical support to the SSLC. The agency has also input into the Darfur JAM on land issues. It is apparent from background research for this study, that UN agencies (particularly

UN-Habitat, UNDP and FAO) are split along specific agendas and interests (e.g. urban planning for UN-Habitat), especially in Southern Sudan.

11. Donor governments, particularly Denmark, Italy and the Netherlands, are playing an important role in supporting the establishment of the National Land Commission. The most important actor is though USAID, which has been supporting a number of land projects in the country since the signing of the CPA. USAID work focuses on sensitization and community-based negotiation on agreed customary boundaries and access rights, while at the same time establishing the institutional mechanisms for legal recognition, registration and administration of land holdings. Key project areas are South Kordofan, Blue Nile and more recently Southern Sudan, with plans to expand work to Eastern Sudan (Sara Pantuliano, 2007).

2.9.5 Rural Land Tenure

The most basic problem concerning rural land tenure is to be found in the principle, introduced by the British colonial power in 1898, that unregistered land is assumed to be owned by the government unless the contrary is proven. That principle was in fact valid in the Funj, Fur Sultanates, the Turkish and Mahdia States, and all of them have also allocated land for political reasons. The administrative limitations of those states, whoever, did not allow them to control the land in the scale reached after the Condominium Role.

When Sudan was re-conquered by Britain one hundred years ago, there were two types of ownership:

- Communal or tribal ownership, namely land owned by the community at large. While this form of ownership had disappeared in the areas of former Funj and Dar Fur kingdoms, it was still existing in many rural

areas, including virtually all of Southern Sudan and continued to exist even after the re-conquest.

- Individual ownership and to other titles to land. Individual ownership was achieved either by the normal evolution process whereby communal ownership changed to individual or by grants made by the sovereign (Funj and Fur Sultanates and in the Mahdist state). This represented a small proportion of all the land in Sudan (chiefly along the Nile and a few locations in Dar Fur), but included much of the most fertile irrigable land. While customary rules, including Islamic law, were accepted as governing land use, title to land was vested in the government. While the British adopted a policy of limiting land acquisition by merchants and non-Sudanese individuals, they confiscated huge areas of irrigable land in the Gezira and Blue Nile, the Tokar Delta on the Red Sea, and elsewhere, in order to establish cotton cultivation. This was done at the behest of the Lancashire textile industry that needed a secure and cheap supply of cotton. The main legal codification of the colonial government's land law was the Land Settlement and Registration Ordinance of 1925. Since Independence, the state has remained ready to confiscate land, while wealthy and powerful individuals, usually with connection to government, have also made use of the colonial and post-colonial land laws to acquire large areas of land. Successive legislation on land, up to the 1990 amendment to the Civil Transactions Act, has not changed this fundamental aspect of Sudanese land law, but on the contrary strengthened the privileges of the state and those with access to it, at the expense of rural people. Section 4 of the Unregistered Land Act (1970) transferred to the Government in full ownership of unregistered lands, whether waste, forest, occupied or unoccupied, which had not been registered before the commencement of the Act on 6 April 1970. All such land is deemed to have been registered name of the Government, as if the

Land Settlement and Registration Ordinance, 1925, has been duly complied with. Only when the government is satisfied that the application of the Act would cause grave injustice, it can guarantee the rights of person or persons who have been enjoying undisputed use of the land for a long time . The 1990 amendment, introduced by the current government in its first article confirmed that all non-registered land should be considered as if registered in the name of the State. The second provision stated that ‘No court of law or any other authority, is concerned with considering any plea or petition or procedures regarding and subject relating to the ownership of State-owned land in accordance with the Act.’(Rahhal and Abdel Salam 2002).

2.9.6 Customary land tenure in rural Sudan:

Customary land tenure in rural Sudan usually shares certain characteristics.

- Land is not formally registered.
- Use rights predominate.
- Rights lapse if land is not used for a certain period
- Overlapping rights: one individual or family may be using a piece of land but other members of his or her family also have rights to the land, so that the individual cannot be said to have individual title to land.
- Land remains within the clan or tribe and can rarely if ever be sold.
- A native authority chief has the power to allocate land, e.g. to newcomers, and to adjudicate disputes.
- Women have restricted land rights. Often they can only own land through their husbands or fathers and do not have full rights of inheritance. (Though such is the variety of traditional land tenure systems that any generalization must be treated with caution.)

The colonial legislation made custom one of the major sources of Sudanese Land Law. Local and state courts were obliged to implement customary law if it fulfilled the following conditions: being reasonable, universal, certain, and compatible with public order, morality and law. However, this principle was not fully implemented due to the lack of efforts to document land customary law of the various parts of Sudan. But many customs of northern Sudan were recognized and became part of Sudanese land law. Examples include Haq al-Qusad and the Mirin. By contrast, the land customs of the Nuba of southern Kordofan and those of Southern Sudan were never recognized let alone implemented. Customs used to be the second source of Sudanese law after legislation. Following the 1983 adoption Islamic law, recognition of customary law was restricted to those following and conforming with Sharia, the acts of Sahaba (the Prophet's disciples) and the Islamic Four Jurors Schools. These customary land tenure systems, whether Islamic or non-Islamic or something in between, can be quite complex and sophisticated. It is important that they are recognized in law. This does not mean dispensing individual title deeds to every smallholder. There are intermediate options that can be considered, starting with recognizing that land in use by cultivators cannot be alienated, and that the courts should recognize de facto possession over a period of years as amounting to ownership. This requires legislation and access to legal information and if necessary legal aid by small farmers. One option for the transitional period is for a land commission to investigate the possibilities for land tenure reform, and report to Parliament. Research schemes should sponsored in order to document customary land tenure and to suggest some way of including the practical and workable customs in the law. The position of women with regard to customary land rights requires attention. Women's low status under customary land law does not correspond to their important

roles in production and land management. In many poor rural areas, men have migrated to the towns or to central Sudan to search for work, leaving women as the principal farmers. But in many cases women cannot own land in their own right, or engage in land transactions, or inherit land. This is not only an injustice but also a major hindrance to the development of workable land tenure systems and to higher agricultural production.

2.9.7 The role of native authorities in land allocation

One of the most significant elements in the customary land tenure system is the right of native authorities to allocate land and adjudicate disputes. This means that even when land is unused, it is not open for any outsider to come and settle without first making an agreement with the local native authorities. In an important sense, land ownership is vested in the community, through the person of the native authority. This system had advantages and disadvantages. The principal advantages were that it was understood by all, and that the native authority officers lived locally and were accessible to all (in contrast to land registration offices). The main disadvantage is that, at a local level, executive and judicial power were vested in a single individual, who could become a local dictator. (Under the NIF, many sheikhs have become exactly this.) The 1970 land act abolished the rights of native authorities to allocate land. This was a prelude to the 1971 abolition of native administration. However, in many rural areas, this act could not be enforced, as the new structures of rural government found that rural people retained their allegiance to the native authorities, so that rural areas could not be administered without their consent. In the 1980s and '90s, the native administration system has made a comeback as recent governments have recognized this reality. However, the NIF has used its money to corrupt many native administrators, and it

has dismissed those it finds unsympathetic and replaced them with more pliable candidates. Native administrators are invariably men and are not often sympathetic to women's rights to land. Even where traditional pre-colonial land tenure systems acknowledged women's rights to land, the codification of customary land tenure under native administrators often saw the loss of these rights. In the South, the post-1972 reconstruction of the administration recognized the roles of chiefs, so that the native administration system there was never even formally abolished. The SPLA has recognized the reality of traditional chiefs and accorded them some authority; the amount depending on local circumstances. In the short term, there is no alternative to the maintenance of the system of native administration, and the powers of native authorities over land affairs. However, many of the current office holders will need to be removed. The wide ranging powers of native administration officers will also have to be subject to more checks and balances, including the possibility of appeal, to prevent abuse of the system. Any change in the legal status of women with regard to land tenure will require careful monitoring and enforcement at the level of native administrators.

2.9.8 Pastoral land tenure

Pastoralists in Sudan usually have the most difficult time establishing their claim to land. Pastoral nomads do not live in one place all the time, instead moving from place to place according to the season, and even according to whether it is a dry year or a wet year. Customary land law among pastoralists assumes that vast areas of land can be used by herds of animals. The colonial rulers tried to regulate this by determining when herders could move their animals to certain pastures, primarily to avoid conflicts between pastoralists and farmers over land and water, and to avoid animals encroaching on farms before the end of the harvest.

However, colonial and post-colonial law alike has recognized only land use rights for pastoralists, and often not even that.

An essential component of pastoral land law is the notion of ‘dar’ or tribal homeland. This is closely bound up with the principle of native administration. A tribe has a measure of control or ownership over a particular area, which both restricts the access of other pastoralist tribes to the area (it does not prevent all access but it requires negotiation and the recognition of the prior rights of the dar ‘owner’), and restricts cultivators’ rights within the dar. Thus a dar allows a pastoral tribe some measure of security over access to ‘its’ pastures and water. The 1970 land act and the 1971 abolition of native administration destroyed the legal basis for the notion of a dar. In theory, any pastoralist could take his animals to any ‘empty’ land, and any cultivator could register and cultivate any uncultivated land. This reinforced the marginal status of pastoralists, pushing them to the margins. One of the results was that commercial farms were established that used up the best pasture land or blocked the pastoralists migration routes. As commercial farmers were well able to defend their interests by hiring guards, this forced the herders to take their animals elsewhere. The victims of this policy were both the pastoralists themselves and smallholder farmers in local villages, who could not defend their farms against the herds. This was the cause of many local conflicts, for example in South Kordofan.

Pastoralists’ rights to land need to be recognized. This involves several main issues:

- Consideration of whether the principle of the tribal dar should be maintained, and if so, in what guise.
- Legal recognition and protection of specific rights for pastoralists, such as migration routes and water access points.

- Legal recognition of rights short of full ownership for pastoralists. Pastoral use rights should be protected in law.

2.9.9 Rights to wild resources

Land that appears 'empty' or unused to the outsider can be a vital economic resource for rural people. Bush or forest land can provide the following:

- Grazing and browse for animals kept in the homestead.
- Gum Arabic, incense, honey and other marketable products.
- Firewood and charcoal.
- Building materials including wood and grass.
- Wild foods for use in times of famine and food shortage.
- Medicinal plants and herbs.
- Wild animals for hunting and trapping.

These resources can make the difference between an economically viable village and a non-viable one. Therefore, if a previously-untouched village loses its forest, even though it retains its farmland, it will suffer a serious loss. Use rights and ownership of forest or bush land are not recognized in law. In fact, laws tend to restrict people's rights, for example to hunting and to cutting trees. (Most recent research in fact shows that deforestation by villages cutting trees for domestic consumption is negligible. Villagers tend to cut branches of live trees that quickly grow back. The best means of preserving tree cover is to allow private ownership of trees and give villagers an incentive to grow trees.) Providing legal rights to bush or forest land is complex and probably not feasible. However, future land allocations for registered farms should recognize the economic losses caused by destruction of forest or bush areas and compensate local communities accordingly.

2.9.10 Land registration process and mechanized farming

When the land registration was brought to Sudan it was totally an alien system. At that time illiteracy was dominant in all parts of Sudan and people, even in the cities, did not even bother to register their marriages. Some of the local chiefs benefited from that ignorance and robbed substantial areas of land from the weak and the vulnerable simply by the registering it to their own names without the knowledge of the owners. They would declare their ownership after such time that a reversal of their land seizure were difficult if not impossible to enact. After almost a century, the land registration process is still an alien system as far as rural people are concerned. The process requires literacy and a knowledge of the government bureaucracy. In practice it has often required personal acquaintance with government officials or a readiness to pay 'sweeteners'. Until 1970, the rights of non-registered landowners were to some extent protected by a recognition of the native administration and its authority over land, but the 1970 land act foreclosed any more than use rights over unregistered land, and restricted the rights of native authorities. This made all unregistered land open to possible registration. The registration process is seriously biased against women. Even in the relatively few cases where women have customary rights to land, women have extreme difficulty in having their rights recognized in the registration process. Usually, any woman's share of land (for example in any government distribution) is allocated to her husband, who retains full rights to all the land should the two divorce. There is an important difference between rainfed and irrigated land. Irrigated land requires considerable investment and maintenance, and is a long-term investment. Relatively speaking there are many fewer abuses and conflicts arising from irrigated land. Rainfed farms can be established much more quickly and require less investment and maintenance. Returns are quick and they

are an attractive investment for entrepreneurs aiming to make a rapid profit. They can easily be expanded without authorization. They often result in serious environmental degradation. For too long, Sudanese have subscribed to the illusion that mechanized farming is somehow ‘modern’ and efficient: it is neither of these things. In reality it is a highly destructive use of the land. Most of the abuses and conflicts arise over rain fed commercial farms which have been registered without the involvement or consent of the local community. To register a piece of land in one’s name, it is not necessary to reside on or near it, or even to prove that it is not occupied. It is merely necessary to show that it has not already been registered by someone else. In theory, only capable farmers are permitted to register land, but in practice this extends to anyone who has minimum capital resources and is ready to hire a farm manager. As a result, many entrepreneurs have registered land which they have not even seen. This land may be farmed by local people or used by pastoralists. But once it has been registered, these people--who may have been using the land unchallenged for generations in the mistaken belief that this made their ownership secure--become ‘trespassers’ under law. The law is framed in a way that trespassing is a serious offence, punishable by a fine or imprisonment. It is therefore an elementary matter to clear the registered land of previous occupants without any provision for compensation. Between 1968 and 1986, the area of Sudan under mechanized farming expanded from under two million hectares to over eight million hectares. By the mid-1980s it was widely recognized that this was an economic, environmental and social disaster, which had contributed to the famine of 1984-85. In the post-famine recovery plans, the Ministries of Finance and Agriculture strongly recommended a switch away from commercial mechanized farming to supporting smallholders. But while state-owned farms stopped expanding, the number of private

schemes continued to mushroom. Many of the private mechanized farms established in the late 1980s and the 1990s either were not registered, or expanded beyond their registered boundaries. These farms were effectively beyond the reach of law and regulation. Some of the most egregious abuses against smallholder farmers have occurred in the Nuba Mountains, since the introduction of widespread mechanized farming in the 1970s. About one quarter of Sudan's mechanized farmland is in South Kordofan. There are many cases in which Nuba farmers were driven off their ancestral lands. Some were taken to court, when they refused to give up their land and were either lashed or imprisoned. In Fayo in 1981 the entire village was surrounded by a newly-established mechanized farm that took over almost all the villagers' land. In 1984 in the Mugenis scheme extension, near Rashad, eighty Nuba people who refused to hand over their land to a company formed by rich merchants and government ministers, were rounded up and taken to an emergency court in Kadugli. In 1995 a new agricultural corporation was formed in the Nuba Mountains and Nuba lands were put up for sale, and a loan from the bank was given to the buyers--who came almost entirely from central and northern Sudan. Another example of abuse of power is the Habila mechanized project. The lands were taken from the natives and the project ownership was given almost entirely to northern merchants and businessmen while the previous Nuba land owners had to become laborers on their own lands. Similar processes were also in train in other parts of the country such as southern Blue Nile and northern Upper Nile. The fertile plains around Renk were systematically appropriated by absentee landlords who set up commercial farms, dispossessing the indigenous Shilluk and Dinka inhabitants. Only the war prevented the same process taking place across much wider swathes of Southern Sudan including much of Bahr el Ghazal and Equatoria. Under the NIF regime,

land registration has descended into land looting. The President's Office and other powerful instruments of the government have allocated land without any process at all to cronies of the regime, including foreigners such as Osama bin Laden. Huge areas of the Nuba Mountains, Southern Blue Nile, Eastern Region and the South have simply been expropriated by force. This has wholly disastrous social and environmental consequences. It is nothing short of land looting sanctioned by law, and should be stopped and reversed. The land registration and occupation process needs reform. It should no longer be possible to register land 'unseen' or to register land that is already occupied by a farmer. Land necessary for pastoralist grazing or migration should not be allowed to be registered. If uncultivated land is registered for a commercial farm, then the value of use rights by villagers and pastoralists (as described above) should be recognized and compensated for. In addition, the abuses of the system in recent years should be reversed (see below). An ideal way of dealing with this matter is to set up by law a settlement committee, in the manner of that created by the Settlement and Registration Ordinance, 1925, which facilitated the registration of rural land. Registering the lands in all parts of Sudan is inevitable and it is also important to secure the rights of local people. One way to deal with problem of lack of literacy, is to create a committee from the educated people in the communities to help the locals registering their rights and to explain to whole issue to them. Civil society in deprived areas could also assist in playing that role.

2.9.11 the market in land

The commercialization of land is proceeding apace in both the registered and unregistered sectors. In many areas even pasture is becoming privately owned, with grass enclosures being set up. This is probably inevitable, as supply and demand creates a market in any commodity that

is scarce. Any attempt to take land out of the realm of market forces altogether is therefore doomed to failure. However, it is important that safeguards on the sale of land should be established to ensure that poor people in desperate circumstances are not forced to sell their land at rock-bottom prices, and become landless laborers. The best means of ensuring this is to provide agricultural extension and marketing services to small farmers, so that they can obtain a fair price for their crops, and to provide credit, so that a poor farmer can mortgage his or her land rather than being forced to sell it. The experience in the far north of farmers co-operatives has played a successful role in overcoming the disadvantages of small ownership, in a very difficult conditions. It helped not only to sustain the agricultural production in those poor areas, but helped the local communities in obtaining food, cloth and medicines in reasonable prices. This experience should be studied, developed. There is a great need to find ways in implementing in other areas of the country with consideration to the special nature of each area.

2.9.12 Land tenure under Islamic Law

Islamic Law has always been an important part of the so-called modern land tenure in Sudan, even during the colonial era. The right of “shufa’a” (a neighbor or co-inheritor’s privileged option to purchase a plot of land when it is for sale) is an example. Islamic law as developed over the centuries by Islamic jurors has a strong concept of individual ownership of land and clear rules concerning the transfer and inheritance of land. The rules of inheritance are particularly detailed. These rules often conflict with customary law (for example over inheritance by widows and daughters) nevertheless, some elements of the Islamic Law are in theory of a socialist nature (The Hadith says, people are partners in three elements: water, grass and fire). Islamic Law, however, gives no sanction

to the kinds of land looting that have occurred under the NIF regime. As practiced in Sudan today, inheritance under Islamic Law discriminates against women in almost every respect. The religious basis for this wide-ranging denial of women's rights to land has however been questioned by some Islamic scholars. In other respects, Islamic Law does not present special problems with regard to land. The most important thing to note is that land tenure under Islamic law does not contradict customary and other land law. It is not a part of the sharia that is compulsory: it can be adopted but can also be rejected if people so decide. It follows that an important agenda is to give customary land tenure the same level of authority in places where it is not derived from an Islamic background.

2.9.13 Urban Land Tenure

Urban land tenure is just as sensitive as rural land ownership. Some among the elite in power seem to take the view that poor people not only have no right to own land in rural areas (on the spurious grounds that they are backward and cannot use the land) but also that they cannot come to the cities (because they are backward and belong in rural areas).

The most pressing problems of urban land tenure are

- The crisis of displaced people (which the current government has responded to with draconian measures of forced relocation).
- The short supply and high cost of accommodation for urban dwellers.

The government has tried to play off the latter group of urban dwellers against the former group of squatters and displaced, by removing the former by force and allocating the land to urban dwellers. This is neither just nor workable. The campaign of 'urban renewal' in Khartoum and other major cities has involved major violations of human rights. A basic principle of law was abrogated in 1990 with the Amendment to the Civil Transactions Act that prohibited appeal against land adjudications made

by the government, including striking off all cases currently before the courts. The demolitions and relocations have been carried out with undue force, leading to loss of life, destruction of property and enormous human distress. The new sites for the displaced have often lacked basic amenities and the displaced have been denied the rights to education, health care, clean water and other essentials, the right to work, and civil rights. The problems facing displaced people and squatters, and the problems they have caused, cannot be solved in this manner. Many of the displaced have come to the cities because of the war, because of lack of economic opportunities in rural areas, or because of land alienation. Only when there is peace, some rehabilitation or development in rural areas, and the chance of acquiring farmland, will these people consider returning home in large numbers. But history shows that urbanization is rarely if ever completely reversed: some of the displaced will stay in the towns and become resident. The World Bank has repeatedly shown its interest in urban planning and renewal in Khartoum and other main cities of Sudan. However, along with other major donors, it has also set down basic conditions, which include that all relocation must be done on a voluntary basis and must be to properly-provisioned sites. The government has repeatedly violated these conditions. A Transitional Government should commit itself to the following conditions for urban renewal and relocation of populations:

- All relocations must be carried out on a strictly voluntary basis.
- The sites to which people are relocated must be at least as well provisioned as those that people are moved from.
- Relocation sites should have cheap public transport to sites of employment in the nearby towns and cities.
- All decisions about demolition and relocation should be open to challenge in the courts.

- The option of incremental improvement of squatter sites and displaced camps should be examined seriously. 'Semi-planned' areas can be upgraded by the selective provision of services and the registration of those in occupation of plots of land. The foundation of urban renewal will be the provision of low cost housing, provided by both the public and private sector. Successive governments' policies on housing for city dwellers have always been based on simply allocating land for the needy with the assumption that the recipients can somehow build their own residences. This was given the name 'housing plan.' These housing plans have rarely been implemented in the way that was envisaged, partly because the high cost of construction means that the recipients of land allocation have not been able to build houses of the anticipated standard. Governments have also failed to construct the services required and maintain those that have been provided. Given the current state of government finances, which will not change substantially in the foreseeable future, major urban construction projects to meet the demand for housing and services will require foreign assistance from international financiers such as the World Bank. Providing housing for poor people at a reasonable rent can also help solving the housing problem and it can bring down the high levels of rent prevailing in the private sector. Meanwhile, much of the new housing will have to be provided by the private sector. This in turn requires a reform of rent laws. Sudanese rent law has swung between two extremes. The 1956 law was very restrictive on the landlord, and provided a strong economic disincentive for letting out property. The 1984 law, by contrast, made a rental agreement equal to any other ordinary contract, removing almost all security of tenure from the tenant. In theory, this should have been to the landlords' advantage, but experience has shown that rents have remained high and a housing shortage has persisted. This is probably because insecurity of tenure and

high rental have meant that many would-be tenants have preferred to be squatters. a new rent act that strikes a balance between the two extremes will be necessary.

Women's rights to urban land are unjustly restricted. Government employees are entitled to land allocations in the cities--but if they are women, their allocation is awarded to their husbands. The husband retains full rights over any urban land owned by the household, so that if the couple divorce, the woman comes away with nothing. This is unacceptable and demands reform.

A final, much neglected aspect of urban land policy is the question of public spaces, specifically parks and other recreational facilities. Sudanese towns are planned with very few open spaces for use by the public. Children are forced to play their games in the streets or on waste ground, which is often polluted and unhealthy. The ugliness of urban public spaces encourages those who can afford it to retreat behind high walls and ignore their obligations to wider society.

2.9.14 Rights to Other Natural Resources

Some natural resources have come to play a central role in local and national politics, and access to and control over these resources needs careful planning and legislation. These resources include water and oil.

1. Water Resources:

At a local level, access to water has been the cause of numerous local conflicts between communities and ethnic groups. This includes access to wells (seasonal and permanent) and rights to river water (including pastoralists' rights of access to rivers and reservoirs, and farmers' rights to water for irrigation). Means must be found of settling these conflicts and for providing for multiple use rights for water. The use of the Nile

waters is an issue of national security and national development policy and is bound by the Nile waters agreement with other riparian states. For other waters, disputes can be settled within the same structures and processes that address rural land rights, the status of tribal lands and the role of native authorities. The question of the Nile in Southern Sudan and specifically the Jonglei Canal is an important issue. In the 1970s and early '80s, this contributed to the outbreak of war. This happened both because of the political and economic disadvantages to Southerners from the plans, and because of the secretive way in which the plans were drawn up and the authoritarian manner in which they were implemented. To avoid the problems arising from this issue becoming a cause for misunderstanding and conflict, it is important that all future decisions on the Nile waters inside Sudan be taken in an open and democratic manner, so that all who are affected feel that they are part of a democratic and inclusive process of decision making.

2. Oil and mineral resources:

The question of rights to oil and mineral resources is a political issue rather than a human rights one, but is important because of the history of disputes and their role in creating conflict. It has obvious ramifications for North-South relations. As in the case of the Nile waters, the human rights concern is primarily with the procedure whereby decisions are arrived at, rather than those decisions themselves. These procedures should be transparent, democratic and participatory (Rahhal and Abdel Salam, 2002).

2.9.15 Tenure and Sustainable Resources Management

The paper examines land tenure in relation to social vulnerability, environmental stress, environmental security and natural resource conflicts. In Africa, the need to increase food production to enable

increased food consumption has become more desperate as the demands of an increasing population have not been met. As a result, marginal land has been brought into production, and commercial operations continue to use fertilizers and chemicals for increased productivity, while fallow periods have been reduced. Although such activities are designed to increase productivity, they can result in exhaustion of the production capacity of the land. Climatic variability and change and inappropriate land-use or land tenure policies add to the pressures and magnify the impact. The inequitable distribution of land has contributed to the declining state of resources in Southern African countries, thereby creating the conditions that lead to food insecurity. These environmental security problems induce conflicts at the inter-state and intra-state levels: the class and racial levels; and at the local level. Environmental security is inextricably linked with human security, with some writers stressing environmental security as the capacity of humans to live harmoniously with nature or to maintain a sustainable environment, while others stress the human security element of individuals and groups being able to meet their basic needs from a sustainable environment. Land tenure and land-use conflicts have the potential to undermine both environmental stability and food security but investment in institutions for local level conflict management is often the missing dimension in development policies. In Africa, many different legal frameworks govern access to land and its use. These compete with one another, providing another source of conflict.

2.9.16 Land Tenure and Gender Relations

Women are recognized as playing a pivotal role in maintaining and strategically using land and natural resources. Thus, in any debate on land tenure and livelihoods, gender requires special treatment, and any set of

strategies for sustainable food security must address women's access to productive resources. Typically, gender relations are governed by the prevailing socio-political structures and religio-ideological value systems. In Africa, the predominance of patriarchal systems relegates women and children to minority positions, ensuring that women only have access to land and related natural resources through their spouse or male relatives. This division between primary (male) and secondary (female) access may have an impact on the way men and women manage natural resources in communal areas. One of the most serious obstacles to increasing the agricultural productivity and income of rural women is their insecurity of land tenure. Security of tenure is the key to having control over major decisions, such as what crop to grow, what techniques to use, what to consume and what to sell. Without this, women cannot access credit and membership of agricultural associations, particularly those responsible for processing and marketing. Their access to technological inputs is limited; they are frequently not reached by extension services and are rarely members of cooperatives, which often distribute government subsidized inputs and vital market information to small farmers. In addition, they lack the cash income needed to purchase inputs even when these are subsidized; Land reform and the forces of modernization have had a mixed effect on the status of women in Africa. Few agrarian reform or resettlement programmes have significant numbers of female beneficiaries or even pay attention to gender as a beneficiary category. In some cases, however, women have gained greater access to land through reform, generally where the participation of rural women is a well-defined state policy. In some countries, agrarian reforms have replaced the feudal system, where women traditionally held a subordinate role in family production. There are also many instances where women's

organizations have fought to gain access to land, which they farm collectively.

2.9.17 Land Tenure, Agriculture and Food Security

The economies of most African countries largely depend on land-based activities, such as agriculture, mining and tourism. Agriculture has direct linkages to food security, while mining and tourism are indirectly linked to food security through their competing demands for land use and their potential to supply incomes for food consumption. The impact of land tenure on food security and sustainable natural resource management is complex. Agriculture in Africa can be classified as bimodal - divided into smallholder and large-scale/estate agriculture. The underdeveloped state of smallholder agriculture in most African countries has largely been shaped by economic policies which disfavor them but promote the larger farmers. Through policies which set prices and control marketing systems, regulating the flow of information and credit-making mechanisms oriented to large farmers, the State has constrained the manner in which small and medium farmers are linked to national and international markets (Reed, 2001).

Development and other grassroots organizations have played a critical role in supporting peasant economies through improving land tenure security and other general working conditions of communities. Groups that include small farmers associations, agricultural labour unions, women's and indigenous groups have been targeted for such assistance (Ghimire, 2001). Examples include the Integrated Rural Development Initiatives in Uganda, which focuses on the role played by indigenous communities in forest reserve management; the Cameroon Indigenous Knowledge Organization, which has been lobbying for special land legislation to protect the rights of forest peoples; the OASIS Development

Group in Kenya, which is assisting in preventing the unjust eviction of the Doroboi people from forest lands being appropriated by a government project; and the Tamale Archdiocesan Agricultural Program for Women in Ghana, which has assisted women in securing access to arable land for the growing of cash tree crops and in negotiating long-term leases on this land (Ghimire, 2001).

2.9.18 Land Tenure and Environmental Security

A number of studies have emphasized the high dependency on natural resources by most African economies (Scoones et al., 1996; Cavendish, 1997; Mortimore, 1998; Tevera and Moyo, 2000; Campbell et al., 2002). Increasing demand for resources for both local and export markets, as well as escalating competition for the control of natural resources, have been a source of insecurity and have increased the incidence of environmental conflicts. Environmental security problems in Southern Africa, such as natural resource conflict and environmental change, arise from multiple processes that are manifest at various spatial and sectoral levels. These include conflicts at the inter- and intra-state levels, the class and racial levels and at the local level. There is a resurgence of unresolved historical claims over national boundaries and land, including the natural resources which are embedded in them (Moyo and Tevera, 2000).

According to the United Nations Development Programme UNDP (1994), human security implies safety from chronic threats, such as hunger, disease and political repression, as well as protection from sudden and hurtful disruptions in the patterns of everyday life. Human security, therefore, ensures options for the mitigation of threats to human rights and the environment as well as guaranteeing the freedom of those affected to exercise these options (Moyo and Tevera, 2000). It

incorporates principles of participatory development. The development process can sometimes threaten security when it entails disruption of traditional security mechanisms by redistributing power in a society or region, unless the institutions providing security adapt and accommodate change rather than impede it (IUCN, 1998).

2.10 Challenges to Tenure Reform

Many studies have highlighted the need for reform of rural land tenure and administration in Sudan. This emerges all the more clearly as the ongoing conflicts in Sudan are rooted in, though not limited to, conflicts over land resources. The key common drawbacks of the current system are: vulnerability of small farmers and pastoralists to the risk of being ousted from communal land by wealthier investors; lack of clear policies for environmentally sound land use; failure to consistently enforce pastoral land use rights – a constant source of tensions; and failure to adequately consult with local communities in matters of land use. North Kordofan presents particular challenges in the field of decentralised natural resource management, the most critical one being the identification of management systems that are sustainable and equitable in the face of great spatial and temporal variation. Periodic drought is a normal and inherent feature of North Kordofan and although it is unpredictable it is also inevitable. This demands non-prescriptive management systems of extreme flexibility to deal with an everchanging resource base. The following are some key challenges that policymakers and legislators face in attempting to do so. The first challenge concerns recognising the value of the commons. On the one hand, this entails taking fully into account the importance of common resources for local livelihoods and other goods. The economic benefits stemming from the

commons are notoriously underestimated due to their often non-monetarised nature. As a result, short-term economic gains from individualisation tend to outweigh the less visible but not less important potential benefits of maintaining resources in common (e.g. equitable access, local peace, cultural identity, etc). While some call for “proper” economic valuation of the commons, so as to make a convincing case with policymakers and legislators, it must be remembered that the social, cultural and environmental importance of the commons may be very difficult to translate into monetary value. On the other hand, acknowledging the value of the commons entails recognising the validity of local systems for resource access, management and use. Very often, the “tragedy of the commons”- arguments has been used to undermine local management systems and claim control over natural resources. Similarly, where protection of land rights is conditional upon “productive land use”, common use is often not recognized as fulfilling this requirement. This has been used by government services, for instance to justify the conversion of common pastures to other uses which are considered more productive for national and local economies (e.g. irrigated farming, commercial ranching). A second challenge is how to grant secure tenure to local communities. The extent to which the policy/legislative framework grants secure access and user rights to local communities which depend on the commons is a crucial variable. Even where customary systems seem to work well without any legal backing, they may be undermined when “outsiders” come in. This raises a series Of issues, such as:

- Who are the “communities”? Local users are rarely homogeneous groups and tend to be differentiated on the basis of income, power, gender, age, professional groupings (e.g. farmers, herders), etc. The case of North Kordofan demonstrates how “local communities” may include

very different actors with very different bargaining power (commercial farmers, landowners, gum producers, pastoralists). Also, membership of user groups may be fluid and include non-resident users (e.g. transhumant pastoralists). This creates challenges in identifying the right holders and in establishing checks and balances at the community level to prevent elite capture.

- What rights should be secured? Key rights to be protected concern access, management and use. Recognizing local tenure systems may present challenges, especially where the national legal system is based on “imported” legal traditions. As for the object of these rights, this includes not only land and other “tangible” natural resources, but also “intangible” goods such as indigenous knowledge and genetic resources.

- How can greater tenure security be provided? Recognising customary rights and building on local practice are key, as they enable one to go beyond the chaotic superposition of different tenure regimes (statutory, customary or combinations of both). While some called for a codification of customary law, others advocate more flexible ways of recognizing customary rights and integrating them in the formal legal framework. A third challenge is how to reconcile competing resource uses. Because of their very nature, the commons are characterized by multiple users and/or uses, either simultaneously or sequentially. This requires institutional arrangements to regulate the interaction between these different, and possibly competing, uses, and to solve disputes peacefully when they arise. An example is provided by various legislations recently adopted in North Kordofan with a view to reconciling different land uses coexisting over the same territory, namely pastoralism and agriculture, particularly on allowing and regulating herd mobility. A fourth challenge is how to create an enabling framework for partnerships between local communities and the private sector. In some cases local communities may benefit from

partnerships with private sector entities. However, in order for this to happen, policy and legislation should provide an enabling framework for negotiations between communities and private sector operators. This includes establishing mechanisms to ensure community consultation and benefit sharing with regard to revenues generated by the private entity through its use of the resources. A final challenge is how to make policy processes and legal systems more accessible. Where the policy and legislative framework is not accessible to local people, it may be manipulated by elites to legitimise their grabbing of common resources. Greater “access” to the policy and legislative framework concerns the formulation of policies and laws (public participation in the formulation process, use of clear and accessible language, etc.), and their implementation (activities to raise legal awareness; access to courts; etc.). Making the policy and legislative framework more accessible also entails bridging the gap between policy and practice.

2.11 Opportunities for Tenure Reform

Sudan is undergoing profound institutional, economic and political changes, which offer promising opportunities for effective community based natural resource management systems. Following the signing of the CPA in January 2005, the review of the Constitution and the formation of the Government of National Unity (GoNU) combined to add force to national and international calls for decentralisation. This would require a revision of many laws regulating natural resource management and land tenure and restructuring of local government to support a more holistic and community level approach to development in rural areas. National codes governing forests and wildlife, long denounced for their repressive nature, inadequacy or ambiguity, have to be replaced by new laws governing natural resource management. Land laws should also undergo

review and a new pastoral charter should be developed with the objective of clarifying pastoral resource use and management and reducing conflict between pastoral and agricultural land uses. International and regional conventions are providing broad policy frameworks within which devolved management of resources can take place. The federal government is expected to reform past legislation and pass new laws in order to implement policies that will allow a far greater involvement of communities in the management of natural resources. The decentralization process should be envisaged as a means of increasing efficiency, improving equity and participation and ensuring greater responsiveness of government to local populations. However, government interest in devolved management is not entirely driven by an ideological commitment to local participation. Global trends towards greater democratization and the empowerment of civil society are resulting in governments having 'to toe the line' if they are to continue to benefit from development aid assistance. In an era of structural adjustment reforms, it is also cheaper for them to devolve management responsibilities to local communities. This is particularly true for the management of natural resources that are of relatively low commercial value. Constitutional developments in the Sudan have sought to create a single legal system in which statutory formal law is paramount. In the real world of most Sudanese livelihoods, however, customary law has proved to be obstinate. Customary law, hardly acknowledged in post-colonial legislation, often continues to dominate real life – especially in the rural areas. Only recently, with the signing of the CPA, did the Interim Constitution formally recognise the integral role and equivalent status of customary law within legal framework. However, land policy issues are not fully addressed in the Comprehensive Peace Agreement. By focusing on usage rights, the CPA explicitly avoids addressing the

issue of land ownership. There is a risk that regulation of land rights and use by different levels of government may not be synchronised. The legal status of arbitration bodies, their hierarchy, internal functioning and referral procedures to the Constitutional Court remain unclear. Progress in incorporating customary norms and practices into legislation has been slower than expected. The main instruments of land use management during the six-year interim period are Land Commissions – a national body, a Southern Sudan Land Commission and state commissions in the conflict-affected areas. The commissions are required to coordinate their activities and set guidelines for the resolution of conflicts. Their functions may include – at their discretion – arbitration, consultation on land reform and customary land rights, appraisal of compensations and recording of land use practices. None of the commissions have been formed so far. In conformity with the general principle that land in the “New Sudan” belongs to the communities, the SPLM judiciary system recognises custom as providing legitimate legal principles. Thus it might be worth exploring to what extent customary land rights could be converted into statutory land rights through appropriate registration. This could protect local communities from undue pressure by powerful outsiders, neutralise disputes arising from the overlap of different ethnic customs and restrict potential land speculation. Perhaps the most disturbing trend is that processes towards reform are hampered by lack of goodwill and political will. The much-proclaimed promises in the CPA and the subsequent Interim Constitution to provide better legal protection for customary land rights in Sudan have been deliberately ignored. Commitment to local level empowerment in land decision-making is quite frequently curtailed by a government unwilling to really surrender the extent of authority initially promised. The GNU and state governments are constitutionally required to pass new legislation to devolve the responsibility for

managing natural resources to local communities, but despite growing awareness of the vital role of the commons in local livelihood systems, there is still some resistance to transferring full management of their use to the communities that depend upon them. Some policymakers are doubtful as to whether these areas can be properly managed by community-based organisations, and it is still believed in some quarters that privatisation or state control are the only means of preventing the degradation of resources that are customarily held in common(Mustafa Babiker,2008).

2.12 Previous research

- the overall objective of this study was to analyse the relationships between land tenure and investment as well as land tenure and cocoa productivity in the Bibiani-Anhwiaso Bekwai District in Ghana. A multistage random sampling technique was used to collect data from 252 cocoa producing households. The study revealed that customary land tenure (51%), owner-operated (7%) and sharecropping (42%) are the three main land tenure systems in the district. Under the sharecropping contract, *Abunu* (96.2%) and *Abusa* (3.8%) were identified. The empirical results on investment options showed that both owner-operated and sharecropping land tenure systems had positive effect on investment in fertilizer and pesticide by the cocoa farmers. This suggests that farmers operating both owner-operated and sharecropping cocoa farms are likely to invest more into fertilizer and pesticide to increase yield. The results also revealed that both gender and age had positive effect on investment in fertilizer by cocoa farmers. Farm size exerted negative effect on investments in fertilizer but positive effect on investments in pesticide. The result further revealed that farm parcel or several farms had a positive effect on investment in fertilizer. Farm parcel

or several farms recorded a negative effect with pesticide. The empirical results further indicate that both sharecropping and owner operated tenure exert negative effects on cocoa productivity but, fertilizer and pesticide exert positive effect on cocoa productivity. The results indicate the premium cocoa farmers place on fertilizer and pesticide. Both gender and age influenced productivity negatively. Education on the other hand recorded a positive effect on productivity. One major determinant of cocoa yield, household size had a significant positive effect on productivity. It was also revealed that the effect of farm size on productivity was negative. However, credit had a negative effect on productivity indicating low or lack of credit use among the farmers interviewed. Finally, extension also took a positive sign, suggesting a high level of information dissemination on proper cocoa production technologies and management practices. The study recommends provision of cocoa fertilizer on credit under the Cocoa Hi-Tech Project and spraying of cocoa farms under the Cocoa Mass Spraying Project by the government to be revived to increase yield. (SIMON ALUFAH 2015)

- The conflict tribal on land tenure and natural resource management in the Darfur region, aimed at describing the conflict over land and natural resources in the Darfur region of Sudan. The study concluded that the conflict over land tenure in the region is due to a range of factors interacting over time periods More complex The study highlighted the most important factors ranked according to the relative strength of each factor in its interaction with other factors, where the first ranking is the main factors: the absence of development and development and democracy where the region suffers from marginalization due to the absence of umbrella Social care of the population, then the direct factors: which is the conflict over natural resources and land tenure, and the

conflict between local elites and the educated and tribal political power, and factors help: which is the growing population and the proliferation of animals including calls for more of the need for grazing, which (Adam,2003)

- Settlement of disputes between landowners and nomads on land tenure in Nigeria" The study aimed to monitor the evolution of the conflict over natural resources and land in Nigeria. The study revealed that the Nigerian situation in the conflict has specificity in terms of factors and causes and extends to include the negative consequences of the conflict, however, distinguishes it from other African countries. However, the study confirmed that the conflict between the nomads is due to historical roots that reveal the conflict over the possession of lands and water resources in order to be able to graze. However, In addition, the oil revolution in Nigeria in the early 1970s enabled the increase in the diversity of natural resources. The form of conflict differed from traditional resources to conflict over farms and land surrounding roads. The study identified a new type of conflict between stable and nomadic farms on natural resources and land since agriculture was relied upon as an alternative to grazing. The study revealed that the evolution of conflict forms and levels emphasized the need to adopt Institutional solutions to this type of conflict. The evolution of settlements has resulted in the reliance on pastoralist organizations and cooperatives that have become a positive influence in the process of mediation of conflict resolution (Roger Blench, 2003)

- Post-conflict land tenure - sustainable livelihoods" The present study deals with the application of sustainable livelihoods to access to and management of land in post-conflict areas. The preparation of this study is based in part on land tenure, policy and research experience in post-

conflict and post-conflict areas, particularly in Somalia, Mozambique, East Timor, Uganda and Ethiopia, as well as additional land tenure work in Zambia, Madagascar and Peru. Customary "land tenure systems in post-conflict scenarios and the interaction between this reality and the limited capacity of the formal system. Because sustainable livelihoods can be used to focus on smallholders, an understanding of the post-conflict holding realities faced by rural producers is important in exploring how sustainable livelihoods can contribute to solving land access problems in such areas Environments. The present study provides lessons learned through the interaction between post-conflict land tenure and sustainable livelihoods <http://www.fao.org/sd/dim> (FAO, 2004)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Methodology

The quantitative and qualitative method was used. The survey divided into six areas namely of Kabara, Adoma, Basata, Al-Toboun, Al-ferdos and Al-Sintaya in Alsalam Locality, Western Kordofan State.

Data collected through the use of questionnaires on a sample of managers and deputy directors involved in Agricultural extension services, Ministry of Livestock and local traditional leaders in the study area. 200 questionnaires were distributed in the study region of Western Kordofan State, but only 30 managers and 170 were farmers.

Variables:

Independent variables

Dependent variables

Organizational characteristics	Performance of agricultural extension mgt.
Gender	Cause of conflict
Age	Types of conflict
Education level	Level of conflict
Marital status	Impact of conflict
Occupation	Management of conflict

3.2 Research Area

The Locality Elsalam Alfula is bordering with Gabiesh Locality from the North and West North, Abyie Locality from the South, Lagawa Locality from the East and Adiela Locality South Darfur from the West .Total area estimated at, 18.500 KM².The population estimated at 127,462

distributed in four Administrative Units (Elfula, Babnousa, Eltooon and Kegera). The main economic activities of population are agriculture (Rain fed) and Nomadic pastoralist and agro pastoralist in their livelihood. The locality is still hosting considerable number of war affected and Refugees from Southern Sudan especially in Babnousa, Eltoobon and Elfula towns. The social structure composed of multi tribes from different areas. The climate in the locality lies within high and low rainfall ecological zones and shows variability in vegetation of broad leaves forest in Southern zone of thorny small leaves trees in the northern region of the locality. The rain fall is ranging between 300 mm to 600 mm per year. The Locality is classified as very rich of Oil production especially in Southern side which is reflected very negative environmental impact towards livelihood of the pastoralist and agricultural.

The aim of this study is to provide an alternative conceptual framework for agricultural extension, which can deal with environmental scarcity, conflict and challenges. For this purpose, we introduce a brief history of agricultural extension and conflict then review conflict management approaches. The need for conflict management approaches in agricultural extension is presented followed by adapting conflict management approach in agricultural extension. This study aimed to identify the nature of conflicts over natural resources renewable locality of Elsalam in West Kordofan, and to identify the most important social and economic implications, and then seek to propose recommendations on the most effective scientific solutions and treatments problem. Representing locality Elsalam spatial domain of study, and is located over the scope temporal in the period from 2007 to 2012, also consists community study of natural resource users, composed of traditional farmers, and farmers mechanized farming, pastoralists from a breeder cows known Baggara.

3.3 Research population

The research population consists from all the units that are accepted by mainstream results which include the sample targeted by the study. (George, 2000).

The community of this study formed from holder of the agricultural lands at the rural areas belongs to Alsalam Locality.

3.4 Sampling and sample size

The selected study sample consists from the "units that are picked up from the original study population, which was tightly determined to accept disseminating the results to its different data. (Jeermy. 2002. 6)".

A sample of (200 HH) was selected randomly from the population who are the holders of the agricultural land and natural resources in rural areas in west kordofan state al salam locality.

3.5 Data Collection Process

A key strength of the case study method involves using multiple sources and techniques in the data gathering process. The researcher determines in advance what evidence to gather and what analysis techniques to use with the data to answer the research questions. Data gathered is normally largely qualitative, but it may also be quantitative. Tools to collect data can include surveys, interviews, documentation review, observation, and even the collection of physical artifacts. The researcher must use the designated data gathering tools systematically and properly in collecting the evidence.

Primary data was collected using questionnaire, personal interviews and observation. While secondary data was collected through reference books, reports, previews related research and the internet.

The researcher must collect and store multiple sources of evidence comprehensively and systematically, in formats that can be referenced and sorted so that converging lines of inquiry and patterns can be uncovered. Researchers carefully observe the object of the case study and identify causal factors associated with the observed phenomenon. Renegotiation of arrangements with the objects of the study or addition of questions to interviews may be necessary as the study progresses. Case study research is flexible, but when changes are made, they are documented systematically. Field notes record feelings and intuitive hunches, pose questions, and document the work in progress. They record testimonies, stories, and illustrations which can be used in later reports. They assist in determining whether or not the inquiry needs to be reformulated based on what is being observed. Field notes should be kept separate from the data being collected and stored for analysis.

a. Preliminary data:

Include demographic characteristics that distinguished the sample of the study including: social status, age and the type of stage tenure and size of property, etc.

b- Questionnaire axis: the type of conflict on land tenure:

- The causes of conflict on land tenure and natural resources.
- The level of conflict on the acquisition of land and natural resources.
- Types of conflict on the acquisition of land and natural resources.
- The effects of the conflict on the acquisition of land and natural resources.
- Visualization proposed to settle the conflict on land tenure.

3.6 Data Analysis

The data gathered by the questionnaire was been for analyzed using descriptive statistics, to know percentage, frequencies...etc.

The data was mostly analyzed with a computer program called Statistical Package for the Social Sciences (SPSS).

The reliability and validity of the research the researcher should always check the reliability and validity of his research.

The reliability indicates the ability of the research method to give results that were intended or what the research was supposed to find out. The validity points to ability of the research to assess essential and right things. The reliability of the research is strengthened by creating the questionnaires carefully. The validity is supported by if the researcher knows the commissioning organization well before generating the questions to the questionnaire. This way, the researcher guarantees that he knows exactly what extension

Methods are used, what happens in the field and how the farmers are doing relating to the project. For this research, the advantage was that the researcher had already conducted an internship in the commissioning organization therefore was fully aware of the mentioned things. Moreover, the questions in the questionnaires were approved in the commissioning organization and they had an opportunity to change the questions, add or remove them.

CHAPTER FOUR

RESULTS AND DISCUSSION

Table (4.1) frequency distribution of respondents by gender

Gender	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Male	172	86	86	86
Female	28	14	14	100
Total	200	100	100	

Source: field survey (2015)

The table (4.1) shows that the majority of respondents was men, and 14% were women. This is due to some gender issues that are sensitive in the study area.

Table (4.2) frequency distribution of respondents by age

Age groups	Frequency	Percent (%)	Valid Percent	Cumulative Percent
18-38	152	76	76	76.0
39-59	38	19	19	95.0
More than 60	10	5	5	100.0
Total	200	100	100	

Source: field survey (2015)

The table (4.2) shows that the majority (76%) of respondents' age ranged between 18 - 38 years old, while only 5% were over than 60 years old, and 19% were over 40 years old.

Age is an important factors that affect the individual's awareness of the various concepts and ideas, goals and achievements.

Table (4.3) frequency distribution of respondents by educational level

Education levels	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Illiterate	80	40.0	40.0	40.0
Primary /Basic	21	10.5	10.5	50.5
Intermediate	6	3.0	3.0	53.5
Secondary	34	17.0	17.0	70.5
University	59	29.5	29.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.3) indicates that, 40.0% of respondents were illiterate, 13.5% basic education, 17.0% Secondary level, and 29.5% graduates. The notice in table is that most of respondents are educated and consequently they could solve the conflict that take place in the land tenure.

Table (4.4) frequency distribution of respondents by marital status

marital status	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Married	143	71.5	71.5	71.5
Divorced	0	0	0	71.5
Widowed	0	0	0	71.5
Never Married	57	28.5	28.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4.4) above shows those only two marital statuses representing in 71.5% married and 28.5% single respondents.

Table (4.5) frequency distribution of respondents by family responsibility

family responsible	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Father	139	69.5	69.5	69.5
Mother	8	4.0	4.0	73.5
Other	53	26.5	26.5	100
Total	200	100	100	

Source: field survey (2015)

Table (4:5) shows that the 69.5% of respondents were fathers, only 8% were mothers and 26.5% were others (brother and uncle).

Table (4:6) frequency distribution of respondents by main occupation

main occupation	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Farming	119	59.5	59.5	59.5
Argo-Pastoralist	27	13.5	13.5	73.0
Trade	8	4.0	4.0	77.0
Manual Worker	21	10.5	10.5	87.5
Other	25	12.5	12.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.6) shows that 59.5% of respondents were Farmers, 13.5% were Argo-Pastoralist, 12.5% were other occupation and 10.5% were Manual Worker.

Table (4.7) frequency distribution of respondent by land ownership

Own land	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Yes	190	95.0	95.0	95.0
No	10	5.0	5.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

According to table (4.7), 95 % of respondents acknowledged having of some kind of tenure– ship over farming land and 5% had not land tenure. The study revealed that inheritance was the main way for obtaining land as 59.5% of those interviewed indicated that obtained their land by legacy (table 4.8) .Whereas, 7% by renting and only 4.5% of respondents claimed that the purchased the land .

Table (4.8) frequency distribution of respondents by means of accessing tenure-ship

Mean of land access	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Legacy	119	59.5	59.5	59.5
Purchase	9	4.5	4.5	64.0
Rent	14	7.0	7.0	71.0
Lay hands	40	20.0	20.0	91.0
Ancient	18	9.0	9.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

In spite of the fact that the great majority of respondents have access to land however the study exposed that only 15.5% of them own over 10 acres, compared to 48.5% who own 10 acres or less (table 4.9).

Table (4.9) frequency distribution of respondents based on land size

Land size in acres	Frequency	Percent	Valid Percent	Cumulative Percent
1-5	97	48.5	48.5	48.5
6-10	72	36.0	36.0	84.5
More than 10	31	15.5	15.5	100
Total	200	100	100	

Source: field survey (2015)

Confirming the information provided in the introduction, the great majority respondents are using their land mainly for subsistence crop production as indicated by 89. % of respondents (table 4.10).

Table (4.10) frequency distribution of respondents according to land use type

Land use type	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Crops	179	89.5	89.5	89.5
Crops + vegetables	21	10.5	10.5	100.0
Unused	0	0	0	0
Forests	0	0	0	0
Other	0	0	0	0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.11) frequency distribution of respondents based on means of water sources

water sources	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Water yard	120	60.0	60.0	60
Hafeer	5	2.5	2.5	62.5
Pumps	0	0	0	62.5
Wells	75	37.5	37.5	100
Total	200	100	100	

Source: field survey (2015)

Table (4.11) shows that 60% of respondents were drinking water yard, 37.5% were drinking wells and 2.5% were drinking Aquifers (Hafeer).

The majority of respondent 60% were dependent on water yards as main source of drinking water which 37.5% over dependent on wells and only 2.5% were using Aquifers (Hafeer) as main source of drinking water. The majority dependent on water yards and this due to nature of study area and hygienic promotion and awareness.

Table (4:12) frequency distribution of respondents by water delivering responsibility

water bringing	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Men	70	35.0	35.0	35.0
Women	52	26.0	26.0	61.0
Boys	78	39.0	39.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.12) shows that 39% of respondents who were brought water were boys, 35% were men and 26% were women.

The majority of respondent who brought water are male this because this due to traditions and customs of people of study area.

Table (4.13) frequency distribution of respondents based on types of Livestock possession

Livestock	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Cows	79	39.5	39.5	39.5
Sheep	13	6.5	6.5	46.0
Goats	103	51.5	51.5	97.5
Camels	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.13) shows that majority of livestock reared in study area are 51.5% had goats followed by 39.5% had cows, 6.5% had sheep and 2.5 % had camels this due to nature of livelihood majority of people were agro- pastoralists and settled ,also this goats and cows most adapted to environment which was free from endemic diseases.

Table (4:14) frequency distribution of respondent based on type of crops produced

Crop types	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Sorghum	150	75.0	75.0	75.0
Millet	29	14.5	14.5	89.5
groundnuts	21	10.5	10.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.14) shows that 75% of respondents were producing Sorghum, 14.5 % millet this as food security and 10.5% groundnuts for cash crops purposes.

Table (4.15) frequency distribution of respondent by cultivated area

cultivated area/ acres	Frequency	Percent (%)	Valid Percent	Cumulative Percent
2-3	92	46.0	46.0	46.0
4-6	86	43.0	43.0	89.0
8-10	22	11.0	11.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.15) shows that 46% were cultivated (2-3) acres this indication of small areas, 43% were (4-6) acres and 11% were above 10 acres this indication of large areas fewer from cultivation, this attributed to some small enterprises in agriculture in study area.

Table (4.16) frequency distribution of respondents based on perception of existence of legacy conflict

legacy Conflict	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	93	46.5	46.5	46.5
Agree	73	36.5	36.5	83.0
Disagree	13	6.5	6.5	89.5
Fully Disagree	6	3.0	3.0	92.5
I don't know	15	7.5	7.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Table (4.16) illustrates 80% of the respondents attitudes were strong agree about the existence of conflict legacy in the study areas this due to Islamic right on legacy legislations for male lucky same in tow women , compared to 9.5% were disagree to fully disagree, while 7.5% don't know.

Table (4.17) frequency distribution of respondents based on state control over land

control over land	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	67	33.5	33.5	33.5
Agree	53	26.5	26.5	60.0
Disagree	18	9.0	9.0	69.0
Fully Disagree	41	20.5	20.5	89.5
I don't know	21	10.5	10.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4.17) above illustrates **60%** of the respondents were agree to fully agree about the existence of state control over land in the study areas, compared to 29.5% were disagree to fully disagree, while 10.5% don't know this attributed to government legislations on land tenure.

Table (4.18) frequency distribution of respondents by individual and group interests' conflict

individual and group interests' conflicts	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	113	56.5	56.5	56.5
Agree	41	20.5	20.5	77.0
Disagree	20	10.0	10.0	87.0
Fully Disagree	18	9.0	9.0	96.0
Don't know	8	4.0	4.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:18) illustrates 77% of the respondents were agree to strongly agree about the existence of individual and group interests' conflict in the study areas, compared to 19 % were disagree to fully disagree, while 4% don't know.

Table (4:19) Frequency distribution respondents based on their opinion concerning laws implementation

laws failure	Frequency	Percent (%)	Valid Percent	Cumulati ve Percent
Fully agree	158	79.0	79.0	79.0
Agree	11	5.5	5.5	84.5
Disagree	0	0	0	0
Fully Disagree	18	9.0	9.0	93.5
I don't know	13	6.5	6.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:19) above illustrates 84.5% of the respondents were agree to fully agree about the existence of laws failure in the study areas, compared to 9 % were disagree to fully disagree, while 6.5% don't know, this due to most of conflicts out breaks did not reach courts, this depend on local norms and traditional system like (Omda).

Table (4:20) Frequency distribution of respondents based on their perception of the role of agricultural societies

role of the societies	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	171	85.5	85.5	85.5
Agree	6	3.0	3.0	88.5
Disagree	5	2.5	2.5	91.0
Fully Disagree	13	6.5	6.5	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:20) above illustrates 88.5% of the respondents were agree to fully agree about existence of lack of role of agricultural societies in the study areas, compared to 9 % were disagree to fully disagree, while 2.5% don't know.

Table (4:21) Frequency distribution of respondents based on the perception of effectiveness of state institutions

State institutions were weak	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	159	79.5	79.5	79.5
Agree	10	5.0	5.0	84.5
Disagree	0	0	0	0
Fully Disagree	21	10.5	10.5	95.0
I don't know	10	5.0	5.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:21) above illustrates 84.5% of the respondents were agree to fully agree about the existence of the state institutions weakness in the study areas, compared to 10.5 % were disagree to fully disagree, while 5% don't know.

Table (4:22) Frequency distribution of respondents based on their opinion towards the role of police in conflicts solving

police department's failure	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	163	81.5	81.5	81.5
Agree	9	4.5	4.5	86.0
Disagree	5	2.5	2.5	88.5
Fully Disagree	10	5.0	5.0	93.5
I don't know	13	6.5	6.5	100
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:22) above illustrates 86% of the respondents were agree to fully agree about the existence of the police department's failure in solving of conflicts in study areas, compared to 7.5 % were disagree to fully disagree, while 6.5% don't know.

Table (4:23) frequency distribution of respondents based on existence of personal interests

personal interests dominating	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	133	66.5	66.5	66.5
Agree	41	20.5	20.5	87.0
Disagree	5	2.5	2.5	89.5
Fully Disagree	5	2.5	2.5	92.0
I don't know	16	8.0	8.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:23) above illustrates 87% of the respondents were agree to fully agree about the existence of personal interests in the study areas, compared to 5 % was Disagree to fully disagree, while 8 % they don't know.

Table (4:24) Frequency distribution of respondents based on their opinion as to laws implementation

No laws implementation	Frequency	Percent	Valid Percent	Cumulative Percent
Fully agree	166	83.0	83.0	83.0
Agree	8	4.0	4.0	87.0
Disagree	5	2.5	2.5	89.5
Fully Disagree	8	4.0	4.0	93.5
I don't know	13	6.5	6.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:24) above illustrates 87% of the respondents were agree to fully agree that, laws are not implemented in the study areas, compared to 6.5 % were disagreeing to fully disagree, while 6.5 % don't know.

Table (4:25) Frequency distribution of respondents based on opinion as to lack of area boundary between farms

no boundary	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	142	71.0	71.0	71.0
Agree	37	18.5	18.5	89.5
Disagree	0	0	0	0
Fully Disagree	6	3.0	3.0	92.5
I don't know	15	7.5	7.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The study revealed that in fact crop lands are not clearly demarcated as 89.5 % of respondents indicated in table (4:25).

Table (4:26) Frequency distribution of respondents based on existence of conflicts with neighbors

conflict with neighbors	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	118	59.0	59.0	59.0
Agree	26	13.0	13.0	72.0
Disagree	13	6.5	6.5	78.5
Fully Disagree	38	19.0	19.0	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:26) above illustrates 72 % of the respondents were agree to fully agree about the existence conflict with neighbors in the study areas, compared to 25. 5 % were disagreeing to fully disagree, while 2.5 % don't know.

Table (4:27) Frequency distribution of respondents based on their opinion as to existence of tribal conflict

Tribal conflict	Frequency	Percent	Valid Percent	Cumulative Percent
Fully agree	108	54.0	54.0	54.0
Agree	41	20.5	20.5	74.5
Disagree	13	6.5	6.5	81.0
Fully Disagree	33	16.5	16.5	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:27) indicated that 74.5 % of the respondents were agree to fully agree about the existence of conflict in the tribe in the study areas, compared to 25 % were disagree to fully disagree, while 2.5 % don't know.

Table (4:28) Frequency distribution of respondents based on opinion as to existence of conflicts with the state

conflict with the state	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	107	53.5	53.5	53.5
Agree	19	9.5	9.5	63.0
Disagree	13	6.5	6.5	69.5
Fully Disagree	50	25.0	25.0	94.5
I don't know	11	5.5	5.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:28) above illustrates 63 % of the respondents were agree to fully agree about the existence of conflict with the state in the study areas, compared to 31.5 % were disagree to fully disagree, while 5.5 % don't know.

Table (4:29) Frequency distribution of respondents based on opinion as to existence of tribal conflicts

conflict between tribes	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	145	72.5	72.5	72.5
Agree	21	10.5	10.5	83.0
Disagree	5	2.5	2.5	85.5
Fully Disagree	29	14.5	14.5	100.0
I don't know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:29) 83 % of the respondents were agree to fully agree about the existence of conflict between tribes in the study areas, compared to 17 % were disagree to fully disagree.

Table (4:30) Frequency distribution of respondents based on their opinion as to existence of family conflicts

conflict in the family	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	100	50.0	50.0	50.0
Agree	58	29.0	29.0	79.0
Disagree	10	5.0	5.0	84.0
Fully Disagree	29	14.5	14.5	98.5
I don't know	3	1.5	1.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:30) above illustrates 79 % of the respondents were agree to fully agree about the existence of conflict in the family in the study areas,

compared to 19.5 % were disagree to fully disagree, while 1.5 % don't know.

Table (4:31) Frequency distribution of respondents based on opinion as to existence of water resource conflicts

Conflict over water	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	84	42.0	42.0	42.0
Agree	53	26.5	26.5	68.5
Disagree	6	3.0	3.0	71.5
Fully Disagree	38	19.0	19.0	90.5
I don't know	19	9.5	9.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:31) 68.5 % of the respondents were agree to fully agree about the existence Conflict over water in the study areas, compared to 22 % was Disagree to fully disagree, while 9.5 % don't know.

Table (4:32) Frequency distribution of respondents based on opinion as to existence of non cultivated land conflicts

conflict over empty land	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	128	64.0	64.0	64.0
Agree	26	13.0	13.0	77.0
Disagree	5	2.5	2.5	79.5
Fully Disagree	31	15.5	15.5	95.0
I don't know	10	5.0	5.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:32) 77 % of the respondents were agree to fully agree about the existence conflict land empty in the study areas, compared to 18 % was Disagree to fully disagree, while 5 % don't know.

Table (4:33) Frequency distribution of respondents based on opinion as to existence of conflicts on the free land

conflict on the free land	Frequency	Percent	Valid Percent	Cumulative Percent
Fully agree	136	68.0	68.0	68.0
Agree	33	16.5	16.5	84.5
Disagree	5	2.5	2.5	87.0
Fully Disagree	23	11.5	11.5	98.5
I don't know	3	1.5	1.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:33) 84.5 % of the respondents were agree to fully agree about the existence conflict land empty in the study areas, compared to 14 % were disagree to fully disagree, while 1.5 % don't know.

Table (4:34) Frequency distribution of respondents based on their views as to existence of border conflicts

conflict at border	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	135	67.5	67.5	67.5
Agree	12	6.0	6.0	73.5
Disagree	10	5.0	5.0	78.5
Fully Disagree	33	16.5	16.5	95.0
I don't know	10	5.0	5.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:34) 73.5 % of the respondents were agree to fully agree about the existence border conflict in the study areas, compared to 21.5 % were disagree to fully disagree, while 5 % don't know.

Table (4:35) Frequency distribution of respondents based on their views as to the existence of crop land border conflict

conflict on the agricultural border	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	151	75.5	75.5	75.5
Agree	13	6.5	6.5	82.0
Disagree	5	2.5	2.5	84.5
Fully Disagree	31	15.5	15.5	100.0
I don't know	0	0	0	100.0
Total	200	100	100	

Source: field survey (2015)

Nonetheless, the study exemplified that conflicts over crop lands were not by default related to crop production. In this connection, the study showed that 92.5% of the respondents indicated that the existence of the conflict was due to mineral availability on lands in the study areas.

Table (4:36) Frequency distribution of respondents based on opinion as to existence of conflict on the state’s land

conflict on the state’s land	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	104	52.0	52.0	52.0
Agree	52	26.0	26.0	78.0
Disagree	5	2.5	2.5	80.5
Fully Disagree	34	17.0	17.0	97.5
I don’t know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:36) 78 % of the respondents were agree to fully agree about the existence conflict of land acquire State's in the study areas, compared to 19.5 % were disagree to fully disagree, while 2.5 % don’t know.

Table (4:37): Frequency distribution of respondents based on their views that conflicts are related to minerals availability crop lands

conflict on minerals land	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	185	92.5	92.5	92.5
Agree	0	0	0	92.5
Disagree	15	7.5	7.5	100.0
Fully Disagree	0	0	0	100.0
I don’t know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

Nonetheless, the study exemplified that conflicts over crop lands were not by default related to crop production. In this connection, the study

showed that 92.5% of the interviewed indicated that the existence of the conflict was due to mineral availability on lands in the study areas.

Table (4:38) Frequency distribution of respondents based on their views as to the current role of extension in conflicts settlements

role of the extension	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Yes	82	41.0	41.0	41.0
No	113	56.5	56.5	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:38) concludes that, 56.5% of the respondents replied that the role of extension, 41% replied that yes and 2.5% I don't know.

Table (4:39) Frequency distribution of respondents based on their views as to the influential role of extension in to conflicts settlements

extension programs to resolve the conflict	Frequency	Perce t (%)	Valid Percent	Cumulative Percent
Yes	155	77.5	77.5	77.5
No	40	20.0	20.0	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (39) concludes that, 77.5% of the respondents replied that yes, extension programs to resolve the conflict, 20% replied that no and 2.5% I don't know.

Table (4:40) Frequency distribution of respondents based on opinion concerning execution of extension campaigns

Campaigns executed	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Yes	40	20.0	20.0	20.0
No	137	68.5	68.5	88.5
I don't know	23	11.5	11.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

In line with the previous views, only 20% of the respondents indicated that extension department is conducting conflict settlement campaigns compared to 68.5% who declared lack of such activity (table 4:40).

Table (4:41) Frequency distribution of respondents based on opinion concerning extension activities

extension activities	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Yes	51	25.5	25.5	25.5
No	96	48.0	48.0	73.5
I don't know	53	26.5	26.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:41) concludes that, 48% of the respondents replied that extension activities, 25.5% interviewed replied that yes and 26.5% I don't know.

Table (4:42) Frequency distribution of respondents based on opinion concerning instability of community

Instability of community	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	150	75.0	75.0	75.0
Agree	42	21.0	21.0	96.0
Disagree	0	0	0	96.0
Fully Disagree	8	4.0	4.0	100.0
I don't know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:42) above illustrates 96 % of the respondents were agree to fully agree about in stability in the study area, compared to 4 % were disagree to fully disagree.

Table (4:43) Frequency distribution of respondents based on opinion concerning of rending relations

rending relations	Frequency	Percent	Valid Percent	Cumulative Percent
Fully agree	142	71.0	71.0	71.0
Agree	28	14.0	14.0	85.0
Disagree	17	8.5	8.5	93.5
Fully Disagree	13	6.5	6.5	100.0
I don't know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (43) above illustrates 85 % of the respondents were agree to fully agree about the existence rendering relations in the study areas, compared to 15 % were disagree to fully disagree.

Table (4:44) Frequency distribution of respondents based on opinion concerning of disable individual interests

disable individual	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	151	75.5	75.5	75.5
Agree	18	9.0	9.0	84.5
Disagree	3	1.5	1.5	86.0
Fully Disagree	25	12.5	12.5	98.5
I don't know	3	1.5	1.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:44) above illustrates 84.5 % of the respondents were agree to fully agree about the existence disable interests in the study areas, compared to 14 % were disagree to fully disagree, while 1.5 % don't know.

Table (4:45) Frequency distribution of respondents based on reduction of productivity

reduce productivity	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	153	76.5	76.5	76.5
Agree	14	7.0	7.0	83.5
Disagree	0	0	0	83.5
Fully Disagree	28	14.0	14.0	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:45) above illustrates 83.5 % of the respondents were agree to fully agree about the existence reduce productivity in the study areas, compared to 14 % were disagree to fully disagree, while 2.5 % don't know.

Table (4:46) Frequency distribution of respondents based on opinion time of consuming

time consuming	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	165	82.5	82.5	82.5
Agree	5	2.5	2.5	85.0
Disagree	0	0	0	85.0
Fully Disagree	25	12.5	12.5	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:46) About 85 % of the respondents were agree to fully agree about the existence of time consuming in the study areas, compared to 12.5 % were disagree to fully disagree, while 2.5 % don't know.

Table (4:47) Frequency distribution of respondents based on opinion weakness of productivity

Weakness of productivity.	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	160	80.0	80.0	80.0
Agree	10	5.0	5.0	85.0
Disagree	0	0	0	85.0
Fully Disagree	30	15.0	15.0	100.0
I don't know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:47) above illustrates 85 % of the respondents were agree to fully agree about the existence of weakness productivity in the study areas, compared to 15 % were disagree to fully disagree.

Table (4:48) Frequency distribution of respondents based on opinion tearing of the family

tearing the family	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	159	79.5	79.5	79.5
Agree	11	5.5	5.5	85.0
Disagree	0	0	0	85.0
Fully Disagree	30	15.0	15.0	100.0
I don't know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:48) above illustrates 85 % of the respondents were agree to fully agree about the existence tearing the family in the study areas, compared to 15 % were disagree to fully disagree.

Table (4:49) Frequency distribution of respondents based on opinion the state weakness

the state weakness	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	135	67.5	67.5	67.5
Agree	20	10.0	10.0	77.5
Disagree	0	0	0	77.5
Fully Disagree	40	20.0	20.0	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:49) above illustrates 77.5% of the respondents were agree to fully agree about the existence of the state weakness in the study areas, compared to 20% were disagree to fully disagree, while 2.5 % don't know.

Table (4:50) Frequency distribution of respondents based on opinion as to weak state administrations

Weak State administrations	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	131	65.5	65.5	65.5
Agree	31	15.5	15.5	81.0
Disagree	5	2.5	2.5	83.5
Fully Disagree	30	15.0	15.0	98.5
I don't know	3	1.5	1.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:50) above illustrates 81 % of the respondents were agree to fully agree about the existence of the State Disable administration in the study areas, compared to 17.5 % were disagree to fully disagree, while 1.5 % don't know.

Table (4:51) Frequency distribution of respondents based on opinion the State of threatening

the state threatening	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	114	57.0	57.0	57.0
Agree	45	22.5	22.5	79.5
Disagree	10	5.0	5.0	84.5
Fully Disagree	18	9.0	9.0	93.5
I don't know	13	6.5	6.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:51) above illustrates 79.5 % of the respondents were agree to fully agree about the existence of the state threatening in the study areas, compared to 14 % were disagree to fully disagree, while 6.5 % don't know.

Table (4.52) Frequency distribution of respondents based on opinion infrastructure

infrastructure damage	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	146	73.0	73.0	73.0
Agree	13	6.5	6.5	79.5
Disagree	0	0	0	79.5
Fully Disagree	33	16.5	16.5	96.0
I don't know	8	4.0	4.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:52) above illustrates 79.5 % of the respondents were agree to fully agree about the existence of infrastructure damage in the study areas, compared to 16.5 % were disagree to fully disagree, while 4 % don't know.

Table (4:53) Frequency distribution of respondents based on opinion of agricultural land damage

agricultural land damage	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	138	69.0	69.0	69.0
Agree	16	8.0	8.0	77.0
Disagree	8	4.0	4.0	81.0
Fully Disagree	28	14.0	14.0	95.0
I don't know	10	5.0	5.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:53) above illustrates 77 % of the respondents were agree to fully agree about the existence of agricultural land damage in the study areas, compared to 18 % were disagree to fully disagree, while 5 % don't know.

Table (4:54) Frequency distribution of respondents based on opinion as to wasting of resources

waste of resources	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	153	76.5	76.5	76.5
Agree	6	3.0	3.0	79.5
Disagree	0	0	0	79.5
Fully Disagree	28	14.0	14.0	93.5
I don't know	13	6.5	6.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:54) above illustrates 79.5 % of the respondents were agree to fully agree about the existence of waste of resources in the study areas, compared to 14 % were disagree to fully disagree, while 6.5 % don't know.

Table (4:55) Frequency distribution of respondents based on opinion formulated the law

formulated the law	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	187	93.5	93.5	93.5
Agree	8	4.0	4.0	97.5
Disagree	0	0	0	97.5
Fully Disagree	0	0	0	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:55) above illustrates 97.5 % of the respondents were agree to fully agree about the existence formulated the law in the study areas and while 2.5 % don't know.

Table (4:56) Frequency distribution of respondents based on opinion of the law enforcement

the law enforcement	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	187	93.5	93.5	93.5
Agree	8	4.0	4.0	97.5
Disagree	0	0	0	97.5
Fully Disagree	0	0	0	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:56) above illustrates 97.5 % of the respondents were agree to fully agree about the existence of the law enforcement in the study areas and while 2.5 % don't know.

Table (57) Frequency distribution of respondents based on opinion of institutional support in resolution of conflicts

institutional support in resolution of conflicts	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	172	86.0	86.0	86.0
Agree	18	9.0	9.0	95.0
Disagree	0	0	0	95.0
Fully Disagree	5	2.5	2.5	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:57) above illustrates 95 % of the respondents were agree to fully agree about the existence of institutional support in the study areas, compared to 2.5 % were disagree to fully disagree, while 2.5 % don't know.

Table (4:58) Frequency distribution of respondents based on opinion of the conflicts resolution

the conflicts resolution	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	151	75.5	75.5	75.5
Agree	18	9.0	9.0	84.5
Disagree	0	0	0	84.5
Fully Disagree	5	2.5	2.5	87.0
I don't know	26	13.0	13.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:58) above illustrates 84.5% of the respondents were agree to fully agree about the existence of the conflict resolution in the study areas, compared to 2.5 % were disagree to fully disagree, while 13% don't know.

Table (4:59) Frequency distribution of respondents based on opinion of strengthening customs

strengthening customs	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	181	90.5	90.5	90.5
Agree	5	2.5	2.5	93.0
Disagree	0	0	0	93.0
Fully Disagree	3	1.5	1.5	94.5
I don't know	11	5.5	5.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:59) above illustrates 92.5 % of the respondents were agree to fully agree about the existence strengthening mores in the study areas, compared to 1.5 % were disagree to fully disagree, while 5.5 % don't know.

Table (4:60) Frequency distribution of respondents based on opinion of Ajaweed

Ajaweed	Frequency	Percent	Valid Percent	Cumulative Percent
Fully agree	182	91.0	91.0	91.0
Agree	14	7.0	7.0	98.0
Disagree	0	0	0	98.0
Fully Disagree	0	0	0	98.0
I don't know	4	2.0	2.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:60) above illustrates 98 % of the respondents were agree to fully agree about the existence of Ajaweed in the study areas and while 2 % don't know.

Table (4:61) Frequency distribution of respondents based on opinion concerning community cooperation with extension

community cooperation	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	175	87.5	87.5	87.5
Agree	20	10.0	10.0	97.5
Disagree	0	0	0	97.5
Fully Disagree	0	0	0	97.5
I don't know	5	2.5	2.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:61) 97.5 % of the respondents was agree to fully agree, presented encouraging results towards the affirmative role that extension could perform in conflict settlements in the study, and confirmed the willingness of local communities in participation in the extension campaigns.

Table (4:62) Frequency distribution of respondents based on opinion of individual cooperation

individual cooperation	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	180	90.0	90.0	90.0
Agree	20	10.0	10.0	100.0
Disagree	0	0	0	100.0
Fully Disagree	0	0	0	100.0
I don't know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:62) 100 % of the respondents were agree to fully agree about the existence cooperation of individuals in the study areas.

Table (4:63) Frequency distribution of respondents based on opinion concerning community participation in decision-making with extension

Decision-making	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	142	71.0	71.0	71.0
Agree	42	21.0	21.0	92.0
Disagree	5	2.5	2.5	94.5
Fully Disagree	8	4.0	4.0	98.5
I don't know	3	1.5	1.5	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:63) 92% of the respondents participated in decision making pertinent to conflict settlements in the study areas.

Table (64) Frequency distribution of respondents based on opinion concerning of leaders of community

concern leaders of community	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	80	40.0	40.0	40.0
Agree	44	22.0	22.0	62.0
Disagree	23	11.5	11.5	73.5
Fully Disagree	43	21.5	21.5	95.0
I don't know	10	5.0	5.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:64) above illustrates 62% of the respondents were agree to fully agree about the existence unconcern leaders in the study areas, compared to33% were disagree to fully disagree, while 5% they don't know.

Table (4:65) Frequency distribution of respondents based on opinion concerning of members that cannot change their leaders

members that cannot change their leaders	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Fully agree	129	64.5	64.5	64.5
Agree	43	21.5	21.5	86.0
Disagree	4	2.0	2.0	88.0
Fully Disagree	16	8.0	8.0	96.0
I don't know	8	4.0	4.0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:65) above illustrates 86% of the respondents were agree to fully agree about the existence of members that cannot change their leaders in the study areas, compared to10% were disagree to fully disagree, while 4% they don't know.

Table (4:66) Frequency distribution of respondents based on opinion concerning community involved in the development activities

community involved development	Frequency	Percent	Valid Percent	Cumulative Percent
Fully agree	35	17.5	17.5	17.5
Agree	8	4.0	4.0	21.5
Disagree	41	20.5	20.5	42.0
Fully Disagree	116	58.0	58.0	100.0
I don't know	0	0	0	100.0
Total	200	100.0	100.0	

Source: field survey (2015)

The table (4:66) above illustrates 21.5 % of the respondents were agree to fully agree about the existence of community involved in the development activities in the study areas, compared to 78.5 % were disagree to fully disagree.

CHAPTER FIVE

CONCLUSIONS, RESULTS AND RECOMMENDATIONS

5.1 Summary of Results

Conflict over possession of land tenure is one of the most important factors that threaten rural communities in developing Countries.

The main objective of the study is to provide an alternative conceptual framework for agricultural extension, which can deal with environmental scarcity, conflict and challenges.

The filed survey was the carried in El salam locality with (200) participants.

The most important results obtained from the study are as the follows:

1. The majority of participants in rural communities, who interviewed were men representing in 86% of respondents, this is why women were sensitive to response interview.
2. The majority of participants 71.5% of participants in rural communities were married.
3. The majority of participants 59.5% of participants' main occupation were Farmers.
4. The majority of participants 95 % of participants as the majority of those who interviewed had land tenure.
5. The majority of participants 83% of participants' main land tenure was legacy.
6. The majority of participants 89.5% of participants were using the land for cultivating crops.
7. The majority of participants 60% of participants were drinking water yard.

8. The majority of participants 75 %of participants were producing Sorghum.
9. The majority of participants 87% of the interviewed were agreeing to fully agreeing about the existence of the personal interests in the study areas.
10. The majority of participants 89.5% of the interviewed replied that, they were agreeing to fully agree about the existence of there are no boundaries in the study areas.
11. The majority of participants 83% of the interviewed replied that, they were agreeing to fully agreeing about the existence of the conflict between tribes in the study areas.
12. The majority of participants 82% were agreeing to fully agreeing about the existence of the conflict on the borders of agricultural land in the study areas.
13. The majority of participants 92.5% were fully agreed about the existence of the conflict on minerals land in the study areas.
14. The majority of participants 77.5% of the interviewed replied by (yes) to extension programs to resolve the conflict.
15. The majority of participants 96% were agreeing to fully agreeing to the existence of threat stability in the study areas.
16. The majority of participants 85% were agreeing to fully agreeing about the existence of the time consuming.
17. The majority of participants 85% were agreeing to fully agreeing bout the existence of the weakness of productivity in the study areas.
18. The majority of participants 81% were agreeing to fully agreeing that the State administration is disabled.
19. The majority of participants 79.5% was agreeing to fully agreeing about the existence of the waste of resources in the study area.

20. The majority of participants 97.5% were agreeing to fully agreeing about the existence of the failure of the law in the study areas.

21. The majority of participants 95% were agreeing to fully agreeing about the existence of the Institutional support in resolution of conflicts.

22. The majority of participants 98% were agreeing to fully agreeing about the existence of the Ajaweed in the study areas.

23. The majority of participants 97% were fully agreeing about the existence of the community cooperation in the study areas.

24. The majority of participants 100% were agreeing to fully agreeing about the existence of the individuals' cooperative in the study areas.

5.2 Conclusions

From government perspectives, whatever priority is given to production, extension will remain a key policy tool for promoting ecologically and socially sustainable farming practices, the government is no longer the only actor in land tenure management. Other actors include, in particular, decentralized local councils, professional or technical experts, and, to some extent, community institutions and resource users. Legally, the new rules should distinguish between land belonging to the state and the collective and private individuals, and also recognize the rights and responsibilities to manage each part respectively, sharing these roles between the state and local collectives on the one hand and community level institutions on the other. The case of West Kordofan demonstrates beyond doubt that the challenges posed by land policy issues in Sudan seem almost insurmountable; yet satisfactory solutions can be found if the political will and commitment are forthcoming.

5.3 Recommendations

Government, ministry of agriculture and community are concerned with this recommendation

1-Recommendations concerning government

- The state should involve local communities and local governments in the administration and management of land and other natural resources. Rather than implying loss of sovereignty, such genuine subsidiary provides an opportunity to restore the legitimacy of the state as arbiter. In this way, land tenure becomes one of the areas in which a new social contract between the state and the population may be constructed, a matter of necessity in countries where governance is in crisis.
- Adjustments to land tenure frameworks can be made in the short term to reduce problems in the existing system and to clarify the issues. It may also be possible to improve matters by enforcing provisions which have previously been applied poorly or not at all.
- Assessment and classification of natural resources, rehabilitation of renewable resources.
- Legislation for land tenure and exploitation, conflicts resolution of deferred.
- Development of agriculture, rangelands, livestock and basic infrastructure.
- Activation of local traditional laws and using it in resolving dispute
- As these laws are familiar for their flexibility.

2-Recommendations concerning ministry of agriculture in west kordofan

- Activation of the role of the local mediators including community, Opinion and religious leaders as they have the capacity and capability of getting the conflicting parties together and settle down disputes.

- Allow for the participation of the conflicting parties in solving out their disputes and giving enough legal room for the acceptance of their agreements.
- Academic training and field experience for undertaking work in land tenure.

3-Recommendations concerning local communities

- Forwarding efforts to spread the peace culture among local communities and enhancing the peaceful coexistence through the societal activities.
- Promoting the role of women in building social peace.
- Raising environmental awareness and encouragement of the collective work for attainment of the social peace

REFERENCES

- Axinn, G.H., (1988) Guide on alternative extension approaches. Agricultural Education and Extension Service, Human Resources Institutions and Agrarian Reform Division. Rome, FAO.
- Adriana Herrera and, Maria Guglielma (2006). Land tenure alternative conflict management, Land Tenure Service Rural Development Division Food And Agriculture Organization Of The United Nations, Rome
- Babiker, Mustafa (2002) Roots of Conflict and Traditional Conflict Transformation Mechanisms Kordofan, Darfur and Upper Nile. Khartoum: UNDP
- Chambers, R. (1993). Challenging the professions: Frontiers for rural development. London: IT Publications.
- Cavendish, W. (1999b) Incomes and Poverty in Rural Zimbabwe during Adjustment Th e Case of Shindi Ward, Chivi Communal Area, 1993/94 to 1996/97, Rep/99- 1, Oxford: Centre for the Study of African Economies, University of Oxford
- Chambers, R. (1974). MANAGING RURAL DEVELOPMENT. Campbell, B.M., Jeffrey, S., Kozanayi, W., Luckert, M., Mutamba, M. and Zindi, C. (2002) Household Livelihoods in Semi-Arid Regions: Options and Constraints, Bogor Center for International Forestry Research.
- Chatwin, B.(1989). Nomad invasions, in What am I doing here? 216-229. London: Picador.
- DRUCKER (1990) Scholarly articles for Diffusion of agricultural extension Service.
- Egemi, (2003).Omer, Mohammed Abdel Mahmood and Abdeen Mohammed Abdella Towards a local peace.SOS Sahel's experience of

- conflict transformation between pastoralists and farmers at El Ain, North Kordofan State, Sudan. *Securing the Commons* No.5. London: IIED.
- FAO (1998) the potentials of microcomputers in support of agricultural extension, education and training. Rome: FAO.
 - Garforth, C. (1986). Mass media and communications technology. In G. E. Jones (Ed.), *Investing in rural extension: Strategies and goals* (p. 185-192). London and New York: Elsevier Applied Science Publishers.
 - FAO (2006) Report of the Global Consultation on Agricultural Extension Rome: FAO.
 - Garforth, C. (1993). Seeing the people for the trees: Training for social forestry in Karnataka, India. *Rural Extension Bulletin*, 2, 33-39.
 - Grobel, M. (1933). *The Society for the Diffusion of Useful Knowledge, 1826-1846, and its relation to adult education in the first half of the nineteenth century.* Unpublished master's thesis. University of London.
 - Ghimire, K. B. (2001) "Regional Perspectives on Land Reform: Considering the Role of Civil Society Organizations" in Ghimire, K. B. (ed) (2001) *Whose Land? Civil Perspectives on Land Reform and Rural Poverty Reduction: Regional Experiences from Africa, Asia and Latin America*, Geneva: UNRISD: 13-55
 - Ghimire, K. B. (ed) (2001) *Whose Land? Civil Perspectives on Land Reform and Rural Poverty Reduction: Regional Experiences from Africa, Asia and Latin America*, Geneva UNRISD.
 - George Argyrous, (2000): *Statistics for Social and Health Research, With a Guide to S.P.S.S*, London, British Library Cataloguing.
 - IUCN (1998) *Enhancing Land Reforms in Southern Africa, Reviews on Land Reform Strategies and Community Based Natural Resources Management.*

- Jones, G. E. (1994). Agricultural advisory work in England and Wales: The beginnings. *Agricultural Progress*, 69, 55-69 *Journal d'Agriculture Pratique* (1874). 38th year, vol. 2.
- Jeermy J. Foster :(2002): *Data Analysis, using (SPSS) for Windows*, London. T he Cromwell Press LTD.
- Khogali, Mustafa M. (1987). An assessment of Gereih Al-Sarha Pilot Scheme for the settlement of the nomads and improvement of the livestock sector in the Sudan. In *Geojournal* Vol.14, No.1
- Mortimore, M. (1998) *Roots in the African Dust*, Cambridge: Cambridge University Press.
- Mustafa Babiker, (2008) *Communal Land Rights and Peace-Building in North Kordofan Policy and Legislative Challenges*.
- Musa Adam Abdul-Jalil, (2003). *The Dynamics of Customary Land Tenure and Natural Resource Management in Darfur*, the Food and Agriculture Organization of the United Nations (FAO). Project OSRO/SUD/507/CAN
- Patrick Barron, Claire Q. Smith, (2004). *Understanding Local Level Conflict in, Developing Countries, Conflict Prevention & Reconstruction*, Social Development Department The World Bank 1818 H Street, NW, Washington, DC 20433, [ttp://www.worldbank.org](http://www.worldbank.org)
- Rauch,(1993) *Concepts and Practices in Agricultural Extension in Developing Countries*.
- Rahhal and Abdel Salam (2002). *LAND RIGHTS, NATURAL RESOURCES TENURE AND LAND REFORM*.
- Reed, D. (2001) *Economic Change, Governance and Natural Resource Wealth: Th e Political Economy of Change in Southern Africa*, London: Earthscan Publications

- Rivera, W. M., & Gustafson, D. J. (Eds.). (1989). *Agricultural extension: Worldwide institutional evolution and forces for change*. Amsterdam and New York: Elsevier.
- Roger Blench, Mallam Dendo, (2003). *THE TRANSFORMATION OF CONFLICT BETWEEN PASTORALISTS AND CULTIVATORS IN NIGERIA*, Paper in press for a special issue of the *Journal Africa*, ed. M. Moritz, United Kingdom, Cambridge, 13 September 2003.
- Smith, H. (1972). *The Society for the Diffusion of Useful Knowledge, 1826-1846*. London: Vine Press.
- Society for the Diffusion of Useful Knowledge (1827). *Rules of the Society/or the Diffusion of Useful Knowledge*. London: William Clowes.
- Scoones, I. *et al.* (1996) *Hazards and Opportunities, Farming Livelihoods in Dryland Africa: Lessons from Zimbabwe*. London: ZED Books.
- Sara Pantuliano, (2007). *THE LAND QUESTION: SUDAN'S PEACE NEMESIS* Humanitarian Policy Groups, Overseas Development Institute.
- Tevera, D. and Moyo, S. (eds) (2000) *Environmental Security in Southern Africa*, Harare Sapes Books
- True, A. C. (1900). *Agricultural education in the United States*. In *Yearbook of the U.S. Department of Agriculture, 1899* (p. 157-190). Washington, DC: U.S. Government Printing Office.
- True, A. C. (1928). *A history of agricultural extension works in the United States, 1785-1923*. USDA, Miscellaneous Publication No. 15. Washington, DC: U.S. Government Printing Office.
- Tusser, T. ([1580] 1984). *Five hundred points of good husbandry*. Oxford: Oxford University Press.

- THSIMON ALUFAH (2015) effects of land tenure systems and investments on cocoa productivity in GHANA.
- United Nations Development Programme (1994) Human Development Report, New York and Oxford Oxford University Press.

References in Arabic

- منظمة الأغذية والزراعة بالأمم المتحدة (٢٠٠٥) الحصول على الأراضي الريفية الغدارة العقارية بعد الصراع دراسة رقم ٨ للمنظمة عن حيازة الاراضي ، روما . copyright@fao.org .

APPENDIX

بسم الله الرحمن الرحيم

جامعة السودان للعلوم والتكنولوجيا

كلية الدراسات العليا

كلية الدراسات الزراعية - قسم الإرشاد الزراعي

هذه الإستمارة لغرض البحث العلمي لنيل درجة الدكتوراة في الإرشاد الزراعي والتنمية الريفية، في تقييم دور الإرشاد الزراعي في ادارة نزاعات حيازة الاراضي بمحلية السلام - ولاية غرب كردفان، والباحث يضمن السرية التامة وعدم إستخدام هذه البيانات إلا بغرض الدراسة فقط.

تاريخ المقابلة:

المعلومات العامة:

الولاية:

المحلية:

الوحدة الإدارية:

اسم المجتمع/القرية:

رقم الاستمارة

البيانات الشخصية :

1- النوع:-

أ/ رجل ب/ امرأة

2- العمر:-

أ/ 18 - 38 ب/ 39 - 59 ج/ 60 فأكثر

3- المستوى التعليمي؟

أ/ أمي ب/ خلوة ج/ اساس/ابتدائي

د/متوسط هـ/ثانوي و/ جامعي

ر/ فوق جامعي

4-الحالة الاجتماعية :

أ/ متزوج ب/ منفصل ج/ أرمل د/ عازب

5- من الذي يعول الأسرة ؟

أ/ الأب ب/ الام ج/ أخري أذكرها

6 -المهنة الرئيسية لرب الاسرة ؟

أ/ مزارع ب/ راعي ج/ مزارع راعي

د/ تجارة

ه/ أعمال يدوية و/ عاطل ز/أخري

7-هل تمتلك حيازة أرض ؟

أ/ نعم ب/ لا

8 - كيف ألت إليك حيازة الارض عن طريق؟

أ/ الإرث ب/ الشراء ج/ الاستئجار
د/ وضع اليد ه/ التقادم

9 - ماهي مساحة حيازة الأرض المملوكة؟

أ/ من 1-5 فدان ب/ من 6-10 فدان ج/ من 10 فدان فأكثر

10- ما نوع استخدام حيازة الأرض؟

أ/ الزراعة ب/ زراعة خضر ج/ غير مستخدم
د/ غابة شعبية هـ/ أخرى

11/ ما هي مصادر مياه الشرب في القرية؟

أ/ دونكي ب/ حفير ج/ مضخات
د/ آبار

12/ عادة من الذي يقوم بجلب المياه؟

أ/ الرجال ب/ النساء ج/ الأولاد د/ البنات

13/ ما هي الثروة الحيوانية التي تمتلكها الأسرة؟

أ/ أبقار ب/ ضأن ج/ ماعز د/ جمال

14/ هل قامت أسرتك بإنتاج أي من المحاصيل التالية؟

أ/ ذرة ب/ دخن ج/ سمسم د/ فول سوداني

15/ ما هي المساحة المزروعة للقدان؟

أ/ 2-3 فدان ب/ 4-6 فدان ج/ 8-10 فدان

أسباب النزاع علي حيازة الأراضي هل توافق أو لا توافق علي الإفادة أدناه:

1/ النزاعات علي الإرث والتقسيم؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

2/ هيمنة مؤسسة الدولة علي الأرض والموارد الطبيعية؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

3/ التضارب بين المصالح الفردية والجماعية؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

4/ قصور في القوانين واللوائح التي تنظم حيازة الأرض؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

5/ غياب دور الجمعيات الزراعية؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

6/ ضعف دور مؤسسات الدولة في تسوية النزاعات؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

7/ تقاعس الأجهزة الشرطية عن حل النزاع؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

8/ الأطماع الشخصية بدافع الرغبة في التملك؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

9/ عدم تطبيق القوانين التي تنظم حيازة الأراضي بفاعلية؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

10/ عدم وجود حدود ثابتة وواضحة المعالم؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

مستويات النزاع علي حيازة الأراضي:

1/ النزاع مع الجيران؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

2/ النزاع مع القبيلة أو العائلة؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

3/ النزاع مع مؤسسات الدولة؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

4/ النزاع بين القبائل مع بعضها البعض؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

5/ النزاع مع الأهل؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

أنواع النزاع علي حيازة الأرض:

1/ النزاع علي موارد المياه؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

2/ النزاع علي المناطق الفارغة المحيطة بالحيارات؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

3/ النزاع علي الأرض الفضاء؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

4/ النزاع علي الحدود الفاصلة للحيازات؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

5/ النزاع علي حدود الأراضي الزراعية؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

6/ النزاع علي الحيازات المجاورة المملوكة للدولة؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

7/ النزاع علي الأراضي التي توجد فيها معادن وبتروول؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

1/ هل للإرشاد الزراعي دور إيجابي للتغيير نحو التنمية المستدامة؟

أ/ نعم ب/ لا ج/ لا أعرف

2/هل يحتاج أفراد المجتمع إلي برامج إرشادية لتدريبهم علي أساليب لتسوية النزاعات؟

أ/ نعم ب/ لا ج/ لا أعرف

3/هل للإرشاد الزراعي حملات إعلامية مكثفة لتوعية أفراد المجتمع بالآثار السالبة للنزاعات؟

أ/ نعم ب/ لا ج/ لا أعرف

4/هل تتضمن الأنشطة الإرشادية الزراعية موضوعات تتعلق بتسوية النزاعات حول حيازة الأرض؟

أ/ نعم ب/ لا ج/ لا أعرف

الآثار السالبة علي المجتمع للنزاع حول حيازة الأرض؟

1/ تهديد حالة الاستقرار في المجتمع؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما

د/ لا أوافق هـ/ لا أعرف

2/ تمزيق شبكة العلاقات بين القرى؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما

د/ لا أوافق هـ/ لا أعرف

3/ تعطيل مصالح الأفراد؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما

د/ لا أوافق هـ/ لا أعرف

4/ التقليل من إنتاجية الفرد؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

5/ ضياع وقت الفرد؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

الآثار السالبة علي الأسرة حول النزاع في الأرض:

1/ ضعف إنتاجية الأسرة؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

2/ تمزيق أواصر الصلة بين العائلة؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

الآثار السالبة علي الدولة حول النزاع في الأرض:

1/ إضعاف هيبة مؤسسات الدولة؟

- أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

2/ تعطيل إدارة الدولة للمجتمع؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

3/ تهديد استقرار الدولة وأمنها؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

4/ إتلاف البنية التحتية؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

5/ إتلاف الأراضي الزراعية؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

6/ إهدار الموارد؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

آليات تسوية النزاع علي حيازة الأراضي:

1/ سن القوانين اللازمة؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

2/ تطبيق القوانين بفاعلية؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

3/ تدعيم دور مؤسسات الدولة في تسوية النزاعات؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

4/ البت في قضايا النزاع المؤجلة؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

5/ تقوية المجالس العرفية من خلال جعل قراراتها ملزمة؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

6/ تعيين محكمين ذوي خبرة ومهارة لحل النزاعات؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

من المفيد أن يتعاون أفراد المجتمع، من خارج أسرتك، مع بعضهم البعض لحل
مشاكل المجتمع ؟

أ/ أوافق ب/ أوافق إلي حد ما ج/ لا أوافق إلي حد ما
د/ لا أوافق هـ/ لا أعرف

التعاون بين أفراد المجتمع لحل النزاعات حول حيازة الاراضي ؟

أ/ أوافق ب/ أوافق إلى حد ما ج/ لا أوافق إلى حد ما
د/ لا أوافق ه/ لا أعرف

من الصعوبة اجماع كل افراد المجتمع حول قرار واحد ؟

أ/ أوافق ب/ أوافق إلى حد ما ج/ لا أوافق إلى حد ما
د/ لا أوافق ه/ لا أعرف

قادة المجتمع يستمعون ويستجيبون لاحتياجات المجتمع؟

أ/ أوافق ب/ أوافق إلى حد ما ج/ لا أوافق إلى حد ما
د/ لا أوافق ه/ لا أعرف

افراد المجتمع لايملكون المقدرة على تغيير قاداتهم المحليين؟

أ/ أوافق ب/ أوافق إلى حد ما ج/ لا أوافق إلى حد ما
د/ لا أوافق ه/ لا أعرف

الى اى مدى يمكن ان يتضامن افراد المجتمع فى مناقشة الانشطة التنموية للمجتمع؟

أ/ فى اكثر الاحيان ب/ غالبا ج/ احيانا
د/ نادرا ه/ ضعيف