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Informal Cross-Border Trade in Eastern Sudan. A Case Study from Kassala and Gedarif States

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1. Introduction

Informal trade in pre-colonial Africa, sometimes in the form of barter, was one of the mechanisms of social interaction between various ethnic groups and jurisdictions. It was an alternative to the state of hostility and a means of economic complementarities, particularly between nomadic and farming groups. With the appearance of political and administrative boundaries, levies and duties under colonial rule, informal trade became a way of reducing costs of traded items through the evasion of taxes, customs and other official charges. However, in some cases it was also a form of resistance to colonial rule and a refusal of recognition of what were considered as artificial borders. Informal cross-border trade (ICBT) was also used in some countries (e.g., South Africa) to dismantle the predominance of colonial structures (Mijere n.d.).

In modern states, borders at national levels, are linked to problems of refuge and asylum-seeking, security threats and crime, economic losses of resources through smuggling as well as the economic opportunities of trade and exchange of goods and cooperation on security matters. For local communities, on the other hand, borders are by and large artificial barriers splitting social groups and often constituting an obstacle to shared economic benefits on the two sides of the border. Although sometimes the helplessness of local communities is the main factor, in many cases the contradiction in the two perceptions has been the abuse of the border areas by smugglers, human traffickers, armed groups and, sometimes, political opposition. The case of Sudan's border with both Ethiopia and Eritrea is a typical case of contradictory perceptions and positions.

Border trade, in general, across land or sea borders, refers to the flow of goods and services across the international borders between jurisdictions. In this sense, it can be part of normal legal trade that flows through standard export/import frameworks of nations. It is specifically more vibrant in areas where crossing borders is relatively easy and where products are significantly cheaper in one place than another, often because of significant variations in taxation levels on goods. Where border trade is done for **tax evasion** or trading on illegal goods, it is informal and forms part of the **underground economy** of both jurisdictions.

Although ICBT existed for centuries as a mechanism of livelihood, social interaction and sometimes an element of crime, there still is no universal definition for it. COMESA defines informal cross-border trade as a form of trade that is unrecorded in official statistics, and is carried out by small businesses in the region. ICBT characteristically involves bypassing border posts, concealment of goods, under-reporting, false classification, under-invoicing and other similar tricks. In addition to seeking to evade taxes or fees imposed by governments, traders also try to avoid administrative formalities in areas such as health, agriculture, security and immigration, which are perceived as costly, complex and time-consuming (Njiwa 2013).

ICBT may also be a trade in processed or non-processed merchandise which may consist of legal imports or exports on one side of the border and "possibly" illicit ones on the other side. It also includes import and export of legitimately produced goods and services, which, directly or indirectly, escape the regulatory framework of taxation and other procedures set by the government and often go unrecorded or under-recorded into official national statistics of the trading countries (Schneider 2006; Ogalo 2010).

The flow of goods and commodities has major effects on countries, governments and especially the border communities. They may create challenges for governance, planning, and effective communication between those communities due to risks attached to some of the traded goods, since

some products may have positive socio-economic ramifications, while others may have negative ones or different impacts on the two trading sides (Ogalo 2010).

According to African Executive (African Executive 2010), informal trade in Africa in 2003 amounted to 43.2% of the GDP, with a rise of about 3% from its level in 2000. Such a huge increase seems to be caused by the involvement of traders from both informal and formal sectors. While limited options, resources and skills attract most of those of the informal sector, the formal firms also practice ICBT by passing their commodities through "unofficial routes," thus fully evading trade-related regulations and custom duties, or partially evading them through illegal practices such as under-invoicing, misclassification, incorrectly declaring the country of origin to avoid associate tariffs and regulations, and bribery or trading in illegal goods and services.

Numerous factors combine in the form of incentives to informal trade or disincentives to formal trade to push people to engage in ICBT. According to the Doing Business Report of 2011, sub-Saharan Africa is the world's most expensive region to trade with in terms of fees and official custom charges and in terms of business costs due to delays, which are three times more than in other regions of the world (World Bank and International Finance Corporation 2011).

In the annual Doing Business Project (2014), Sudan is rated as number 162 out of 189 countries when it comes to efficiency and speed of procedures as well as cost of border trade flows. Its eastern neighbors, Ethiopia and Eritrea are, respectively, ranked as number 168 and 172 (Table 1). As the index deals with formal trade and includes only official charges, it is no wonder that traders, customers and products move towards informal trade.

Table 1: Tracking Cross-Border Trade

Country	Rank	DTF	Export			Import			
			No of Documents	Time (days)	Cost per Container	No of Docs	Time (days)	Cost per Container	
Sudan	162	46.98	7	32	2,630	7	46	3,400	
Ethiopia	168	38.58	8	44	2,380	11	44	2,960	
Eritrea	172	32.24	10	50	1,580	12	50	2,000	
Kenya	153	54.49	8	26	2,255	9	26	2,350	
Uganda	161	48.01	7	28	2,800	10	31	3,375	
Ghana	120	67.10	6	19	875	7	41	1,135	
Sub Saharan Africa		50.81	7.6	30.5	2,200	8.9	37.6	2,931	

Source: Doing Business Project Report, June 2014.

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¹ Doing Business measures the time and cost associated with exporting and importing a standardized cargo. The ranking applies to non-hazardous and non-military items that do not require refrigeration, any special environment or any special safety standards (other than accepted international standards).

Informal trade can, in the short and medium term, encourage entrepreneurial activities and regional trade, contribute to greater food security and enhance employment opportunities and income-earning for poor households. Thus, it may enable small-scale entrepreneurs to escape poverty and to meet education, housing and other basic needs, and from a consumer perspective, it is a mechanism for securing lower prices of the informally imported products. Low prices offered by ICBT sometimes put a competitive pressure on firms operating in the formal sector, which may promote price efficiency, especially where the formal sector was initially seeking super normal profits.

Nevertheless, in spite of these benefits, in the long run, ICBT is likely to have negative economic and developmental effects, including (a) a reduction of efficiency of measures for ensuring health, safety and environmental protection; (b) the creation of unfair competition for formal traders; (c) a reduction of incentives to invest in the formal economy; (d) unregistered trade flows which might hinder the ability of governments to design appropriate trade policies and often trigger bribery and corruption; (e) diminishing prospects for private sector development; and (f) erosion of government revenues and the overall economic development of the country (Lesser and Leeman 2009; Kimenyi and Routman 2012).

ICBT in eastern Sudan, as in most other African countries, predates colonial and post-colonial state boundaries and has been a long standing indigenous pattern of trade. Thus, the current ICBT activities are simply a re-establishment of the extensive barter trade and migration of people that were a feature of economic and social life predating colonization in the region. Yet, despite being a source of income to about 43% of Africa's population, it is still generally regarded as an illegal activity (Ogalo 2010).

In terms of revenue collection, governments generally are on the losing end. Countries with low revenue bases but higher incidence of ICBT along their borders may experience macroeconomic imbalances due to revenue losses. However, according to Africa and Ajumbo (2012), this doesn't mean that governments should criminalize the practice, as ICBT benefits consumers by increasing the availability of goods at affordable prices. However, consumption of goods not subjected to customs clearance and border formalities may in some cases lead to loss of consumer welfare (for example, informally traded foodstuff is not subject to standard health and hygienic measures, thus making consumption risky and hazardous).

Although causes of ICBT expansion in Africa vary from one region to another, they could all be classified into three main categories: (a) stimulating (pull) factors on the receiving side, which include ease of entry into the country and into the trade flow, low or no tariffs and the cross-border price differential; (b) formal trade-discouraging conditions in the source country, such as lack of adequate trade facilities, poor border infrastructure, limited access to finance, and high tariff and taxes; high transaction and compliance costs, and delays in processing tax refunds; and (c) personal factors relating to the qualities of those involved including, level of education and knowledge and lack of knowledge of benefits and opportunities of formal trade, social relations and networks and business management skills.

2. Objectives and Methodology

This paper is part of a wider study on eastern Sudan's border communities and border problems. It is an attempt to provide an initial assessment of informal border trade between the Gedarif and Kassala States with, respectively, Ethiopia and Eritrea. The findings will hopefully provide some insights that would help draw appropriate policies that minimize government losses and maximize benefits from ICBT, especially for border communities in the region.

In view of the difficulty of accurately estimating the volume and value of informal in- and outflow of goods and commodities across the border at this preliminary stage of research, the study attempted to investigate three main areas:

- a. the characteristics, dynamics and structure of ICBT along Sudan's eastern borders with Ethiopia and Eritrea;
- b. the characteristics of traders and households involved in ICBT in East Sudan;
- c. the impact of ICBT on Sudanese border communities.

Several methods were used for data collection, including:

- a. literature review (unfortunately very little information is available on trade in the border area, particularly informal trade);
- b. interviews with government officials, local leaders and community informants;
- c. household questionnaires for a sample of 146; covering 16 settlements, 7 in Kassala and 9 in Gedarif;
- d. semi-structured interviews with 34 traders in the two states;
- e. observations and informal discussions.

The settlements covered by the survey in Gedarif are the town of Gallabat and the villages of Khor Saad, Atrab, Kunneina, Tabaldiya, Umkharayet, Mahala, Sundus and Kuseiba; and in Kassala, Al Laffa, Al Maria, Gulsa, Bagdeer, Tahdai, Katakawa and Shalalob.

3. The Context

Although reference has been made to eastern Sudan's border, this study focuses only on the two states of Kassala, which neighbors Eritrea, and Gedarif, which borders with Ethiopia.

Kassala lies in a semi-arid zone (latitude 34° 40' and 37° East, longitude 14° and 17° 15' North) with a total area of about 42,300 km². The state economy is largely agricultural along the Atbara river (irrigated) and in urban areas (horticulture), and agro-pastoral in the rural areas. The total cultivable area in the state is about 4 million feddans but the actual cultivated area on average is about 1.5 million feddans (39%), both irrigated and rain-fed. Other income sources in the state revolve around woodcutting and charcoal production, petty trade and border trade. Border trade with Eritrea also has a significant effect on the state economy and on the economic status of the tribes that engage in it, particularly the Rashaida and some of the border communities (Abdel Ati and Egemi 2005).

Kassala is one of the chronic food deficit states in Sudan and for a long period has experienced adverse environmental conditions, inefficient traditional production systems, low productivity and diminishing human capacity to cope with droughts. Livelihoods have also been disrupted by the long conflict along the Sudan-Eritrean border, the continuous influx of refugees and internally displaced persons (IDPs), estimated to constitute about 10% of the state population which is about 1.8 million.

The border area of the Aroma and Talkok localities suffers from food and livelihood insecurity, lack of basic services and environmental and human insecurity (UNDP-Sudan 2008), in addition to its relative isolation, limited economic opportunities, high poverty rates and weak state institutions.

Gedarif lies between longitudes 33° 30′ and 36° 30′ East and latitudes 12° 40′ and 15° 46′ N., with a total area of around 71,000 km². The state enjoys a rich savannah climate with rainfall ranging between 500-900 mm from north to south, falling mainly between July and September. Because of the seasonality and variability of rainfall and the basement complex underlying rock, the state suffers from acute water deficit.

The state population is about 1.4 million with a 3.9% annual growth rate, one of the highest in the country, mainly as a result of migration of population from all parts of Sudan and as far as West Africa, all attracted by the state's natural resources and economic potentials. Gedarif is endowed with 10.5 million feddans of cultivable land, over half of it under rain-fed mechanized farming. Mechanized farming constitutes the backbone of the state economy, a major source of employment both for the state population and seasonal laborers from other parts of Sudan and neighboring countries, and a major contributor to food security in the country. The state is also one of the richest in animal resources, with 5.2 million heads of livestock.

There are 12 tribes living along Gedarif's border with Ethiopia, and only the Baria can be considered as indigenous. Of the remaining eleven, two are from East Sudan (Beni Amir and Rashaida), five from western Sudan (Masaleet, Bargo, Dajo, Tama and Gimish), two of West African origins (Hausa and Fallata) and two are Arab groups. The largest groups are, respectively, the Masaleet, Fallata and Dajo. Along the Kassala-Eritrea border, there are seven dominant tribal groups; Beni Amir and Hadandawa who are the indigenous groups, Masaleet, Gimish and Tama from western Sudan and Hausa and Fallata of West African origin. In terms of numbers, the Masaleet group is the largest in size, followed by Beni Amir and Hausa.

In both states the main settlers and users of the borders are predominantly non-indigenous and the original inhabitants of the area now constitute a tiny minority among the population.

Despite its rich resources, the population continues to suffer from high levels of poverty and food insecurity. The majority of the state population lives at subsistence level, sometimes achieved through diversification of livelihood strategies by engaging in wage labor, small-scale farming (for consumption) and animal husbandry. The continued expansion of mechanized farming schemes is becoming a problematic issues in the state as it disturbs the livelihood of small scale farming households and obstructs nomadic traditional livestock routes during their seasonal north-south movement. Another area of concern is the incursion of the Ethiopian army and Ethiopian gangs (*shifta*) into the Al Fashaga area and their threat to Sudanese farmers' lives (EDGE 2013).

The signing of the Eritrean brokered Eastern Sudan Peace Agreement (ESPA) on 14 October 2006, rather than a settlement of conflict in Eastern Sudan, was seen as an opportunity for a new impetus of recovery and development in the region. The signing of the agreement also marked the beginning of good and progressing neighborly relations between Sudan and Eritrea.

The main challenges facing Kassala today have been summed up by the "Consultative Forum for Sustainable Peace and Development in Eastern Sudan" (CFSPDES) (April 2008), as follows: Gaps and unequal distribution of basic services, poverty, environmental degradation, limited livelihood opportunities and a high population of refugees and IDPs in the state.

Sudan's border with its eastern neighbors, Ethiopia and Eritrea, has been a hot spot from the time of independence in 1956 to about a decade ago. The rebellions led by the South Sudan Anyanya 1 (1953-

1972), the Sudan People's Liberation Army (SPLA) (1983-2005) and the Eastern Front (1994-2006) have all had their backing from Sudan's eastern neighbors. Likewise, Sudan supported the Tigrayan People's Liberation Front (TPLF) and the Eritrean People's Liberation Front (EPLF), and the Oromo and Anuak rebellion against the regime in Ethiopia. After the Government of Sudan signing of the Comprehensive Peace Agreement (CPA) with the SPLA (2005), the East Sudan Peace Agreement (ESPA) with the East Sudan Front and the Cairo Peace Agreement with National Democratic Assembly (NDA) in 2006, relationships between Sudan and its eastern neighbors experienced an era of peace and stability and a progressive development in economic collaboration.

However, with the end of former animosities, new problems started to emerge directly affecting border communities and also triggering new regional dynamics. Most important of these are illegal and transitory migration, illegal trade and human trafficking, insecurity and armed groups incursions, economic losses and destabilization of livelihoods. The limited capacity of security forces to deal with human traffickers, and sometimes their collaboration with them, represents another threat to local communities. The transitory migration (mainly towards Europe), human trafficking and arms smuggling in east Sudan are now becoming a global concern.

In addition to the reasons within neighboring countries, some of the major motives for the explosion of these "new" problems, according to local groups, include (a) the policy adopted by the Sudan Government in its attempt to "buy-off" armed groups into peace deals with financial incentives; (b) the common belief in the region, particularly in Kassala, that by signing the ESPA, the Sudan government has tried to secure the interests of the Eritrean government, as a broker to the agreement, rather than attempting to win over the local population in the border area, who claim not to have enjoyed a peace dividend; (c) in Gedarif, border communities claim that the Sudan government is paying their economic interests (in Al Fashaga, which is an agriculturally rich area) as a price for its good neighborly relation with Ethiopia; and (d) the fact that bilateral economic collaboration strategies do not seem to have been designed to resolve underlying grievances of local communities, which diminishes the likelihood of their sustainability.

4. The Main Features of ICBT on the Eastern Sudan Borders

As shown in Table 2 below, informal trade represents the largest proportion of trade flow through Sudan's border with Ethiopia and Eritrea. According to official reports of the Custom Authority and Anti-Smuggling Forces, most traded goods passing through the Eritrean-Sudanese border in Kassala are informal imports. The main informal imports from Eritrea to Sudan are transit goods on which the Eritrean authorities impose taxes, which is inconsistent with international trade laws. The Eritrean government also refused to sign any protocols to organize border trade with Sudan. In contrast, most goods which pass through the Ethiopian-Sudanese border move through the formal trade because there is a bilateral trade agreement between the two countries and both countries abide by COMESA regulations.

Table 2: Formal and Informal Trade Volume 2013-2014 (US\$/millions)

Trade Flows	2013		2014					
	Kassala	Gedarif	Total	Kassala	Gedarif	Total	% change	
Total formal exports	256.16	38.83	294.99	173.19	36.5	209.69	(-29)	
Informal exports	180	33	213	150	30	180		
Formal exports	76.16	5.83	81.99	23.19	6.5	29.69		
Total imports	88.56	22.17	110.73	70.91	20.17	91.08	(-18)	
Informal imports	84	18	102	70	15	85		
Formal imports	4.56	4.17	8.73	0.91	5.17	6.08		
Overall trade balance	167.6	16.66	184.26	102.28	16.33	118.61		
Informal trade share			80%			80%		
Informal export share			72%			86%		
Informal import share			92%			93%		

Source: Reports and interviews with Customs Administration and Anti-Smuggling Force.

As Table 3 below shows, the main informally traded items are sorghum, wheat, onions, dates, flour, cement, petroleum products and electrical appliances. It should be noted that most of them are produced outside the two states (See Fig.1).

Table 3: ICBT Imported and Exported Goods

Imported Goods			Exported Goods				
Food Items	Manufactured Goods	Others	Food Manufactured Items Goods		Others		
Vegetables & fruits	Plastic products	Charcoal	Onions	Soap	Electronic equipment		
Dry beans	Handicrafts	Forest Products	Groundnuts	Plastic products	Electric appliances		
Tea & Coffee	Clothes	Sexual aids	Dates	Clothes	Agricultural machinery		
Fresh beans	Shoes	Animal feed	Fruits	Pharmaceutical Drugs	Spare parts (Agr. Machinery)		
Honey	Tailored textile material	Cosmetics	Fruit Syrup	Shoes	Fertilizers		
Spices		Alcohol			Gas Cylinders		
Meat		Small Arms			Fuel		
Dried fish							

Source: Unpublished Reports of ASF and Departments of Border Trade in Kassala & Gedarif.

The types of goods traded are quite similar to those traded in East African countries, where ICBT goods are basically staple food commodities (maize, rice and cattle) and low quality consumer goods such as shoes, clothes, electronic appliances and sometimes fake drugs (Lesser and Leeman 2009; Ogalo 2010). Regarding the origins of goods exported from East Sudan, about 55% in Gedarif and 65% in Kassala are produced in other Sudanese states. Only 5% of the goods crossing from Kassala, and just over 10% from Gedarif, have been confirmed to be locally made products.

4.1 Characteristics of Traders

Among the studied communities of the border areas, about 26% of households in Gedarif and 21% in Kassala are engaged in ICBT, with an average of 23.3% for the two states. Some officials reported that women and children in the border areas participate in ICBT, especially in Kassala, and their numbers are constantly growing.

Most of the border area groups who participate in ICBT have not completed basic education, although a few of them have secondary and university-level education. The latter groups are involved in both formal and informal sectors.

Regarding nationalities of border traders, in Kassala most participants are from local communities, whereas most of those involved in Gedarif are either foreigners (mainly Ethiopians) or Sudanese with out-of-state origins. As shown in Fig.2, nearly 83% of those engaged in ICBT in Gedarif and 93% in Kassala are Sudanese, 46% of them in Gedarif and 58% in Kassala (50% in both) are from border communities. About 21% of border traders in Gedarif are Ethiopians and 8% of traders in Kassala are Eritreans

The field survey also revealed that only around 11% of the heads of household in the two states engage in ICBT export. About 80% of the participants in ICBT in Gedarif and 62% in Kassala engage only seasonally, while the remaining 20% and 38% respectively are involved in informal trade all year round.

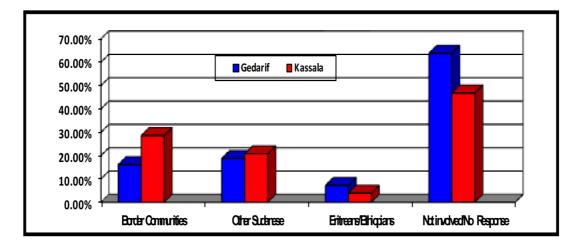


Fig. 1: Origins of Border Traders

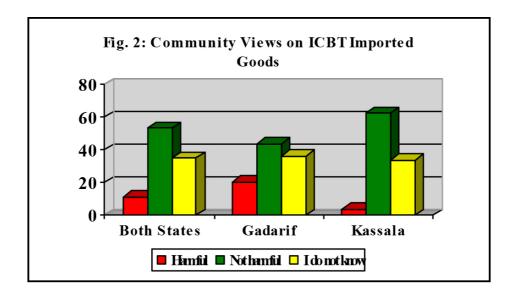
The above graph shows some differences from other sub-Saharan countries, where ICBT participants are both from the informal and formal sectors. While the informal firms, as expected, operate entirely outside the formal economy, firms and traders from the formal sector either fully evade trade-related regulations and duties by passing their commodities through unofficial routes, or they partially do so

by using illegal practices such as under-invoicing, misclassification of goods and mis-declaration of country of origin while passing their goods through official channels. One major area of similarity is that while the majority of participants use ICBT as a means of employment and income generation, the more educated who are well aware of the various trade regulations and custom provisions, resort to informal business including ICBT as a starting capital for engaging in business (Ogalo 2010).

4.2 ICBT Trends

Based on the estimates of the capital invested in ICBT activities and statements from traders, the executed transactions involve both small volumes transported by animals like donkeys and camels, as well as larger volumes and consignments transported by trucks, buses and small cars. The latter includes several activities that contribute significantly to employment on both sides of the border.

Over 60% of those interviewed claim that ICBT is expanding in the area whereas formal trading activities are in decline, and the vast majority stated that most of the imported goods are useful, compared to about 11.6% who consider them harmful, most of them in Gedarif (Fig. 3). Harmful goods are mainly drugs (*shashbandi*), alcohol and contraceptives, but none mentioned expired food, which is the main concern of custom authorities.



Over 75% of respondents in Kassala and 55% in Gedarif link the expansion in border trade to the decline in agricultural production or the shrinkage in cultivable land in the border area. Also 73% and 75% in Gedarif and Kassala respectively claim that there is a drop in the numbers of animals owned (mainly in Gedarif) and a deterioration in grazing areas (mainly in Kassala). While about 25% of households in Gedarif and 17% in Kassala claim not to have experienced any change in agriculture (the main activity in the border area), the majority pointed to the expansion of agricultural activities, a drop in production and decline of the cultivated area. Households experiencing low production are much higher in Kassala (61%), but very few referred to increases in agricultural activities (8%), mainly because of the low rainfall levels and the traditional methods of production. However, in Gedarif, where rainfall averages are much higher and mechanized farming is widespread, over 39% of households still experienced a drop in production, which is attributed mainly to rainfall variability and changes in duration and time of precipitation.

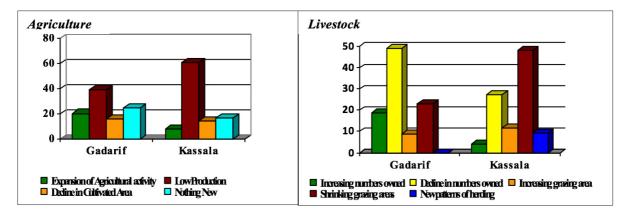
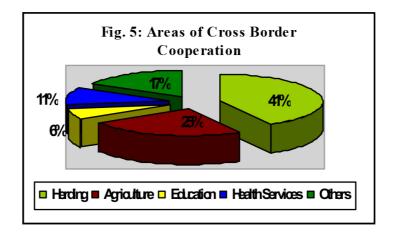


Fig. 3: Trends of Agricultural and Livestock Activities

It is important to note that the relationship between communities on the two sides of the border is much stronger in Kassala than in Gedarif because several of the tribes in Kassala—e.g., Beni Amir, Hadandawa and Rashaida—have part of their fellow tribesmen in Eritrea, while ethnic links are weak along the Gedarif-Ethiopian border.

Other than trade, which constitutes the predominant factor in the relationships of communities across the borders, there are other areas of cooperation, particularly between Kassala and Eritrean border communities. According to border community members, cooperation takes place in the areas of herding, agriculture and social services. In addition to pastoral movements from both sides, many of the Eritreans seek medical treatment in Kassala hospitals and some Eritrean youth join higher education institutions in the state (Fig. 5). Nevertheless, some 70% of households in Gedarif state and 57% in the Kassala border area claim not to have any relationships across the borders.

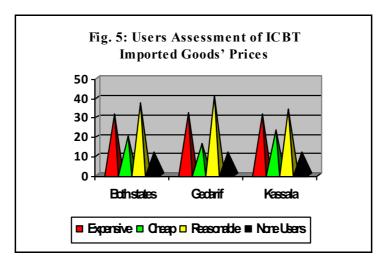


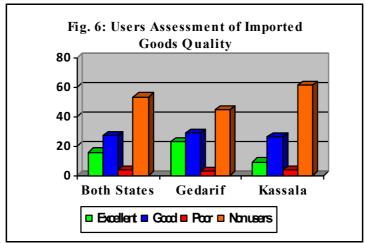
4.3 Border Community Views on State Border Trade Policies

Most of the respondents in Gedarif view state policies on border trade as inappropriate, while the majority of respondents in Kassala see the policies as suitable. This difference in views may be attributed to the stronger social relations across the border with Eritrea as well as the "turning a blind eye" policy adopted by the Sudan government towards ICBT along the Sudanese-Eritrean border during the last decade.

Overall, more than 50% of respondents in the two states confirm that policies related to cross-border trade are inappropriate and they seem to be encouraging informal border trade.

Survey results show that over 55% of households in Gedarif and 38% in Kassala admitted using consumer goods imported across the border from Ethiopia and Eritrea respectively. About 36% of those who use such goods in Gedarif and 31% in Kassala assess those goods as cheap or affordable, while 19% and 8% respectively in the two states claim that they are expensive (Fig. 6). Also 52% of border households in Gedarif and 35% in Kassala rate the quality of imported goods as good or excellent, whereas less than 4% of households in the two states describe them as below standards (Fig. 7).



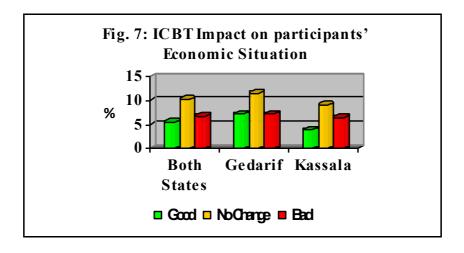


Based on the above, it is clear that the key determinants of type, intensity and content of ICBT in eastern Sudan are:

- the economic conditions along the border areas as ICBT represents an economic alternative for both poor and better off populations in the border areas;
- environmental conditions and the state of natural resources in the area;
- gaps in local demand, especially of imported goods, which, in particular, attract traders from outside the border communities;
- social relations between border communities on the two sides of the border which have a positive effect of expanding cooperation beyond trading activities; and
- the security and economic situation on the other side of the border.

4.4 The Impact of ICBT along the Eastern Sudan Borders

As illustrated in Fig. 8 below, about 19% of households in the border area of Gedarif and 13% in Kassala claim that ICBT has improved their economic situation, compared to 7.2% and 6.5% respectively in the two states that claim that it has a negative effect on them.



5. Results of the Logistic Model

The results of the econometric model, based on the "maximum likelihood method," presented in Table 4 below, was used in an attempt to quantify the factors that affect traders' engagement in ICBT. The results show that the model has a good explanatory power. The value of LR is higher and significant at 1%, implying that there is no serious econometric problem in the model. In general, most of the estimated coefficients carry their expected signs, particularly in relation to ICBT economic opportunities, demand gap of imported goods, social relations and livestock trends.

Contrary to the hypotheses and findings of many studies in East Africa (e.g., Titeca and Celestin 2012), government taxation policies and procedures have insignificant effects on informal cross-border trade. This result was confirmed by custom officials who held meetings with ICBT participants to determine problems preventing them from joining formal trade, but with no response or results. However, this outcome may be a result of the Sudan Government policy, which allows free movement of goods to Eritrea without any restrictions, adopted after the signing of the East Sudan Peace

agreement (ESPA) in 2006. Such "blind eye policy" in fact has helped realize the economic opportunities inherent in ICBT, such as ease of entry, profitability and price differential which for traders constitute the attraction of ICBT, rather than any specific government policies and procedures. From the other side, in Eritrea, the government facilitation of the ICBT has been an important encouraging factor.

Table 4: Binary Logistic Regression (Dependant Variable: Border Trade)

Independent Variables	(B) coefficient	Std Error	Prob	R2	LR	Obs
С	-11.67405 ^(b)	5.269519	0.0267			
Economic opportunities in ICBT	13.04490 ^(a)	2.977791	0.0000	0.00	139.26	146
Demand gap of Commodities	-23.80717 ^(a)	6.082649	0.0001	0.88	Prob(0.00)	
Commodities Price	0.396440	0.641996	0.5369			
Quality of Commodities	10.19618 ^(a)	2.394137	0.0000			
Duration of ICBT along the year	-4.561387 ^(b)	2.151453	0.0340			
Quality of Export	0.296509	0.850201	0.7273			
Social Relations	6.776474 ^(b)	2.797494	0.0154			
Government Policies	0.345954	0.672528	0.6070			
Agriculture Trends	-0.882143	0.563757	0.1176			
Livestock Trends	1.452694 ^(b)	0.664942	0.0289			

Note: (a) and (b) indicate significance at the 1% and 5% levels respectively

6. Conclusion

- 1. Informal trade constitutes a significant portion of cross-border trade in East Sudan and for several goods the volume of informal flows very much exceeds formal trade flows.
- 2. All indicators suggest that ICBT is expanding faster at the expense of formal border trade. Social relations between communities on the two sides of the border, particularly along the Sudanese-Eritrean border, corruption among officials, demand gap of some basic consumer goods, the state failure to guard the long borders, and the policies adopted by the Sudanese and Eritrean governments, all contributed to the flourishing of ICBT.
- 3. Although, the majority of traders engaged in ICBT are adult males, dealers in ICBT are quite heterogeneous including females, children, illiterates and university graduates, rich and poor, different tribes and different nationalities.
- 4. For border communities, ICBT has a positive effect on their economic situation through raising income, creating employment and providing goods at affordable prices.
- 5. Other than the loss of revenues for the state, ICBT contributes directly to the creation of scarcity in some basic goods, especially in Kassala. Besides, according to Sudanese officials interviewed in the two eastern states, some of the goods informally imported negatively affect local products and state revenues, are expired and do not meet acceptable standards. However, this view is not shared by the majority of the border population, who are among the first users of those goods.

- 6. The Sudan government policies towards ICBT in East Sudan seems to be motivated by political considerations rather than any economic assessment of its value.
- 7. Although ICBT may have negative impacts on economic development in the long run, it has become a successful economic alternative for border communities who lost their sources of livelihood as a result of drought and/or political instability.

7. Recommendations

- 1. ICBT needs to be adequately assessed and addressed through appropriate policies, which maximize its benefits and minimize its negative effects. Further studies should address the following questions: What is the level of income generated from ICBT compared to the losses? What is the economic impact of ICBT on border communities as compared to the overall losses to the state? What type of procedures should be amended and what level of duties should be levied to attract participants of ICBT to formal trade? What was the role of the national trade liberalization policies in the expansion of informal border trade? And what is the contribution of big traders, social networks and corruption among public officials to the flourishing of ICBT?
- 2. To establish efficient and effective border trade policies, the central government needs to generate accurate and systematic data that would allow precise cost-benefit assessment of ICBT in order to design evidence-based and informed policies.
- 3. Government policy towards ICBT, should take into account the specific characteristics of various groups involved in ICBT and the obstacles faced in formal trade procedures.
- 4. To combat problems generated by ICBT, the government should address the factors that caused its growth and not harm the participants who are trying to make a living.
- 5. Informal border trade can be reduced through state initiation of cross-border policy dialogue, reducing formal trade transaction costs, simplifying procedures, and offering technical assistance and support to formal traders. "Creating a supportive environment for the informal traders could be the start of a successful process of formalization of the informal traders. This will enable the countries to collect better information of the goods, values and quantities traded amongst them, hence improving the planning and decision-making of the EAC countries" (Ogalo 2010).
- 6. Collaboration between neighboring countries is necessary to organize border trade and mutual benefits between border communities on both sides.

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Annex

For identifying the determinants of ICBT, the logistic model (logit) was used to estimate the probability of traders' engagement in ICBT. Traders were classified in two categories: trader engaged in ICBT and those who are not. The dependent variable set as (1) if the trader is engaged in ICBT and zero if he is not. The logit linear probability model was estimated employing the maximum likelihood method. The binary logit estimated model

$$P_i = E(Y = 1 | X_i) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$$
 (1)

Where

 P_i is the probability of a trader engaging in ICBT and X_i is the set of explanatory variables.

The cumulative logistic distribution function is specified as follows:

$$P_i = f(Z_i) = \frac{1}{1 + e^{-(\alpha + \sum \beta_i X_i)}} = \frac{1}{1 + e^{-Z_i}}$$
 (2)

Where: e denotes the base of natural logarithms, which is approximately equal to 2.718, α and β are coefficients to be estimated², and $Z_i = \alpha + \sum \beta_i X_i$

Here Z_i range between $-\infty$ and $+\infty$.

Writing the logit model in terms of odds, allows us to understand the interpretation of the coefficients. The odds ratio means the ratio of the probability of individual engagement (P_i) to the probability of not joining ICBT (1- P_i)

$$(1-P_i) = 1 - 1$$

$$1+e^{-}Z_i$$

$$= 1+e^{-}Z_{i}-1$$

$$1+e^{-2i}$$

$$= e^{-}Z_{i}$$

$$1+e^{-}Z_{i}$$

$$P_i = e^{-}Z_{i}$$

$$1-P_i$$
(3)

Taking the natural logarithm of equation (3) we obtain

$$z_i = Ln\left(\frac{P_i}{1 - P_i}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k \tag{4}$$

To put the logit model in econometric form, we added error to equation (4)

$$z_i = \alpha + \sum_{i=1}^k \beta_i X_i + \mu_i \tag{5}$$

The independent variables are the set of factors hypothesized to cause engagement in ICBT. Thus, the econometric model is formulated as follows:

$$Yi = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta \beta 6X6 + \beta 7X7 + \beta 8X8 + \beta 9X9 + \beta 10X10$$

Where

Y is a dependent variable;

X1: Economic opportunities inherent in ICBT;

X2: Demand gap of imported commodities in local market;

X3: Commodity price;

X4: Quality of imported goods;

X5: Duration of ICBT along the year;

X6: Quality of exported goods;

X7: Social relations among border communities on both sides;

X8: Government policies related to taxation and other trade procedures;

X9: Agricultural trend; and

X10: Livestock trend.

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Informal trade in pre-colonial Africa, sometimes in the form of barter, was one of the mechanisms of social interaction between various ethnic groups and jurisdictions. It was an alternative to the state of hostility and a means of economic complementarities, particularly between nomadic and farming groups. With the appearance of political and administrative boundaries, levies and duties under colonial rule, informal trade became a way of reducing costs of traded items through the evasion of taxes, customs and other official charges. However, in some cases it was also a form of resistance to colonial rule and a refusal of recognition of what were considered as artificial borders. Informal cross-border trade (ICBT) was also used in some countries (e.g., South Africa) to dismantle the predominance of colonial structures (Mijere n.d.).

The programme Assisting Regional Universities in Sudan and South Sudan (ARUSS) aims to build academic bridges between Sudan and South Sudan. The overall objective is to enhance the quality and relevance of teaching and research in regional universities.

As part of the program, research is carried out on a number of topics which are deemed important for lasting peace and development within and between the two countries. Efforts are also made to influence policy debates and improve the basis for decision making in both countries as well as among international actors. ARUSS is supported by the Norwegian Ministry of Foreign Affairs.

