

## Socio-Economic factors affecting Sheep Value Chain Actors in Sudan

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### ABSTRACT

This study was conducted in Elkhwei, Elnhud localities in west Kordofan state, and Omdurman locality in Khartoum state with the aim of studying socioeconomic factors of age, marital status affecting the value chain actors of sheep in Sudan. The study targeted 300 respondents` sample size stratified randomly as producers, wholesalers, retailers, and processors to collect field data using questionnaires, group discussions, and interviews. The acquired data were analyzed to determine how socioeconomic factors affect the value change actors involved in sheep breeding and marketing. For the targeted socioeconomic factors of age, marital status, and education it was found that the majority of the producers and retailers tend to be younger as breeding and transporting sheep to markets requires toughness and agility of youth. The analysis showed value chain actors in case of marital status the majority of retailers are single and that can be attributed to their low income compared to other actors. On the other hand, the majority of producers, exporters, and processors are married. Also, it was found that most of the producers were less educated compared to the other actors. Graduates were dominant among retailers and wholesalers, but none of the processors attained graduate level.

### KEYWORDS

Socio Economics, Sheep Export, Value Chain, Sudan Sheep

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Sheep a predominant export animal is Sudan (Ibrahim *et al.*, 2016) and plays a remarkable role in many aspects in the livelihoods of Sudanese people. In addition, it provides the country with foreign currencies; as mutton and live animals that are exported annually (Dirani, 2007). In Sudan, the sheep population is estimated at 40.8 million heads accounting for 37.6% of the total livestock population (Ali, 2020) of which about 90% owned by traditional producers (Dirani, 2007). The main breed type of sheep raised as livelihood and economical assets is the Desert sheep that are bred under a nomadic system. The main desert sheep breeds are Ashgar and Dubasi in Gezira State and

Kabashi and Hamry in Kordofan region. There are also the arid upland and West African breeds in Darfur region (Babiker *et al.*, 2011). Sheep in Sudan is not adequately market-oriented, and there is no clear strategic sheep production for marketing except few merchants in Western, Eastern and Central Sudan used to export sheep (Gornas and El Hussein, 2012). Sudan exports live animals, meat, hides, and skins to Arab, African, European, and Asian countries. In 2018, 63% of all live animal exports were to Saudi Arabia, 34 percent to Egypt, two percent to Qatar, and a minor share to Bahrain, Kuwait, and Lebanon (World Bank, 2020).

Saudi Arabia is the main importer, absorbing about 95% of the Sudanese live sheep and mutton exports. In spite of the great potentials and the advantages of being near the Gulf markets, Sudan's market share in live sheep exports to Saudi Arabia remains low, representing about 29% of the Saudi market for live sheep (Elrasheed *et al.*, 2010). The European countries are the main market for hides and skins (Gornas and El Hussein, 2012). Socio-economic factors have an effect on animal management, decision-making, and the general perception of the breed and species of farmers. They are the basic characteristics that should be included in investing in livestock systems (Rota, 2016). Without a good understanding of these factors, it would be very difficult to persuade the local farmers to participate and cooperate in breeding programmers (Mogashoa, 2015). So, there is a need for understanding the social dynamics likely to play a determining role not only in value-chain participation but also with respect to the extent to which all actors benefit from participating in the chain (Guthiga *et al.*, 2017). Arising from this concept the study targeted the live sheep actors with data collection tools done in value chain mapping and analysis such as questionnaires, group discussion, and key informants (FAO, 2019) to draw out socio-economic information that was analyzed accordingly.

## Materials and Methods

This study was conducted in Elkhwei, Elnhud locality in Western Kordofan State, and Omdurman locality in Khartoum State. West Kordofan State is one of the 18 states in Sudan and it has 14 localities with a total area of 111,373 km<sup>2</sup> and Al-Fulah is the capital of the State. Elkhwei locality is located southwest of Kordofan. It has a series of mountains. The locality is rich in fodder and water, particularly during the rainy season. Due to the scarcity of water and grazing grasses, the nomads begin seasonal migration especially in summer to the Southern localities of the state where water and grazing are abundant. In winter, the sheep graze on watermelons. Khartoum State is located at the confluence of the white and Blue Nile. It is bordered by the River Nile State on the northern side and in the eastern side by Northern State. In the north-western side by Kassala, Gedarif States, by Al-Jazeera States in the eastern and south-eastern

sides, by Kordofan State in the western side, and in the south by White Nile State. It covers an area of about 28,165 km<sup>2</sup>. The study was based on both primary and secondary data sources. A field survey was conducted during July- September 2018 based on a stratified random sampling method with a total sample size of 300 respondents who were classified as strata of 150 respondent's producers, 50 respondent's retailers, 50 respondent's wholesalers, 25 respondent's processors, and 25 respondent's exporters. The study used descriptive statistics, and value chain analysis. Analytical programs applied for the analysis included Excel and Statistical Package for the Social Scientist Programs (SPSS).

## Results and Discussion

The results displayed in fig (1) shows that 28.6%, of the producer's age, ranges between 31-40, and 29.3% between 41-50 years. The results reflected that the producers engaged in sheep rearing are relatively young. From the interviews and questionnaires, it appeared that the producers aging 31-50 are the majority. The producers and retailers are similar in their ages. Their work is hard, such as receiving and transporting sheep to markets that take many days, maybe up to three weeks walking on foot. Therefore, such work requires young and strong people. Also, there are no actors younger than 21 years old among the wholesalers as this activity requires capital that younger generations may lack to start a business.

This is fairly consistent with the work of (Aburi, 2012) in studying the meat value chain in South Sudan where the majority of respondents (butchers) are young men who have an age of fewer than 35 years old, of whom 45% have an age range of 25 to 35 years old, followed by 32.5% respondents who have age less than 25 years old, and 17% of the respondents have an age range of 36 to 45 years old, while those within the age range from 46 to 55 years represent 5% of the respondents. Moreover, those who are younger than 30 years old are dominant among producers. Also (Nkonki-Mandleni *et al.*, 2019) found that the majority of the respondents among smallholder cattle and sheep farmers in the Free State province of South Africa comprised of adult small holders cattle and sheep farmers between the age of 38 and 57.

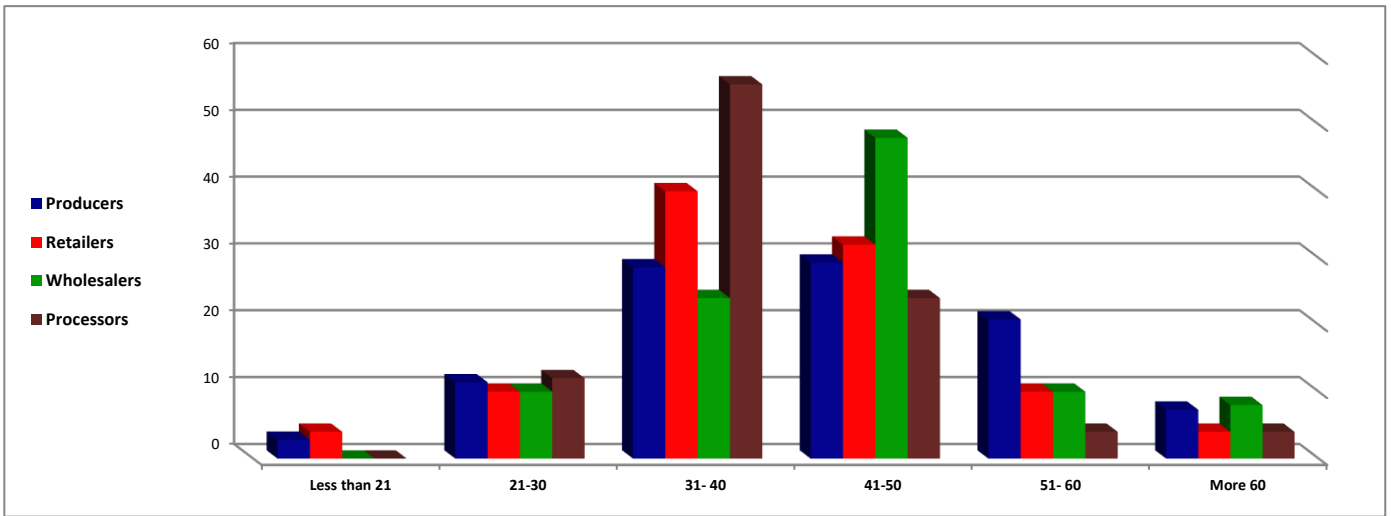


Fig 1. Age of value chain actors

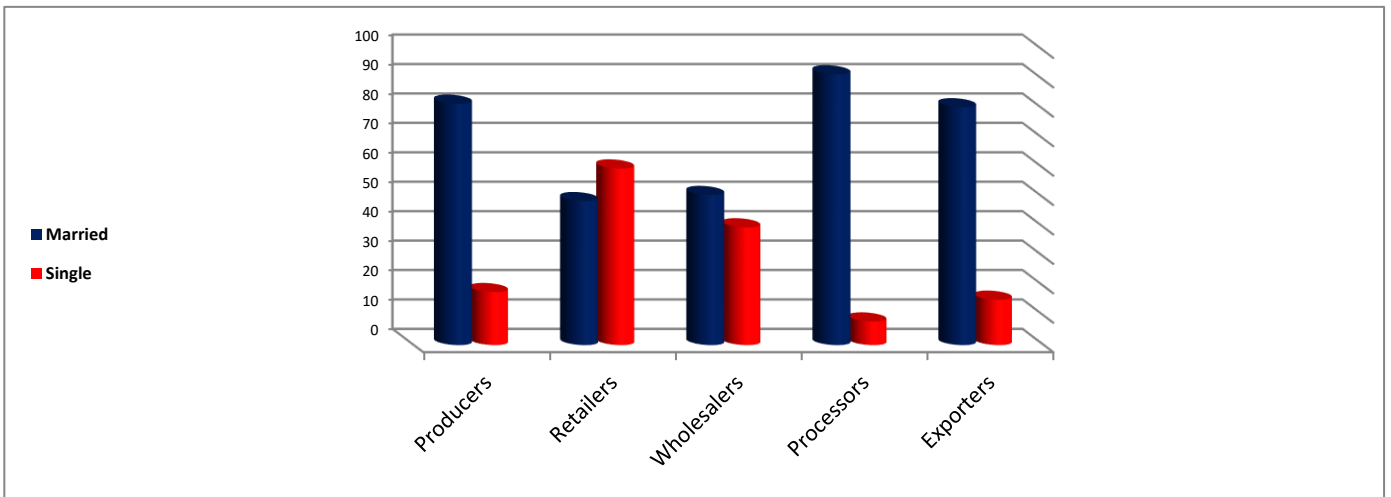


Fig 2. Marital Status of value chain actors

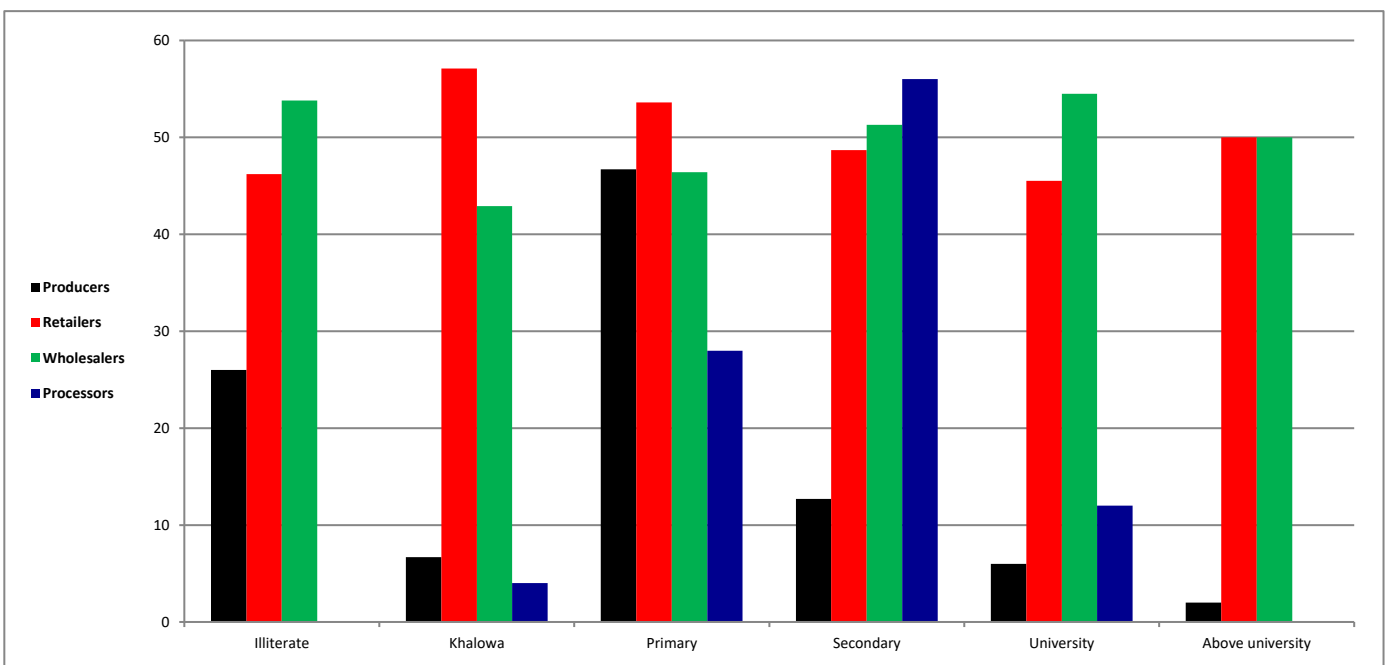


Fig 3. Education level of value chain actors

It was noticed that the wholesalers who aging between 41-50 years are dominant. Moreover, the majority of producers fall within the age category of 31- 40 years, and this is because the nature of their job is tough, requires young people. This is quietly consistent with the work of (Mueller *et al.*, 2017) through studying small ruminant owners and trade along small-ruminant value chains in the Ethiopian highlands where found are men typically aged between 25 and 65 years. Considering figure 2, the results showed that 82% of the producers are married, while 18% are single. Also 92% of the processors are married, and 15.4% are single. According to fig (2), it is noticed that the majority of producers are married compared to others categories and this is greatly attributed to their high income.

This is consistent with the work of (Dilebo, 2020) studying sheep value chain in Sidama Zone in Ethiopia as it was found that of the total sheep producers interviewed, 9% were single, 84.3% were married and the rest 6.7% were widowed. It is clear that the majority of the retailers are single and that can be attributed to their low income compared to wholesalers, producers, processors and exporters. Also, it is interestingly observed that the difference between married and single is quite big among the producers, processors and exporters as the single members of the respondents are fewer than the married respondents. Retailers and wholesalers have a small difference between the numbers of single and married members, as shown in fig (2).

This may suggest the fact that sheep retailing and wholesaling are not quite well jobs to encourage persons to form their own families. From fig (3), it is clear that the education factor is one facet of the socio-economic factors that influence sheep value chain actors. The majority of the producers engaged in sheep rearing got a low level of education. According to the fig (3), graduates are dominant among retailers and wholesalers, and this may be attributed to the nature of work that requires considerable awareness. It is noticed that illiterates and primary levels are dominant among producers and that can be attributed to the fact that sheep rearing is a household traditional activity led by the father, and small boys may leave the schools to assist his father.

Commonly, this is the mode of life among the nomads and those who live in the villages in the countryside, as they may care less about education. It appears that education levels have some sort of balance among retailers, particularly the Khalowa (A place where small children learn Quran) and secondary school. However, graduates, Sudan certificate level, and primary education who work as wholesalers are dominant. These people join the job of wholesaling as an alternative career option after getting education and skills, as such job which requires a good deal of learning to be successful.

This is quite near to what was reached by (el Dirani *et al.*, 2009) through studying the structure and performance of domestic and export markets for live sheep and sheep meat in Sudan, where 48% of the sample traders at terminal markets were illiterate and 40% had pre-primary or primary level education compared to 38% and 36% respectively at the primary and secondary markets. It is noticed that there is no postgraduate among the processors and this could be attributed to the nature of processing as it concentrates on physical skills rather than intellectual skills. The job prestige does not attract many postgraduates to adopt it as a good source of income. Results from fig (3) showed that producers about 26% are illiterate, and also 46.2% of and 53.8% of the wholesalers are illiterate, while 50% of the retailers and 50% of the wholesalers as graduates.

## Conclusion and Recommendation

This study focused on socio-economic factors of age, marital status, and education as factors affecting the value chain actors of sheep in Sudan. It determined how the four actors, namely the producers, retailers, wholesalers, and processors were influenced by the socio-economic factors studied (age, marital status, and education) and how these factors shaped the lives of these actors. The study concluded that the majority of the producers and retailers are similar in their ages; they tend to be younger, falling within the age category between 31-40 years. Usually, the youth who can perform such heavy-duty jobs requires young, strong, and patient individuals, only a few individuals within the age category of 41-50 engaged in such tasks.

Also, the capital determines the age of actors as there are no younger actors less than 21 years old among the wholesalers. As the wholesaler's individuals aging 41-50 years old are dominant for, they would be accessed to the capital and experience by this age, and their numbers reduced in the age category of over 51 years and that could be attributed to aging. For marital status, it can be concluded that the value of the chain determines the actor's marital status as the majority of retailers are single and that can be attributed to their low income compared to other actors. Whereas, the majority of the producers, exporters, and processors are married compared to other actors and this may be attributed to their high income and high value of the chain they act in. Also, it is important to mention that the married individuals from the wholesalers are meagerly more than the single ones suggesting the fact that sheep retailing and wholesaling are not quite well jobs to encourage persons to form their own families. These are the concepts of traditional societies, particularly in Sudan.

As far as the education influences on socio-economic factor concern, it can be concluded that most producers have lower education level. Graduates are dominant among retailers and wholesalers and this can be attributed to their nature of work that requires considerable awareness. Moreover, for the wholesalers, this class is dominated by the secondary and primary school. But no graduate was shown among the processor because the nature of the task just requires physical skills rather than intellectuals. Based on the above-mentioned facts, further studies are recommended in line with socio-economic factors affecting the actors of the live sheep value chain in Sudan in terms of socio-economic activities of herders as the base point of the chain, the exporters as the driving locomotive of the sheep production and trading.

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