

## **UNDERLYING CAUSES: OF THE FARMERS AND NOMADS CONFLICTS OVER LAND USE RIGHTS IN GREATER KORDOFAN, SUDAN**

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### **ABSTRACT**

The study was conducted in Greater Kordofan, Sudan. To explore the underlying causes of farmers-nomads 'conflicts over land use rights: is familiar in rural parts of Sudan, especially in Greater Kordofan and Darfur. Five villages were randomly selected namely: Umdam, Tongaro, Habila, Dallang, and Abu Kirais, where data for year 2017 was collected by structured questionnaire to a representative sample of the population. Simple random sampling technique was used to choose respondents from the target population. Analytical procedure used in this study was a descriptive statistic method identifies the main factors and causing of the conflicts between nomads and farmers. The most important causes of the conflict between farmers and nomads were: increased number of farmers on the limited land, Crop damage by livestock, illiteracy among farmers and nomads, expansion of mechanized agriculture, the conflict between the Sudan government and (Sudan Peoples' Liberation Movement) forces, cattle theft, and conflict over a water source.

**Keywords:** Farmers, Nomads, Kordofan, Conflict, Land.

### **1. INTRODUCTION**

The conflict has been deep-rooted in the societies at different parts of the world. It is a very complicated and complex phenomenon which needs to be understood at different levels (Jerke,

2008). However, the conflict has been defined according to Diez (2006), is a natural phenomenon, considered competition between people or groups with different interests, thoughts, beliefs, values, and goals.

The conflict between the people can occur due to a number of reasons, one on these is the conflicts between farmers and nomads which are existed since the human-being have started cultivating the land, of using it for different purposes (Abbass, 2009). In fact, Farmers-nomads' conflict over natural resources in Africa has been a common feature of livelihood particularly in West Africa (Ofuoku & Isife, 2009). The Conflict over land use rights has become a key preoccupation of an agriculture and development theorists, particularly since the end of the Cold War ( Kaplan, 2000). However, in Africa there are more than 180 million of nomads and their families living in Sub-Saharan region, mainly in West Africa and they constitute nearly 12% of the total rural population (Helen, 2015).

In the time before the 20th century, the problem was mostly restricted to West Africa Cattle rearing were especially prevalent in Nagger, Sudan and Sahel Savanna where crop production was growing only during the short rainy season on a small scale. This gave nomads access to grassland (Tonah, 2006). Generally, Sudan is the third biggest African country (Ottaway & Elsadany, 2012). And it has different ecological, geographical zones as well as political components (Ryle, Willis, Baldo, & Jok, 2012). Most of the populations in Sudan are rural with almost 80% of the total population; they are mainly dependent on natural resources as general and agricultural in particular (SALIH, 2000). Due to the scarcity of the natural resources and intensified land uses as well as human-induced have created a vast area of land with no potential support of natural resources base. Besides, these issues the government had not given enough attention to address the conflict over land use in Sudan (Elhadary & Abdelatti, 2016). Agriculture is considered as the backbone of Sudan economy; it contributes to approximately 40% of the gross domestic product (GDP) (Al-feel & Al-basheer, 2012). In Sudan, arable land area is estimated to be about 100 million hectares, which is around 42 % of the total land area, whereas the population density in cultivated land is about 370 people per km<sup>2</sup> (Shinn, 2006).

The last decade of the 20th century and the beginning of the 21st was considered to be the warmest period in the entire global instrumental temperature record, starting in the mid-19th century. It has a big effect on agriculture and other sectors related to agriculture (Akerjiir, 2018). This study, attempts to investigate and determine the underline causes of conflicts between the nomads and farmers in Grater Kordofan based on various natural, social, cultural, and political variables.

## **2. METHODOLOGY**

This study was conducted in Greater Kordofan (North and South Kordofan), Sudan. It covers an area of approximately 380,000 km<sup>2</sup> (Saeed, 2011). Greater Kordofan has an estimated population of about 3.8 million people, 75% of them living in rural areas (Fatih, Siddig, El-harizi, & Prato, 2007). It's located in arid and semi-arid regions, which characterized by various climatic zones. The north part of the area under study lies in the vicinity of the Sahara desert. The climate ranges from dry and hot in the north to wet and humid in the south (Harragin, 2003). Geographically, the study area is flat plain covers by sandy soil in the north while it is clay with hills and mountains towards the south. Rain-fed agricultural and livestock sectors are predominant economic activities in the area. Culturally, a number of languages have been spoken with different tribes groups, while the Arabic language is the main language spoken by Arab and non-Arab tribes (Musgrave & Hajek, 2009).

### **3. THE PRIMARY DATA COLLECTION**

Out of these 19 villages that have recorded a high incidence of farmers-nomads conflict, over land use rights according to ministry of agriculture, five villages were randomly selected namely: Umdam, Tongaro, Habilia, Dallang, and Abu Kirais as can be seen in Table 1. Where, data for year 2017 was collected by structured questionnaire to a representative sample of population. Simple random sampling technique was used, to choose respondents from population. This design is chosen because it is suitable for description purposes (Oakshot, 1994). Also, three study cases were taken from different regions to add more views to support the study.

### **4. THE SECONDARY DATA COLLECTION**

Most of the secondary data were collected from research articles and non-published reports and documents from related institutions.

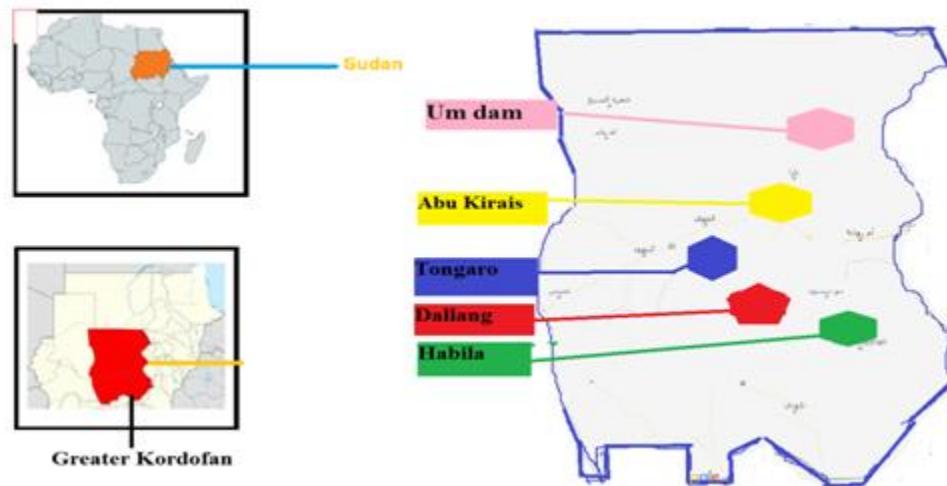
### **5. DATA ANALYSIS**

The analytical procedure used in this study was descriptive statistic method that to identify the main factors causes the conflict between nomads and farmers in the study area, which will help classify the responses into meaningful categories. So, SPSS, statistics, and excel tools were used in analyzing quantitative data. This assists in the construction of frequency distribution tables, so to facilitate effective data analysis, interpretation, and discussions which include focus groups discussion, individual face to face interviews and observation. This means that thematic analysis was used where data were categorized into themes.

**Table 1: Sample size**

village	Population per village	Percentage $P = \frac{Pr}{Tp} \times 100$	Questionnaires number per village $QV = \frac{ss \times p}{100}$
Um dam	500	33.3%	50
Tongaro	250	16.7%	25
Habila	200	13.3%	20
Dallang	350	23.4%	35
Abu Kirais	200	13.3%	20
Total	1500	100%	150

**Where:****SS:** Sample size**TP:** Total population**Qv:** Questionnaires number per village**P:** Percentage**Pr:** Population per village

**Figure 1: The Study Area.**

## 6. LAND POLICY AND LAND TENURE RIGHTS IN SUDAN

Although the 1929 ordinance that gives ownership to people, it is confined to nearly less than 2% of total agricultural lands along the Nile have extremely limited watercourses. Sudanese 1970 land act stipulates that the land is owned by the Sudan government, which has been given rights to individuals in terms of land use ( Adam, 2013). Thus, the current land use policy creates a disincentive to efficient utilization of agricultural and pastoral development in the country. However, ethnic conflict over land and its using is relatively large due to current land policy (Reenberg, 2001). Lack of land ownership or limited access to credit for most of the farmers who cannot use land as collateral (Gbenga, 2008). The discouraging land laws, land use and tenancy laws and regulations, as well as lack of infrastructure, do not encourage the private sector to invest in remote areas or in areas with unresolved land tenancy problems as the case of Greater Kordofan.

## 7. CUSTOMARY LAND TENURE SYSTEMS IN SUDAN

The condition in Sudan is similar to many African countries; the rural population which almost constitutes about 70% from the total population are mainly dependent on natural resources such as forests, rangeland and agricultural practices in their livelihoods. Despite this critical role, still, the land tenure has not given enough attention and so far there is no proper action taken at least by the Sudanese government to address this issues which is related to communal land right. In pastoral or nomadic communities, the communal right has become so well embedded in their culture and daily life that local residents regard it as indigenous and believe its efficacy to regulate their access to land and to adjudicate social conflicts (Shanmugaratnam, 2008). Change

in public land ownership in Sudan goes back to the colonial era when hungry colonizers circumvent land rules in order to extract and grabbed the natural resources with low cost for their own benefit. A numerous land acts have been introduced such as an act of 1925 and 1930, where the overall objective is to dismantle customary land tenure systems based on common property and to provide the state full power to control and owned lands (Babiker, 2008). Sudan, during the last few decades has witnessed the system of land communal right. This system offers to tribal leaders an ultimate power to manage and distribute the land fairly overall member of their villages (Abdalla & Elhadary, 2010). Generally, the system consists of three administrative tiers these are Nazis who is in charge of the entire tribal administrative and judicial affairs, (Omdas) those who supporting (Nazirs), and took the responsibility of tribal subsections and the third are (sheikhs) who are the village head man. A few years ago, all these tribal leaders are used to work together collectively to maintain security in their areas besides collecting taxes from the villagers. Besides, they play indispensable role in settling disputes and conflicts between their farmers and nomads (Runger, 1987). This system is based mainly on who have a deep historic right to land, which is accessed either through fighting with neighbors or in few cases granted as a gift by (Sultan) king of the State. This land is known locally as (Dar) in the eastern states or (Hakura) as in Darfur (means a homeland), defined by customary or communal rights. Within the (Dar) each member or group would maintain primary rights of access to use the land for farming and grazing within the territory under the traditional and local rules system (Komey, 2009).

## **8. THE RELATIONSHIP BETWEEN FARMERS AND NOMADS IN GREATER KORDOFAN**

The relationships between farmers and nomads in Greater Kordofan have been deep rooted in their history. Their interaction has been characterized by complementary and conflicts, depending on the prevalent circumstances that vary according to the differences in modes of livelihood, and ecological conditions of the environment that supports their subsistence base (Assal, 2009). Farmers and nomads practice agriculture and pastoralist, which are the two main systems of production in Greater Kordofan. However, in both scholarly and policy-making circles, the relationship between nomads and farmers is often depicted as existing in a state of perennial conflict, over natural resources (Adam, 2008). Nomads, in Greater Kordofan, persons are who Migrate from north to south in search of pasture and water for their animals (El Sammani M. O., 2010). Or They are people who do not settle in any place for a long time They also resist any area that could be hazardous to the health of their herds, such as tsetse fly-infested environments for example in the part of South Kordofan in the rainy seasons (Adeoye, 2017). All the nomads in Greater Kordofan Are characterized by violence from the harsh nature of socialization in their environment- In the last 25 years, pressure on the land has constantly brought the nomads and the farmers in violent conflict, which has claimed many lives and

properties. Farmers are people who depend on farming the land for their livelihoods (Acharya, 2006). The farmers in Greater Kordofan are ranging from the small holdings to mechanized agricultural schemes in South Kordofan (Hamid, 2002). The main tribe's of Greater Kordofan Arab tribes, such as Bedairah, Kawahla, Gawamah, and Kababish. In North Kordofan, there are large grazing areas used by Arab tribes as Baggara and other Arabian tribes like Hamar. An African tribe, Nuba, and Dinka nagok also inhabit parts of Kordofan (Abdel 2001).

## 9. RESULTS

**Table 2: Respondents level of education.**

Education	Frequency	Percent
No schooling	131	86.7
Primary Education	19	13.3
junior secondary Education	0	0
Senior secondary Education	0	0
Total	150	100.0

Source: field survey, 2017.

The above table shows that the rate of illiteracy is high among farmers and nomads where the percentage reached 86.7%; they did not get an education.

**Table 3: Respondents ethnic group.**

Ethnic	Frequency	Percent
Arab	81	54.0
Non Arab	69	46.0
Total	150	100.0

Source: field survey, 2017.

The above table shows that the community is almost equally mixed, between Arabs and non-Arabs in Greater Kordofan, the migrations that took place from northern Sudan have a very big impact on making the community to convergent, in the proportion.

**Table 4: The source of land use conflict among the respondents.**

Source of land use conflict	Frequency	Percent
Crop damage by livestock	89	59.3
The war in South Kordofan	17	11.3
The impact of rain shortage	5	3.3

Expansion in mechanized agriculture	39	26.0
Total	150	100.0

Source: field survey, 2017.

Crop damage by livestock and expansion of mechanized agriculture were the main cause of conflict between farmers and nomads with percentages of 59.3% and 26.0% respectively.

**Table 5: Conflicts occurred in the last decade.**

Conflicts in last decade	Frequency	Percent
Increased	139	92.7
decreased	11	7.3
Total	150	100.0

Source: field survey, 2017.

A total of 92% from the respondents (farmers and nomads) stated that conflict occurrence is increasing over the last decade. While only 7.3% of their views are different regarding the conflict occurrence.

**Table 6: Cases illustrating the main causes of conflicts from the respondent's point of view in greater Kordofan.**

Case 1	
Name of the location	Gouz locality- Tounjaro and Seligem villages
Type of conflict	Conflict over land use rights between farmers and Seasonal pastoralists
Consolidated narrative of the conflict	<p>This case was based on the Group interview with farmers and Seasonal pastoralists.</p> <p>Tounjaro and Seligem villages are considered as semi-desert lands and the majority of the population, Arab assets or mixed with some African tribes. Agriculture is the source of livelihood. Recently, the number of farmers is increased, and this factor plays a major role in triggering the conflict between farmers themselves, on agricultural land use rights. This population pressure on the limited land created a good environment for conflict between the farmers and seasonal pastoralists In this area.</p>

	<p>The land tenure within the tribe is the right to use only and is not allowed to sell to other tribes or groups especially pastoralists.</p> <p>The conflict over land use rights between farmers and farmers is increasing day by day, these conflicts caused by the agricultural borders. Agricultural borders are not demarcated in Sudan because most of the rain-fed land is not registered. Sometimes land erosion works to erase landmarks on the ground. This situation is pushing farmers into conflict.</p> <p>Poor posture. And inadequate pasture sometimes led the nomads to Infringement of farmers' land; this situation always leads both sides to the conflict. Farmers don't want to release the croplands to nomads in good time at the onset of the dry season. This delay is caused in part by the planting of late crops. The fact that many farmers leave the late crops unfenced makes them more potential trouble spots for herders coming from seasonal migration areas.</p>
Causes of conflict as given by farmers and nomads.	<p>1- Lack of agricultural land.</p> <p>2- the conflict between farmers themselves caused by the agricultural borders.</p> <p>3- Poor posture. And inadequate pasture sometimes led the nomads to Infringement of farmers' land.</p>
Alternative solutions as given by farmers and nomads.	Always conflicts between farmers and pastoralists as a result of migrating livestock herders in search of water and grazing land for their animals during the dry season.

Case study Gouz locality: 2017.

**Table 7: Cases illustrating the main causes of conflicts from the respondents' point of view in greater Kordofan.**

Case 2	
Name of the location	Habila scheme
Type of conflict.	Conflict over land use rights between mechanized farmers and nomads.
Consolidated narrative of the conflict.	This case was based on the Group interview with farmers and herders and official documents Expanding mechanized agriculture is reducing the area of open rangeland and occupying the routes traditionally used by pastoral nomads. Sometimes the farmers resorting to burning grazing land, with considerable damage to the environment, so that the area would not attract pastoralists. Farmers also reported several incidences of threats by young herders carrying arms when confronted by farmers whose cultivated areas are encroached upon.
Causes of conflict as given by farmers and nomads.	1- Unregulated expansion in mechanized agriculture. 2- Burning agricultural lands to keep the nomads away 3- herders carry modern weapons 4- Conflicts over crop damage from nomads.
Alternative solutions as given by farmers and nomads.	Organize mechanized agriculture determines areas for grazing.

Case study Habila scheme: 2017.

**Table 8: Cases illustrating the main causes of conflicts from the respondents' point of view in greater Kordofan.**

Case 3	
Name of the location	Dallang
Type of conflict	The conflict between Arab herders and Nuba tribe.
Consolidated narrative of the conflict	<p>This case was based on the Group interview with Nuba farmers and Arab herders and official documents from Dillang Prison.</p> <p>The conflict between the Government and SPLM (Sudan Peoples' Liberation Movement) forces increased, and (SPLM) forces occupied the rich grazing areas in South Kordofan, which used to be a good grazing area for Arab pastoralists from South Kordofan and other tribes pastoralists. The occupied areas contained important stock routes for the nomadic tribes who are allied with the government that has used them as militias in its fight against Sudan Peoples' Liberation Movement.</p> <p>According to Arab nomads, the insecurity generated by the civil war, in the South Kordofan, and by more localized conflicts, began to push nomads to move in larger groups, which in turn leads to overgrazing and to a greater likelihood of conflict with other resource users. For instance, growing numbers of Nubian farmers are reported to deliberately burn pasture to keep pastoralists away from their land, ostensibly to defend themselves and their crops and to avoid conflict.</p>
Causes of conflict as given by farmers and nomads.	the conflict between Sudan Government and (Sudan Peoples' Liberation Movement) forces intensified, and SPLM forces occupied the rich grazing areas in the far south of South Kordofan, which used to be a good grazing area for Arab tribes.
Alternative solutions as given by farmers and nomads.	Stopping the war in South Kordofan Enacting deterrent laws.

Case study Dallang: 2017.

**Interviews with prisoners in the Greater Kordofan Prisons**

There are two prisons in Greater Kordofan, the biggest one in the North Kordofan. And the second one in the South Kordofan, also there is many farmers and nomads in these prisons. They committed several different crimes. Some crimes over land use rights and some crimes between nomads and nomads and vice versa.

**Table 9: Showing some cases of prisoners in Greater Kordofan Prisons.**

Prison	Type of Imprisoned	Type of oppressed	Type of crime	Type of punishment
South Kordofan	Farmer	Farmer	Conflict over land borders	6 months' imprisonment
South Kordofan	Nomadic	Farmer	The attack on the crops by the cattle led to the killing of the farmer	Execution
North Kordofan	Nomadic	Farmer	Crop damage by sheep	3 months' imprisonment and Compensation
South Kordofan	Nomadic	Farmer	Crop damage by cattle	6 months' imprisonment and Compensation
South Kordofan	Nomadic	Farmer	Destruction of water source	One year imprisonment
South Kordofan	Farmer	Nomadic	Theft of cattle	6 months' imprisonment and Compensation
North Kordofan	Nomadic	Farmer	Crop damage by sheep and camels	6 months' imprisonment and Compensation
South	Nomadic	Nomadic	Theft of cattle led to the killing of the	5 years imprisonment

Kordofan			nomadic	and Compensation
North Kordofan	Farmer	Nomadic	Theft of crops led to the killing of the farmer	Execution
North Kordofan	Nomadic	Farmer	Crop damage by sheep	3 months' imprisonment and Compensation
South Kordofan	Nomadic	Farmer	Crop damage	6 months' imprisonment
North Kordofan	Farmer	Farmer	Conflict over land borders	3 months' imprisonment
North Kordofan	Farmer	Farmer	Crop damage by sheep and cattle	6 months' imprisonment and Compensation
South Kordofan	Nomadic	Nomadic	Theft of sheep and tools.	6 months' imprisonment and Compensation With hard work
North Kordofan	Farmer	Farmer	Conflict over land borders	3 months' imprisonment
North Kordofan	Nomadic	Farmer	Cut their trees	6 months' imprisonment
South Kordofan	Nomadic	Farmer	Crop damage by sheep and conflict with others	3 months' imprisonment
South Kordofan	Nomadic	Nomadic	Conflict of water source led to the killing of the Nomadic	Execution

Source: North-South Kordofan Prisons, 2017.

It was obviously from the above table 8, crops damages by nomads always led to conflicts between farmers and nomads in greater Kordofan. But the issue of the conflict over land boundaries seems to be one of the minor cases of the conflict among farmers themselves. Besides, due to the nature of the area and shortage of water especially during summertime, the main streams (locally known as Wadies) were considered as one reason that might lead to conflict between the farmers and nomads.

## **10. DISCUSSION**

The land and agricultural practices are quietly different from north to South Kordofan. North Kordofan lands were classified as sandy to loamy soils with low fertility (Babiker, 2008). Ranging agricultural land in South Kordofan from the poor to the rich savanna in the farthest south (Babiker, 2002). In Greater Kordofan, regarding the ethnicity, there is a high diversity in terms of tribes, culture, languages, and social life systems. These communities have been categorized based on livelihood activities into farmers and nomads besides the other activities like trades. In the north far of Kordofan where is dominated by Arab tribes and most of them they are mainly dependents on grazing as main major sources of livelihoods (Miller, 2005), while in south and along the border of Republic of South Sudan, the majority of the tribes are practicing agricultural (rain-fed and mechanized), as well as grazing activities. According to (Hassan, Adam, Eltahir, & Elhaja, 2017), North Kordofan is considered as the most producing area of Gum Arabic in the region, while in the same time was suffering from severe natural catastrophic such as prolonged periods of repeated droughts, desertification, and of course land degradation. Based on the case (1), the number of farmers is increased, and this factor plays a major role in triggering the conflict between farmers themselves, on agricultural land use rights. The increased number of farmers puts more pressure on the limited land which created a good environment for conflict among farmers themselves and between farmers and nomads. Also often conflicts occurred between farmers and nomads as a result of a huge movement of nomads searching on water and forages during the dry season. Education is one of the pillars of development, conflict resolutions and reconciliations in all most all rural communities especially in developing countries (Schollie, Negropontes, Buan, & Litun, 2017). The results table (2), showed that the rate of illiteracy is higher among farmers and nomads with the percentage of 86.7%, which means the region suffered from limited schooling infrastructure and related education facilities. Also, the majority of farmers and nomads believed that education itself an issue because they need their children to be with their animals and farms. Moreover the ratio among nomads' increases due to their nature of migration as it has been reported by the elders. However, there is a serious attempt to involve the farmers and nomads in education throughout their own systems of migration in greater Kordofan. These results were in agreement with the finding reported by (UNDP, 2015), which demonstrated that illiteracy has great impacts

and consequences on improving livelihoods, building peace in such societies in Uganda. Unfortunately, due to lack of education became bedrocks for conflicts among both farmers and nomads and rural communities as general. Recently, mechanized agriculture has expanded to meet the needs of the people. Case (2), shows mechanized agriculture in (Habila scheme) is extended and at the same time reduced the grazing land and narrowed the natural paths of nomads. The mechanized agriculture in Habila scheme relies on the burning of vegetation, to create a free buffer zone around the cultivated lands to protect the crops from being grazed by cattle and sheep. This kind of land preparation leads to burning the grasses and rangeland around the scheme and that creates a shortage in forages which might be led to conflicts between the farmers and nomads. In terms of ethnicity, Greater Kordofan has a high diversity; different tribes are settling the area. There are Arab and non-Arab tribes, however, these tribes are mixed and mingle together, but the study shows that indigenous tribe such as Nuba are still conservative and their interaction with other tribes in terms of marriage a little bit weak. Nuba tribes mainly depend on agriculture as the sources of livelihoods in greater Kordofan. Moritz (2006), pointed out the crop damage by cattle raids, ethnicity, and socio-cultural beliefs, political factors and nomads' aggressive behaviors have been responsible for the direct causes of farmer-nomads conflicts in the Lake Chad region similar result in table 9 by looking at the prison records in Greater Kordofan, the reasons for the conflict between farmers and nomads are difference. Destruction of crops, theft of livestock, the conflict between the farmers themselves over the borders of agricultural land also In Darfur, disputes between nomads and farmers over livestock migration routes and watering holes have become a violent flashpoint for wider cultural, ethnic and religious differences (Brown and Michael, 2015). According to (NHOJO, 2011), in Delta state, Nigeria, he reported that the main causes of conflict between farmers and nomads were: crops destruction, contamination of streams by cattle and overgrazing. Davis (2015), quoted in his work, the root of conflicts between farmers- nomads in Tanzania, is lack of security on land that rural producers subsist on. Case (3), shows that the conflict between the Government and (Sudan Peoples' Liberation Movement) forces increased, and (SPLM) forces occupied the rich grazing areas in South Kordofan, which used to be a good grazing area for Arab nomads from South Kordofan and other nomads tribes. The occupied areas contained important stock routes for the nomadic tribes who are allied with the government that has used them as militias in its fight against Sudan Peoples' Liberation Movement. According to Arab nomads, the insecurity generated by the civil war, in South Kordofan, and by more localized conflicts, began to push nomads to move in larger groups, which in turn leads to overgrazing and to a greater likelihood of conflict with other resource users. For instance, growing numbers of Nubian farmers are reported to deliberately burn pasture to keep nomads away from their land, ostensibly to defend themselves and their crops and to avoid conflict. Table 5 shows 92% of farmers and nomads believe that over the last decade conflicts between farmers and nomads have been increased, this

confirms that the reasons that proceeded are the real reasons for the conflict between farmers and nomads in Kordofan.

## **11. CONCLUSION**

It is apparent, from this study that the main causes of conflict between the farmers and nomads, over land use rights in Greater Kordofan hinged on land resource control, which has been heightened by pressure on land from the farmers themselves. And the lack of clarity of land use boundaries among the farmers. The study also showed the mechanized agriculture has narrowed the paths of nomads on their seasonal journey, and the inevitable result of this, the conflict between farmers and nomads. The study also pointed out that the crops damage, by livestock was one of the most important reasons of conflicts between farmers and nomads in Grater Kordofan.

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