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Land Use Transformation, Conflict and Rural Poverty in the Rain Lands of Sudan

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Abstract: This paper explores the links between changes in land use, local level conflicts and rural poverty on the rain lands of Sudan during the last four decades. The paper departs from the premises that the rapidly accelerating and unplanned changes in land use have been a major source of local level conflict and rural poverty on the rain lands of the country. The study was based on primary data collected through consultation meetings and focused group discussions with communities and their social institutions supported by available secondary data. The study concluded that the large scale land acquisition, due to many causes such as the expansion of semi mechanized farming the rapid investments (especially in the agribusiness and mining sectors) and the secession of South Sudan. All these causes which happen under conditions of land degradation, accelerated growth in human and livestock populations, climate change and the weakened environmental governance have heightened the demand and competition for access to land, leading, thus to various forms of inequalities, violence, human insecurities and institutionalization of rural poverty.

Key words: land use, rain lands of Sudan, rural poverty, access to land

المستخلص: تستقصي هذه الورقة العلاقة بين التحولات في نظم استخدامات الأرض والنزاعات المحلية والفقر الريفي فوق أراضي السودان المطرية خلال العقود الأربعة الماضية. وتنطلق الورقة من فرضية أن التغير المتسارع وغير المخطط في نظم استخدامات الأراضي كان مصدراً رئيساً للنزاعات المحلية وتزايد حدة الفقر الريفي في البلاد. بنيت الورقة علي معلومات أولية جمعت عبر الحوار مع مجموعات التركيز والاجتماعات التشاورية مع عدد من الفاعلين من أفراد المجتمعات المحلية ومؤسساتهم الاجتماعية، بالإضافة إلي ما توفر من المعلومات الثانوية. توصلت الدراسة إلى أن التحول الكبير في إستخدامات الأرض كان بسبب التغول الكبير علي الأراضي من قطاع الزراعة شبه الآلية، إلى جانب الطلب الجديد علي الأرض للإستثمارات الزراعية ومن قطاعات التعدين، وما أتي به انفصال جنوب السودان من واقع جديد. أدت كل هذه االأسباب، في ظل تدهور الأراضي والنمو المتزايد لأعداد السكان والحيوان وتغير المناخ وضعف نظم الحوكمة البيئية، إلى حدة الطلب والتنافس على الأرض، الذي أصبح سبباً رئيساً في إنتشار النزاعات المحلية وتوطين الفقر الريفي.

كلمات مفتاحية: استخدام الارض، أراضي السودان المطرية، التنافس علي الارض، فقر الريفي

1- Introduction:

Competition and conflict over access and use of land are at a historical peak globally. Demographic growth and urbanization, climate change, threats of global food crisis and decades of liberalization and commitment to market forces have generated considerable changes in land use and tenure particularly in places like Sub-Saharan Africa where processes of change are significantly mediated by power relations which are themselves complexly constituted and are the subject of re-formulation both at the level of everyday life and in wide political and social discourse.

One of the main contemporary shifts in social and political debate on the issue relates to the multifaceted nature of land as a place; culture, basis for livelihood; commodity; capital/asset; human rights issue; source of exploitation; site of belonging; an identity and an arena for struggle and liberation (Tasikata, 2010).

Although fifty eight years have passed since independence, the country looks

poorer, hungrier and divided than ever before with pronounced disparities in the level of development between regions where an estimated 50% of the country's national income is concentrating in the capital city of Khartoum. The UN categorizes Sudan as a low-income, poor and highly indebted country that ranks number 167 out of 188 countries and territories on the 2015 Human Development Index (UNDP, 2015). By comparison, the country ranked 150 out of 182 countries in 2009 and 147 out of 177 countries in 2008 reflecting a progressive trend towards deepening poverty in the country.

Sudan entered the twenty-first century mired in several local level conflicts and enormous human security risks that created Sudan as the host country to one of the largest concentrations of IDPs (estimated at four million persons) in the world. Most of these conflicts are of resource-based nature and range in intensity from ad hoc, occasional skirmishes to large-scale violent conflicts between entire populations sub-groups.

This paper explores the relationship between land use transformation, local level conflicts and rural poverty on the rainlands of the country. The main argument advanced here is that land use transformation, proliferation of local level conflicts and rural poverty are organically interlinked and that land use transformation is the foundational causative factor on which conflict and rural poverty are perpetuated and constituted. The paper was grounded in a broad ecology perspective that recognizes the interconnectedness among issues of ecology, society, economics and politics. Data was collected through extensive field surveys using participatory approaches founded on consultation meetings and focused group discussions with communities and their social institutions supported by available secondary data.

2- Theoretical considerations:

Equitable and just sharing of land and of the wealth deriving from its use and utilization is essentially a function of good environmental governance. Environment governance refers to the policy, legal and institutional frameworks for natural resource management. The creation of transparent environmental governance involves addressing the laws, norms and regulatory frameworks governing land and natural resources, and in particular how these are interpreted and understood at local level.

Natural resources governance is connected to development through access to productive resources, trade, regional integration, capacity development, socioeconomic development, poverty reduction strategies and environmental protection. Natural resources are also critical assets holding the prospect for economic growth, employment opportunities and generation of budget revenues as well as security of businesses and attraction of capital investment. Effective natural resource governance and poverty reduction are similarly important mechanisms for transforming shadow economies (banditry, looting, smuggling …, etc) that usually flourish during periods of conflict and political instability.

Poor environmental governance, on the other hand, can contribute to conflict, poverty and instability in main ways: (i) inequalities in the distribution of resources and the wealth generated from them; (ii) natural resources can be used as a financing vehicle for conflicts and instability. Buckles and Rusnak (1999 :?) remarked that: "*For marginal groups seeking to redress injustices or extreme inequities in resource distribution, conflict is an inherent feature of their struggle for change*". Because of that the *relationship between natural*

resources and conflict is not a direct relationship but one that is mediated by critical environmental governance failures. Mohamed Salih (1999) stressed the importance of considering the ways in which the struggle over land and natural resources can be harnessed to other battles of political and cultural nature. He acceptably argued that: "*Under situations of increased competition issues of ecology are interlinked with questions of human rights, ethnicity, and distributive justice*."

However, the direct link between environment and peace building, reconstruction and development have globally recognized. According to UN Peacebuilding Support Office 2008: "*Ignoring the environment as a peacebuilding tool misses a serious opportunity for reconstruction and reconciliation in post-conflict situations*"

Despite the global historic shift towards urbanization, poverty remains largely a rural phenomenon, and a majority of the world's poor will live in rural areas for many decades to come. Of the 1.4 billion people living in extreme poverty (living on incomes less than US$ 1.25/day) in 2005 approximately I billion (around 70%) lived in rural areas. In Sub Saharan Africa, the region with the highest incidence of poverty, approximately 90% of rural people live on less than US$ 2/day. The majority of the poor are rural where livelihoods depend on smallholder farming, including livestock production, supported by a wide range of off-farm economic activities.

The world battle against poverty together with the apparent threats of global food crisis has created renewed interest in agriculture as a potential key driver of development and poverty reduction. This is based on the contention that growth in agriculture usually generates the greatest improvements for the poorest people, particularly in poor agriculture-based economies. A healthy agricultural sector is considered critical for stimulating diversified rural growth. Findings of recent research (IFAD, 2008) from around the world show that:

- Landless or precarious land access is often the root of chronic poverty, social exclusion, powerlessness and helplessness;
- Land rights and rules of access determine who benefit, and how benefits are shared, from land based developments and improved natural resource management;
- Because land ownership and political power are often closely connected to women are the least empowered and politically disadvantaged;
- Rights to use and control land are central to the lives of rural communities in countries and places where the main sources of income and livelihood are derived from these natural resources;
- Without rights to land, women economic, political and physical securities are compromised.

Security of rights to land, according to de Soto (2000) is one essential measure for poverty eradication and prosperity in places like Africa. *"Secure property ownership has been the foundation upon which capitalism has flourished in the west and must be extended to the poor in the developing world if it too is to prosper."* (Hemando de Soto, 2000).

However, in all developing countries smallholder farmers and pastoralists face major challenges that tend to be profoundly different from one country to another and even within the same country. One of these major challenges pertains to secure access to productive land, including the water and other natural resources on it is critical. Land

alienation and the resultant loss of access and control over land have been widely viewed as among the main factors contributing to rural poverty in developing countries. Available empirical evidence suggests that land dispossession of smallholder producers, pastoralists, indigenous people and other rural communities has been a continuous process over centuries (IFAD, 2011).

Yet, the new attractiveness of agriculture resulting from higher commodity prices and subsidies for biofuel production are leading to increases in domestic and transnational demands for agriculture land bringing new risks for small-scale farmers. Increased demands for land from other sectors such as tourism, timber, mining and carbon sequestration compound the problem. The amount of land under negotiation for acquisition or leasing by foreign investors is estimated to range from 15 to 20 million hectares. Most of this land is in Africa, Latin America and certain parts of Asia. IIED and IFAD study (2009) of land grab in Africa documented an overall total of 2,492,684 hectares of approved land allocations to transnational investors since 2004 in five African countries (Ethiopia, Mali, Mozambique, Sudan and Tanzania), excluding allocations below 1000 hectares. Most if not all productive land targeted for potential investment is likely to be already claimed by farmers, herders, hunters or foragers. Such land claims may be based on present, seasonal or future use. They may involve multiple and nested claims by communal groups (e.g. lineages, extended families), traditional authorities, households or individuals. They commonly draw on unwritten tenure systems founding their legitimacy on tradition.

Many of long term leases negotiated recently in Africa between states and foreign companies, including sovereign funds, are short of transparency and very unspecific on a range of key issues including how the investments will benefit holders of local land use rights and local communities more broadly. In addition, many deals contain promises of financial investment, employment, technology transfers and income generation but the evidence is scant as to whether these promises have been fulfilled (IIED and IFAD, 2009)). Experience from different countries, shows that land legislation (and its implementation) has a mixed record in protecting the interests of small-scale farmers and thus reducing land dispossession or fragmentation (Nhantumbo and Salomao (2009); IIED, FAO and IFAD (2009). Conclusions reached by IFAD (2011) study suggest that land reforms have worked for poor rural people when they have been characterized by strong local accountability, due attention to secondary use rights, and support to poor rural people's (both men and women) access to complementary assets, services and productive opportunities and markets (IFAD, 2011).

3- Sudan context of land use:

The secession of South Sudan in January 2011 has nearly left the whole of Sudan as Sahelian dry land country. A recent study (FAO and UNEP, 2012) indicates that out of the total area of the country (1.87 million km^2), 1.13 million km2 (60.4%) is desert and semi desert (rainfall between less than100 mm and 299 mm per year); the remaining 0.740 km2 (39.6%) is divided between low rainfall savannah (300- 500 mm per year) and the rich savanna (above 500 mm of rain per year) that extends extensively in South Sudan (Figure 1).

In their 1958 ecological classification of Sudan, Harrison and Jackson distinguished three ecological zones: (i) Desert Zone that receives an annual

rainfall of zero to 75 mm and is only used for short periods by camels and sheep in good years of rainfall; (ii) Semi-Desert Zone where annual rainfall varies from 75-300 mm and where vegetation is valuable for grazing and its distribution is more related to soil types rather than rainfall.

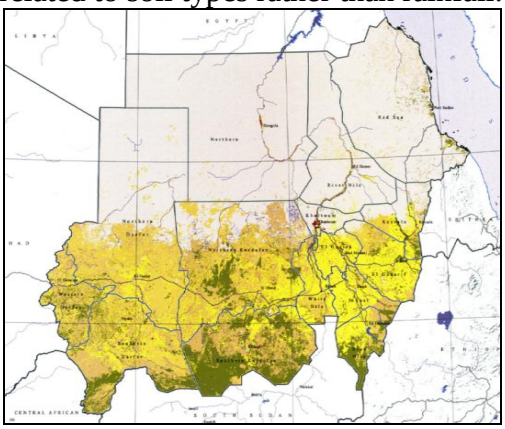

Fig (1) Sudan

The characteristic dominant woody species are Acacia sp while the dominant grass cover is mainly annual with few perennials and; (iii) Woodland Savanna that covers the southern parts of the latitudinal belt extending along the border with the Republic of South Sudan from the borders with Central African Republic in the west to the Blue Nile in the East along Sudan's borders with Ethiopia. Pronounced spatial and temporal variations in the amount of rainfall and duration of the rainy season are evident. Drought is a recursive phenomenon and frequent drought cycles extending over 2-3 years are common.

The diversity of environmental conditions, especially in relation to water availability, rainfall amount and soil type has given rise to a wide variety of habitat, livelihood options and land tenure arrangements as well as being detrimental to large scale land acquisition. On the rain lands of the country, as in much of the African Sahel, where water is the main limiting factor, resource management and human adaptation were centred on traditional rain-fed cultivation and animals herding as the two fundamental livelihood and land use systems, but with great variation due to local environmental conditions and technical and marketing constraints. Seasonal movements across zones, hunting and gathering and wage labor were supportive engagements. However, animal herding based on traditional pastoralism remains the most extensive land use system in terms of spatial coverage. This type of adaptation processes has also affected cultural and political boundaries between groups. Adaptational movements have also helped forging links between groups, violent ones as well as peaceful ones. Reciprocity, rendered imperative by ecological variations was common and close symbiotic relations, amounting to 'alliances', forged through negotiations between tribal leaders were essential elements of the social fabric.

4- Sudan's rural poverty and conflict map:

4-1 Rural Poverty:

Although concrete research is limited there are two important facts about the nature of poverty in the country. The first is that it is largely rural in nature; the second is that it is has a gender face where women are more seriously affected. However, the 2009 Sudan National Household and Health Survey enabled the Interim Poverty Reduction strategy paper to draw a profile for poverty in Sudan which depicts the following features:

- 46.5% of the population is under the poverty line which was calculated at 113.8[1] SDG (approximately USD 45.5) per person per month with monthly per capita consumption in 2009 being 148 SDG (USD 59.2).

[1] Using 2400 calories per person per day

- Wide disparities between rural and urban areas. Urban areas display consumption levels significantly higher than rural areas, at SDG 197 and SDG 122 respectively with average incidence being 26.5% in urban areas compared to 57.6% in rural areas reflecting the historical bias of national development policies towards urban areas[2].Since 58% of households live in rural areas (excluding nomads), share of rural poor in total poor is about 75%.
- It is largely concentrated among agricultural households especially in crop farming and animal husbandry. There seems to be an obvious correlation between poverty and occupation and place of residence.
- Correlation with the level of education (of the household head) seems to be significant as well. The main provider has no education in sixty percent of all poor households. On the other hand, only 9% of the poor has a main provider with higher education level. Poverty rates are also high for households headed by members having primary education or khalwa.
- Rate of food deprivation is higher in female headed households (37%) than in male headed ones reflecting differences in incomes and education. Also, the rate is sensitive to the household size, 5% for households of 1-2 persons and 49% for households with more than nine members.
- Regional inequalities: This is best indicated by the percentage of the poor in the different states, with an almost 300% gap between Khartoum (the lowest rate and North Darfur, with the highest poverty rate. Recent households' surveys indicate large variations in the education and health outcomes between the states; generally with the worst affected areas in western states of the country (Figure 2).

The regional distribution of rural poverty, however, suggests that poverty rates seem to correlate highly with conflict, pastoral modes of living, population displacement, primary production and reliance on natural resources.

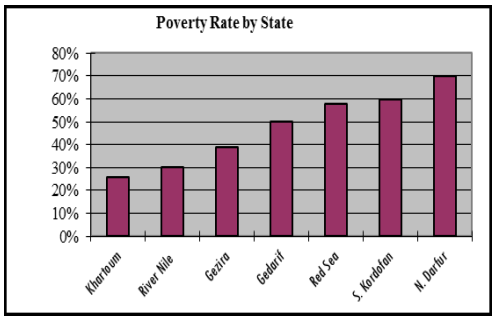

Fig (2): Sudan-poverty rates by states

4-2 conflict:

Two categories of conflict are important here: (i) Local level conflict: this is the most common type and includes local conflicts between pastoralists or nomads on the one hand, and farmers on the other, or among pastoralist communities, over land, water, grazing and forest resources. They also include competition within and between tribal groups over community boundaries, mining resources and livestock routes that become major zones of conflict. These conflicts can range in intensity from ad hoc, occasional skirmishes to large-scale violent conflicts between entire population sub-groups such as the Beni Hussein-Mahameed conflict over mining resources in North Darfur that claimed the lives of more than three hundred persons and Awlad Sirur and Awlad Hiban conflict in West Kordofan over land and which claimed the lives of more than a hundred persons. This is in addition to many other conflicts such as that between Nuba and Misseriyya in Lagawa area, and between the

[2] Khartoum is the region with the highest level of per capita consumption and lowest poverty incidence (26.0%) while Darfur is the region with the highest incidence of poverty (62.7%). Between these two poverty extremes come the other regions (Northern 33.7%; Central 45.4%; Eastern 46.3%; and Kordofan 58.7%). It could be noticed from the profile that conflict-affected regions are the regions that suffer the highest levels of poverty incidence.

Rezeigat and Massiriya along the border between South Kordofan and South Darfur States, and between Rezeigat and Maalia in East Darfur State. (ii) Conflicts over Investment Capital: Large-scale investments in land, water, and natural resources—especially involving dam construction, mechanized agriculture, oil exploration and drilling have fuelled a wide range of conflicts in the country. These conflicts were symptomatic of a wider lack of capacity on the part of the state and other stakeholders to ensure that large-scale investments in land and natural resources take into account local needs and rights, and that wealth generated through these resources yield dividends for the affected communities. Inroads by semi mechanized agriculture into both community farming as well as the movements of pastoralist and nomadic communities have incited conflict in many parts of the country through the debasement and displacement of many rural populations, appropriation of pastoral resources and closure of pastoral routes.

The social, economic and political costs of conflicts in Sudan have been extremely high. These involve loss of human lives, enormous human insecurities, erosion of governance and massive loss of economic resources, derailing of development interventions, wide sense of social despair and apparent political instability. Official and other sources give an estimate of over two billion dollars loss to total military operations since 1983 (El Badawi, 2005). The current Darfur crisis has resulted in a serious humanitarian crisis where more than 2.5 million people, mainly traditional farmers, have been displaced; hundreds of thousands have also been displaced in South Kordofan and Blue Nile since 2011.

Other developmental costs of conflicts are quite high but involve many complexities in computation. This involves widespread violence, decline of production, destruction of physical, human and social capital; reduction of the country's investment ratio to less than one third of its potential ratio under normal conditions; and reduction of potential per capita GDP by a cumulative rate of 8% (Abdelgadir and Wani, 2004). This is besides contributing to widening regional disparities that further perpetuates the persistence of conflicts and poverty.

5- Land use transformation:

5- 1 Expanding agriculture:

A characteristic feature of Sudan's land use is the very rapid horizontal expansion of the area under agriculture. The area under dura, the staple food crop, in the traditional, semi mechanized and irrigated sectors had increased from 6.384 million feddan in 1953/54 to 22.091 million feddan in 2012/reflecting a percentage increase of 240% 2013 (Table, 1) (Figure 3).

Table 1: Areas under dura cultivation 1953/54-2012/13 (000 feddan), 15 years average

Period	Cultivation system			Total
	Trad	Mec	Irrig	
1953/54 -67/68	2,971	2,954	423	6384
1968/69 -83/84	3,421	6,499	577	10497
1984/85 -97/98	4,277	13,610	981	18868
1997/98-2012/13	7,621	13,310	1,160	22091

Source: Source: Based on data compiled from the Directorate of Agricultural Economics and Statistics, Ministry of Agriculture and Forests

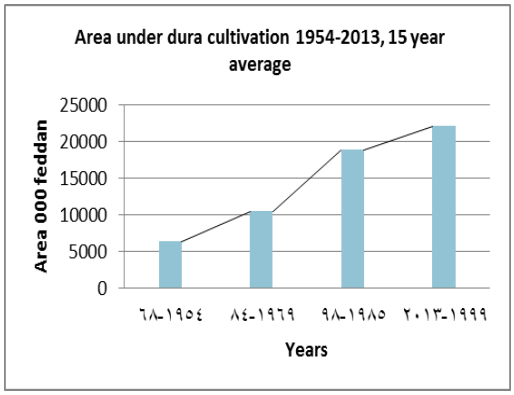

Fig (3) Area under cultivation 1954-2013, 15 year average

The compound effects of climate change and the growing tendency towards drier conditions since the late 1960s and the rapid transition towards market economy under conditions of rapid population growth and accelerated land degradation have created remarkable increase in land use under traditional crop farming. Available data suggests that area under traditional crop cultivation including dura has increased from around 6 million feddan in 1970 to approximately 22 million feddan in 2012/2013 (Directorate Similar of Agricultural Economics and Statistics). Similar increase had taken place in the size of animal population, from approximately 40 million head in 1970 to an estimated 106 million head of cattle (30.2 million), sheep (40.0 million), goats (31.0 million) and camels (4.8 million) (Ijaimi, 2016) resulting in heated competition over resources and eventually proliferation of conflicts.

5-2 Land acquisition

Large scale acquisition of customary land for modern agriculture (both irrigated and semi mechanized), afforestation and biodiversity conservation programmes and recently, the oil and gold mining has been a major feature of Sudan land use system and development policy. By early 1960s, New Halfa irrigated scheme was established on the Butana plains of Eastern Sudan to resettle the Nubians dislocated by Aswan High Dam on the Nile in Egypt. By 1970s, large irrigated schemes for production of cotton were established in Rahad and Suki areas in eastern Sudan. The post-independence period also witnessed the establishment of number of irrigated sugar plantations in El Guneid, Khashm Al Girba, West Sennar Assalaya, Kenana and currently the White Nile Company resulting in the transformation of vast tracts of rainfed cropping and grazing lands into other land use systems.

The introduction and expansion of semi mechanized farming on the central clay plains in the Eastern, Blue Nile, Nuba Mountains, White Nile, and West Kordofan resulted in enormous and very heavy cuts in lands available for small holders production, both farmers and pastoralists. The area under semi-mechanized farming increased from 214,000 feddan[3] in 1954/55 to 2.0 million feddan in 1970/71 (Ministry of Agriculture and forests, 2009). By mid 1990s, the area reached around 14.5 million feddan. By 2014, the area reached around 17 million feddan. Taking into account the fact that the semi-mechanized farmers do not usually cultivate more than 60% -70% of the allocated land, the land leased for the sector is estimated to range between 30 million and 50 million feddan.

The ultimate result is enormous cuts in rural communities' rights to land and natural resources, including agricultural land, water resources and pastures; this is besides the dislocation of considerable people out of land. Even whole villagers have been left landless and forced to work as precarious wage labourers on their own land or to migrate outside to urban centres (Ijaimi, 2005).

During the second half of 1970s, a total area of 2.9 million feddan that used to be under pastoral and traditional

[3] Feddan = 0.42 hectre

farming, had been appropriated through the establishment of big companies investing in the semi-mechanized farming, especially in the Blue Nile state. Dramatic expansion in the sector was facilitated by the Presidential Decree of 1990 initiating the Food Security Campaign under the slogan "we eat what we produce and we dress what we manufacture". The period also witnessed the dissolution of the Mechanized Farming Corporation that created major institutional vacuum resulting in the haphazard and controlled expansion of the sector.

A recent study from Gedaref State (Table 2), shows that the area described as grazing lands has declined from 28,250 km^2 (78.5% of the state's total area) in 1941 to 6,700 km^2 (18.6% of the State's area) in 2002 as a result of rapid expansion in the semi-mechanized farming sector which expanded from 3,150 km^2 in 1941 to 26,000 km^2 in 2002. In Sinnar State, range lands and pastures dwindled to only 2.69% of the State's total area in 2009 reflecting radical land transformation and concomitant severe pressure on the traditional farming and pastoral sector in the State that supports 6.56 million head of animals (Table 3).

Table 2: Transformation of land use in Gedaref State, 1941-2002

Type of use	Area 1941		Area 2002	
	Km2	%	Km2	%
Semi mechanized farming	3,150	8.7	26,000	72.2
Forest and rangeland	28,250	78.5	6,700	18.6
Hills and water courses	3,300	9.2	2,000	5.6
Wasteland (kerib)	1,300	3.6	1,300	3.6
Total	36,000	100.0	36,000	100.0

Source: Babikir, Mustafa (2011)

Table (3): Land use in Sinnar State

Use system	Area 000 fed	%
State area	9,700	100.0
Traditional rainfed agriculture	1,000	10.3
Semi mechanized rainfed agriculture	4,500	46.4
Irrigated agriculture	525.6	5.4
Dindir National Park	3,240	33.4
Forests	174.0	1.8
Pastures	261.0	2.7

Strategic Strategic Planning Council, Sinnar State, 2009

5-3 Oil activities:

The introduction of oil industry has been associated with marked shifts in customary land tenure arrangements and land use systems resulting in heavy dwindling in pastoral resources, both grazing and water. The Muglad Rift Basin, one of the two main oil fields and known reserves (the other is Melut Basin) is located in the heart of Misseriyya Humur homeland covering approximately 120,000 sq km with the largest concentrations being the Fula and Heglig fields. Available data (Pantuliano et al, 2009) revealed that the introduction of oil industry has created land as remarkable shifts in customary as scarce resource for both pastoralists and traditional farmers through appropriation of enormous grazing resources and agricultural lands while setting the scence for hightened competition and disputes over land. The rapid construction of air fences (zaraib hawaa) by farmers in anticipation of compensation has led to blocking of pastoral routes and increased tension between pastoralists and farmers. Non Misseriyya communities who lived in the area for more than a hundred year of enjoying access to cultivable land through customary arrangements have recently been denied such rights (Pantuliano et al, 2009). The recent conflict over land rights near Balila (Fula Locality) between Awlad Hiban (Misseriyya Zurug) and Awlad Sirur (Misseriyya Humur) and which claimed the lives of

more than 200 persons rights provides a typical example.

5-4 Gold mining:

Cash-strapped and dollar-starved, government sees gold as its new oil. Gold production in Sudan has made a fundamental turn since 2009. Production has increased from an almost constant annual level of 6-8 tons prior to 2009 to peak at 73 tons in 2014 (Ministry of Finance and National Economy, 2015). Over 90% of the production is from artisanal mining that has extended to cover over 10 states in more than 118 sites that have their main concentrations in the northern desert of Northern and River Nile States followed by North Darfur (Jebel Amir area), central Butana Plains (areas around Subagh) and scattered areas in North Kordofan and eastern South Kordofan.

According to available estimates (Ministry of Finance and National Economy, 2015) the artisanal sector provides employment for more than one million persons and contributes directly or indirectly to the livelihood of over five million persons, thus becomes an important mechanism for poverty reduction in the country. Contribution to the national economy is also substantial as it accounts to around one third of the total value of exports exceeding by far the agricultural exports. This is besides generating growth in other sectors of the economy, especially the service provision, transport and trade and entrepreneurial sectors. Because of that the sector is considered by the Government of Sudan as a top priority sector with enormous future potentialities on the national economy, especially after the loss of more than 70% of the oil revenue to the Republic of South Sudan. This is besides the revenues generated by the localities, especially from local taxes imposed on the small businesses created by the gold mining.

The sector operates under the Mineral Wealth and Mining Act for 2015, the basic law that organizes the gold mining sector including artisanal gold mining. Several other laws which cover several aspects of the mining sector exist including, Environmental Protection Act 2001, Environmental Health Act 2009, Child Act 2010, and Labor Act 1997. The Ministry of Mining, with its affiliates, is the responsible government organ for supervising the mining activities in Sudan and ensuring that conducive investment environment and appropriate procedures are created to encourage investments in the sector.

In spite of its recognizable economic importance at national and local levels, the sector is largely unorganized with far reaching socioeconomic and environmental impacts. Although the information gap is acute, available data suggests that agriculture, livestock sector and Gum Arabic production have been seriously affected by shortage of labor. There are also immense environmental negative impacts on the people, vegetation, soil and water. Competition over land with agriculture, forests and lands has also been recognized, especially in Butana area. Socially, it contributed significantly to conflict and social polarization founded on claims to land rights. A typical example is provided by the conflict between Mahameed Abbala and Beni Hussein in jebel Amir area in 2012 and 2013 where hundreds of lives were lost and an estimated 150,000 persons were displaced leading to an internationally recognized humanitarian crisis.

5.5 New trend in land acquisition:

One of the lingering effects of the food price crisis of 2007–08 on the world food system is the proliferating

acquisition of farm and pastoral land in developing countries by other countries short in land and water to find alternative means of producing food. Sudan was one of the countries that is becoming increasingly affected.

The World Bank reports that 132 projects were agreed between 2003 and 2008 in the nine states covered by the study (Blue Nile, River Nile, North Kordofan, Northern, Gedarif, Gazira, Khartoum, Kasala and White Nile).

The data available from the Ministry of Agriculture and Irrigation up to year 2011 indicated almost 50% were to foreign allocated investors (mainly from the GCC), 10% joint Sudanese foreign partnership and the remaining 40% percent domestic investors. The big allocation for those from the GCC was around 100 and 250 thousand feddans per each allocation. The total area allocated amounted to 8.1 million feddan, 54% in the Northern State, 21% in Nile State, 15% in White Nile State, about 7% in Blue Nile and around 4% in northern Kordofan State (table)

Table: Land allocation foreign to investors (000 feddan) 2003-2011, by State

State	No. of projects	Area Allocated	%
Northern	38	4349	54.0
Nile State	73	1676	20.8
Blue Nile	4	545	6.8
White Nile	10	1180	14.7
N Kordofan	7	300	3.7
Total	132	8050	100

Source: Ijaimi, A. Ahmed, 2013

17% of the area was allocated to Saudi investors and 6% and 5% to those from Qatar and UAE, respectively. The share of the Arab countries amounted to one third of the allocated area.

Table (3): Land allocation (2003-2011) to foreign investors by country,

Country/group	No. of projects	Area Allocated	%
Saudi Arabia	20	1371	17
Qatar	3	470	6
U.A.E	16	400	5
Egypt	3	56	1
Other Arab countries	11	300	4
Non- Arab Countries	3	342	4
Local investment	37	2950	36
unclassified	39	2161	27
total	132	8050	100

Source: Ijaimi, A. Ahmed, 2013

The large-scale land investments currently underway do not comply or adhere to the globally and nationally required agricultural land policies as government rarely consults with residents in affected communities or conduct environmental and social impact assessments, greatly increasing the risks of adverse impacts for host populations while increasing the chances of local opposition when the companies come to the ground to begin project operations.

6- Weakened environmental governance:

The data presented above reflects the enormous transformation in land use on the rainlands of the country during the past decades. The close interelationship between land use transformation, rural poverty and conflict is also evident. But, what closely links these three variable together. An analysis of the current situation environmental goverance in the country seems to be the most salient answer.

Environmental governance in Sudan at present is at cross roads and has significantly been eroded to provide for effective, equitable and sustainable land management while set the motion for heightened completion over land and natural resources and, therefore provide an enabling environment for conflict, social ills and institutionalization of poverty, violence and human insecurities. It is characterized by the followings:

6-1 Confused and irrelevant legal framework:

Existing laws lack clarity about who owns and how access to land is made, remade, legitimated and contested. Which law at present governs rural land is a very ambiguous and a confused issue. Is it the customary law? Is it the 1925 Land Settlement and Registration Ordinance; Is it the 1970 unregistered land Act? Is it the civil transaction Act? Or is the 1994 law? The dichotomy between the customary law and statutory law is apparent. Such confusion has created what De Witt called "legal shopping" besides being socially oppressive as a strong force behind communities land appropriation and alienation. In addition, these laws are manifestly irrelevant. The tremendous changes in the social, political, economic and cultural circumstances of the country over the past decades render existing laws irrelevant and inadequate to keep pace with the changes.

6-2 Institutional structures:

The rapidly changing dynamics of the country and land tenure arrangements make the existing institutional arrangements obsolete and manifestly incapable to keep pace with the progressively evolving national and local contexts of land administration management. The structure of land administration, at both the federal and state level, is characterized by multiple actors who are not closely linked or integrated. Because of that Sudan continues to suffer the lack of recognizable and legitimate institution responsible for rural land management, administration and policy.

Key structures are Ministry of Environment, Forests and Physical Development and the Higher Council for Environment and Natural Resources. But there are so many other actors at the national level include: Ministry of Tourism and Wildlife, Forests National Corporation, Natural Resources Administration of the Ministry of Agriculture and Forests, Desertification Control and Coordination Unit of the Ministry of Agriculture and Forests, the Ministry of Electricity and Dams. At the State level, a wide range of institutions exist including: the Walis, Commissioners, Ministries of Agriculture, Land Dispossession Committees; *Mahaliyyas*; Native Administration and Popular Committees at the local or village level. Each of these makes decisions that seriously affect land use, and by definition, impact relations between communities and the entirety of their livelihoods. The dissolution of the Mechanized Farming Corporation has set the stage for all the malpractices seen in the sector at present.

Existing land governance structures and institutions continue to suffer lack of coordination and systemic problems of capacities, accountability, and unclear or overlapping authorities. Years of underfunding have rendered these institutions manifestly incapable to deliver services and to perform their responsibilities. Added to this is the hesitant and partial process of decentralization of natural resource management which manifestly failed to proceed to a robust devolution of authority to the states and localities. The stipulation of land administration as a concurrent competence in the present institution has resulted in a continuous and a progressive encroachment of the Central government on States lands and power over it with the resultant distortion in the decision making process between the various levels of governance that add to the deepening problem of land acquisition and dispossession of smallholders. The process has been facilitated by existing land laws that give government the right to

appropriate land for the so-called "Public good" without defining what this concept means.

- The situation has been complicated by the demise of the native administration and the subsequent absence of a recognizably credible institution capable of managing and administering land and natural resources at local level. Despite its reinstatement since the mid 1980s, the Native Administration System has remained weak and ineffective in controlling illegal appropriation of land, protecting customary rights of communities, managing grazing resources and facilitating seasonal mobility. The institution is currently characterized by:
- The dissolution of the institution in 1971 had severely impacted the economic power of the tribal leaders. When the institution reinstated in 1986, its tribal leaders had already lost most of their power.
- Much of the roles historically played by customary institutions have been captured by modern governance structures.
- Being hereditary, the institution is highly accused of being non democratic and out of touch with contemporary universal value systems grounded in concepts of democratization and human rights
- The power and legitimacy of tribal leaders is highly contested by the newly emerging political forces led by the youth and who accuse tribal leaders of being politicized and are accountable to politicians in urban centres rather than to their constituencies in the rural areas.
- Establishment of many parallel institutions at local level (popular committees, security committees, village development committees) that stripped tribal leaders of many of their traditional powers.

7- **Conclusion:**

The policy, legal and institutional framework to deal with land have been rendered inadequate to deal with tremendous changes in the social, political, economic, cultural and environmental circumstances of the country. The current tribal polarization on the rain lands of the country has also created customary law in both form and practice as manifestly exclusive with apparent violations to the rights of the large population who have been for centuries living within the domains of the existing tribes but without recognizable or legitimate rights to land. This is the situation of the migrants in Blue Nile and Gedarif States, agricultural labourers in Gezira and New halfa Agricultural Schemes and the many Arab camel herders Abbala in Darfur.

Large scale land acquisition under conditions of decreasing land capability, increase in population and population redistribution and climate change have resulted in a heightened demand and competition for access to land leading to various forms of inequalities, violence and human insecurities. The oil and gold mining aggravated the problem. In addition, the independence of South Sudan together with the changes in the global environment brought about by the globalization of economies and politics have combined to create a reality that is significantly different from the one conceptualized when the existing frameworks were created. The new reality calls for a whole new approach to land and natural resource governance, particularly issues related to land, i.e. administration, institutions, policies and tenure structures. An important task for the future, then, is to

address the injustices produced by earlier land use practices and to provide a secure tenure situation for rural communities, the overwhelming majority of the population.

However, a major challenge facing contemporary Sudan is the construction of a social environment in which the issue of land could be dealt with peacefully and productively. This involves, in the first place, reforming the relationship between the state and society through changes in the national policies and legal frameworks to address power imbalances while recognizing and legitimizing the rights of the excluded and marginalized groups to equitable access to land and public resources. A prerequisite for this is a constitutional structure that brings the local communities into decision-making process and enhancing their capacity to participate in issues that directly affect their livelihoods. In this respect, there is an urgent need to engage people into dialogue and popular discussions to redefine the terms of debate over access and use of natural resources while identifying mechanisms for negotiating the diverse interests of the various social groups, including the state. Drawing out the historical and structural relationships between communities and the broader processes affecting society opens up the possibility of identifying fundamental problems and formulating alternative social discourse over land and natural resources governance.

In this regard, building of environmental governance constitutes an important entry point for promoting equitable sharing of land and management of natural resources while ensuring that wealth generated through these resources yield dividends for the affected communities. Realization of effective and transparent environmental governance emphasizes the need to go beyond narrow or rigidly sequential sectoral approaches to a holistic approach rooted in the link between governance, peace, security and development which places land and natural resource management concretely in the contextual realities of our time and the anticipated future trends of change, nationally, regionally and globally.

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