

EVALUATION OF REHABILITATIONS OF LIVESTOCK MARKETS FOR RURAL DEVELOPMENT PROJECT THE CASE OF REHABILITATIONS FOR DAMAZINE AND SINJAH LIVESTOCK MARKETS

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Abstract: The main objective of this paper was to study the impacts of the Improving Livestock Marketing Project (ILMP) which aimed at improving the marketing efficiency by rehabilitation of Sinjah and Damazin livestock markets in Blue Nile and Sennar States. The study was based on both primary and secondary data. Questionnaires and interviews with Locality Implementation Unites officers were used as primary data. The markets intermediators were targeted, while secondary data were obtained from different sources related to the study area. Descriptive statistics analysis and calculation of the marketing margins were used as tools of analysis. The study revealed that the project have great impacts on intermediators and surrounded area because it improve access to regular updates on animal prices information, increase marketing deals, increase beneficiaries outputs and income, created jobs for surrounding communities which acted to improve their livelihoods and reduced poverty. Ministry of Livestock, Fisheries and Rangelands (MLFR) through Multi Donor Trust Fund (MDTF) for the development and rehabilitation of livestock markets is commendable and recommended that, MLFR should consider the challenges in marketing systems specifically on market management to make these rehabilitated markets more attractive. Livestock markets management and market's board should work to decrease the number of intermediators involved in livestock marketing for the benefit of the primary producers.

Keywords: Livestock market, rural development; poverty reduction; Sinjah; Damazin.

I. INTRODUCTION

Marketing is defined as the series of services involved in moving a product or a commodity from the point of production to the point of consumption [7] [6]. The tasks and responsibilities of marketing were summarized as a process of finding a buyer and transferring ownership, assembling, transporting, sorting, packing and processing of the product to the customers beside providing and presenting the finance for marketing, risk-bearing and assorting to consumers [1].

Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large [2].

The livestock marketing system starts with the primary producer and moves through various stages of middlemen to wholesale, retail, and export outlets. Sudan's major livestock markets (except Kosti) operate on a "silent auction" system whereby the price for livestock is negotiated by a broker who communicates separately with a buyer and seller.

Animals are sold by group prices (not by weight), and the purchase price is known only to the buyer, seller, and broker [4] [3]. Supplies at terminal markets vary seasonally and are affected by armed conflict, environmental conditions, and political instability. Major production areas are generally 600-1,400 km from terminal markets, to which livestock are transported on hoof, by truck, or on rail. The primary producer may receive as little as one-eighth of the export (free on board) price [14].

The marketing system in Sudan is dominated by middlemen (brokers). Some of these brokers may work as independent small-scale traders (Jelaba) and some as agents (wakils) or sub-agents for the big traders [3]. The brokers collect cattle and [small ruminants] from the scattered villages and sell them to another broker in the primary markets. The second broker may sell to a third broker in the same market or in a secondary market and this process goes on until the livestock are bulked into larger lots and reach the terminal markets. The final transaction in the terminal markets is also processed through brokers. Agents or sub-agents also organize the trekking of cattle to the terminal markets for the big traders. Livestock are said to change hands a minimum of two and a maximum of six times between points of purchase and the final point of sale. At the final point of sale, animals are transported to Port Sudan for live export or slaughtered for domestic consumption or export.

The role of middlemen is widely perceived as a weakness in Sudan's marketing system, hurting producers, consumers, and exporters alike. Producers generally sell when they need cash, but under the current marketing system payments to producers are often deferred. Traders and brokers pass the risks of livestock sales to producers, who are paid only after a final sale, but sometimes not at all [3]. Producers also may lack information about prices at the terminal market or internationally that could inform their decisions to sell animals. Consumers are believed to suffer because middlemen (and taxes) are blamed for unnecessarily increasing the cost of meat in livestock-rich Sudan. As noted by [14]: Five major traders have traditionally dominated the terminal livestock markets in Sudan. While this is typical of many livestock markets in the world, the government's recent decision to give export authority for Sudan's trade with Gulf countries to only one trader has changed substantially the dynamics of both the domestic and export trade to the detriment of the producer because competition for export

quality animals has been weakened. This change in the export marketing arrangements for livestock to Sudan's main customers from a competitive one to a monopoly will have immediate and long-term detrimental effects on Sudan's livestock producers and cannot be justified on any basis. Those who will suffer most will be the poorer small scale producers [5].

Damazin livestock market (DLM) is found in the Blue Nile state while Sinjah livestock market (SLM) is found in Sennar states. The two markets are located in rain-fed rural areas. The Ministry of Livestock Fisheries and Rangelands with Multi Donor Trust Fund (MDTF) and Government of National Unity (GoNU) seek to achieve rural development in selected rain-fed areas of Central and Eastern Sudan. among other projects the Improving Livestock Marketing Project (ILMP) was implemented in the Blue Nile and Sennar States, Damazin and Sinjah markets were targeted . The project was implemented in two phases: the first phase followed by a midterm review extended for two years and the total cost was US\$ 7.7 million; the second phase cost was US\$ 12.3 million. The project came in effect on 08/29/2007 and closed on 06/30/2013 [15].

The objective of the project was to improve livestock marketing by demonstrating different ways to deliver services and improve rural communities' livelihoods and development. Initially ILMP aimed to rehabilitate two livestock markets. The project support included civil works and equipment to improve markets infrastructure, technical assistance to the Project Coordination Unit (PCU) and the Locality Implementation Unites (LIUs) in the selected areas to prepare tenders for market management, private sector and communities were helped in bid preparation and operating/managing markets, selected market operators were

trained to efficiently manage markets and the locality staff to deliver inspection services, mobilize livestock owner/trader groups and provide training on market price analysis, group marketing, and animal health requirements. The established livestock marketing groups were provided with the basic communication equipments to disseminate market prices and information [8]. Also the rehabilitation process included the establishment of Livestock Market Boards, composed by traders, producers and locality representatives. The project included support to build capacity through study tours [9].

This paper focused on ILMP outcomes with the aim of evaluating the impacts of the project on the beneficiaries.

II. MATERIALS AND METHODS

A. Study area

This survey was conducted from April to September 2014 in Damazin livestock market (DLM) in Blue Nile State, and Sinjah livestock market (SLM) in Sennar State. Sennar State is part of the Blue Nile region located in south-east Sudan. The state borders Blue Nile State, Al-Jazira State, White Nile State, and Gedaref State and the international border with Ethiopia and South Sudan. It has an area of 37,844 km² (14,612 sq miles) and population of approximately 1,532,085 (2006 census). The main economic activity is agriculture. The state encompassing the irrigated scheme of Suki, [11].

The Blue Nile State is found in the south-east of Sudan, bordering Sennar State, and shares an international border with Ethiopia and South Sudan. It has an area of 45,844 km² (17,700 sq miles) and population of 832,112 according to 2006 census. Its economic activity is based upon agriculture and livestock and increasing mineral exploitation [11].

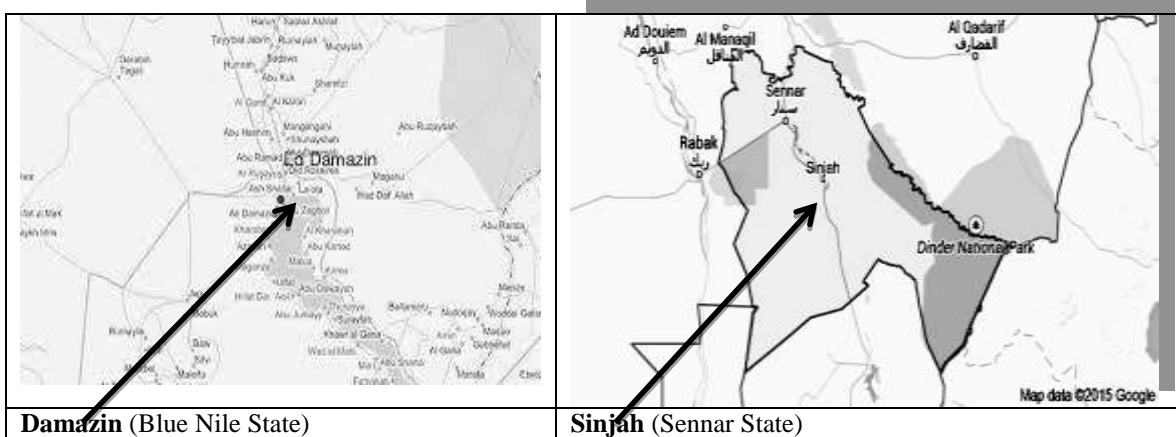


Figure1. Blue Nile and Sennar States Maps.

B. Data Collection

Data were gathered from various secondary sources like Improving livestock Production and Marketing Project (ILPMP) reports, World Bank (WB) reports, research papers, articles etc. Primary data were collected by executing field distinct parts; livestock market information, intermediary's characteristics, Marketing information and the impact of the project.

Tools of analysis

Statistical analysis was conducted using SPSS version 20 software for windows. Descriptive statistics were provided, Microsoft office Visio 2007 was used to explain marketing channels. Marketing margins measurements were used to examine the marketing efficiency.

survey using questionnaire, and personal interviews with the LIUs officers.

A total 67 intermediators operating in Damazin and Sinjah livestock markets were interviewed using questionnaires. Each questionnaire comprised four

Calculation of Marketing Margins

For calculating marketing Gross margins the following equations were used

Variable costs these are costs of feed, water, labor and vaccinations...etc.

Revenues it is the money she or he earns by selling the produce, plus selling by-products or waste.

III. RESULTS

All the intermediators in Sinjah Livestock Market (SLM) and Damazin Livestock Market (DLM) are males their age range from 41-50 years, illiteracy was more dominant in DLM (66.7%) than in SS (35.1%) (Table 1).

$Gross\ income = Revenue - Variable\ costs$
$Gross\ margin = Gross\ income \times 100 / Revenue$

$Added\ value = Price\ received\ by\ actor - Price\ paid\ by\ actor$
$Value\ share = Added\ value \times 100 / Final\ retail\ price$

Source: KIT and IIRR, 2008

Table1. Characteristics of intermediators

Parameter	SLM		DLM		
	Frequency	Percent	Frequency	Percent	
Gender	Male	37	100.0	30	100.0
	Female	0	00.0	0	00.0
	Total	37	100.0	30	100.0
Education Background	Illiterate	13	35.1	20	66.7
	Primary	16	43.2	4	13.3
	Intermediate	5	13.5	2	6.7
	Secondary	3	8.1	3	10.0
	University	0	00.0	1	3.3
	Total	37	100.0	30	100.0
	Total	37	100.0	30	100.0
Age Groups	20-30	4	10.8	3	10.0
	31-40	8	21.6	8	26.7
	41-50	17	45.9	10	33.3
	51-60	6	16.2	8	26.7
	<60	2	5.4	1	3.3
	Total	37	100.0	30	100.0

In DLM more than 35% of respondents deal with cattle as the main type animal, some (23.4%) deal with sheep, and 16.7% deal with cattle and sheep together. In SLM 29.7 % deal with cattle, sheep & goat collectively and 29.7% of them deal sheep and goats without involving in cattle marketing (Table 2).

Self- finance was the main source for the marketing operations, 96.7% and 89.2% of the respondents in DLM and SLM respectively depend entirely on themselves (table 3).

Table 2 Types of Animals in Damazin and Sinjah Livestock Markets

Animal type	SLM		DLM	
	Frequency	Percent	Frequency	Percent
Cattle	6	16.2	11	36.7
Sheep	7	18.9	7	23.4
Goat	0	00.0	1	3.3
Cattle & Sheep	2	5.4	5	16.7
Cattle & Goat	0	00.0	1	3.3
Sheep & Goat	11	29.7	4	13.3
Cattle, sheep & Goat	11	29.7	1	3.3
Total	37	100.0	30	100.0

Table3. Source of Fund for financing the Marketing Operations in Damazin and Sinjah Livestock Markets

Source of Fund	SLM		DLM	
	Frequency	Percent	Frequency	Percent
Self-finance	33	89.2	29	96.7
Self-finance and Loans	4	10.8	1	3.3
Total	37	100.0	30	100.0

Most of the marketing activities are directed towards local market, 90.0% and 62.2% in markets respectively, yet 37.8% and 10% of the marketing operations in SLM and

DLM respectively involved livestock export among which about 15% were directed towards export only (Table 4).

Table 4. The Orientation of the Marketing Operations in Damazin and Singa Livestock Markets

	SLM		DLM	
	Frequency	Percent	Frequency	Percent
Export	4	10.8	1	3.3
Local Market	23	62.2	27	90.0
Local Market & Export	10	27.0	2	6.7
Total	37	100.0	30	100.0

The survey result indicated that 86.5% and 63.3% of respondents were operating in SLM and DLM respectively before the inception of the project, while the rest started

their activities during the implementation of the project (table 5).

Table 5. Duration of involvement in Marketing Activities

	SLM		DLM	
	Frequency	Percent	Frequency	Percent
Before the Beginning of the Project	32	86.5	19	63.3
During the implementation period	5	23.5	11	36.7
Total	37	100.0	30	100.0

Figure 2. Describes the marketing channels of the livestock in the two markets. The marketing channels start from the producers to village traders and/or to middlemen, other channel from producers to wholesalers directly. Also

middlemen can sell to village traders and/or to the wholesalers. From wholesalers to retailers and/or to consumers, or to the exporters. So the existed marketing channels as in figure 2.

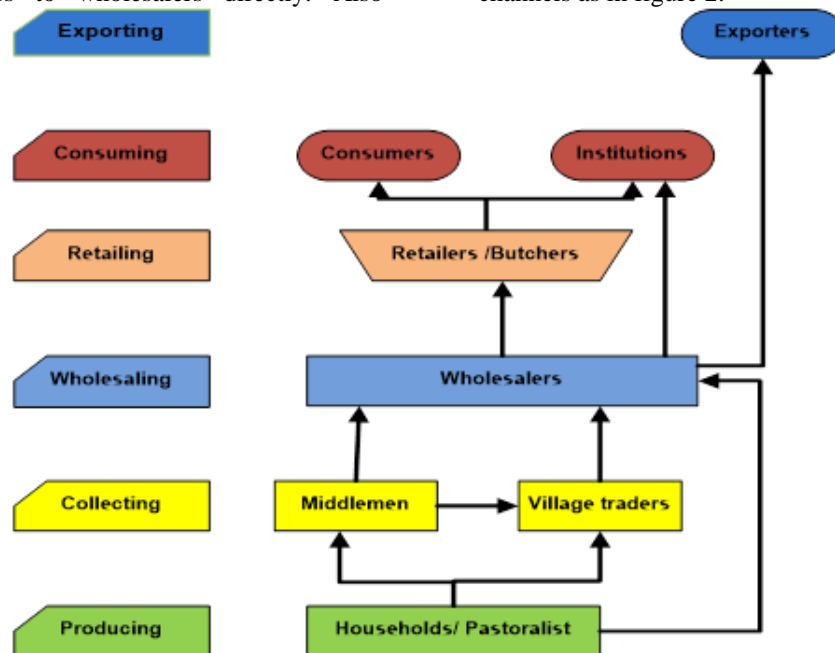


Figure 2. Marketin channels - Source: Field survey 2014

From the findings 59.5% and 33.3% of respondents pointed that they received extension and awareness services in SLM and DLM respectively. 6.7% mentioned that they received training services in DLM (table 6). Also survey results revealed that 70.3% and 56.7% of the respondents they are pointed the veterinary services at-emergency of cases in

SLM and DLM respectively, and 8.1% in SLM and 13.3% in DLM pointed there are permanent supervision, 10.8% and 6.7% of respondants explained there is regular supervision in SLM and DLM respectively, and 10.8% in SLM and 23.3% in DLM pointed no veterinary services in livestock markets, (table 9).

Table 6. Services Received in Livestock Markets

	Type of service	SLM		DLM	
		Frequenc y	Percent	Frequen cy	Percent
Capacity building	Extension and awareness	22	59.5	10	33.3
	Training	0	0	2	6.7
	Total	37	100.0	30	100.0
Veterinary services	Permanent Veterinary supervision	3	8.1	4	13.3
	Regular Veterinary supervision	4	10.8	2	6.7
	At-emergence of cases	26	70.3	17	56.7
	NoVeterinary supervision	4	10.8	7	23.3
	Total	37	100.0	30	100.0

75.7% of the respondents in SLM described the rehabilitation of livestock markets as an excellent; while

60.0% of the respondents in DLM described it as fair as shown in table 7.

Table7. The Beneficiaries Opinions about the Benefits Gained from the Rehabilitation of the Markets

	SLM		DLM	
	Frequency	Percent	Frequency	Percent
Excellent	28	75.7	3	10.0
V. good	8	21.6	3	10.0
Good	1	2.7	6	20.0
Fair	0	00.0	18	60.0
Total	37	100.0	30	100.0

73.3% and 54.1% of the respondents explained the benefit from the presence of market designed according to international standards by increasing the size of the deal in DLM and SLM respectively, and 37.8% of them in SLM

and 10.0% in DLM described it through increased their income & increasing the size of the deal, while 16.7% of them described the benefit through increased of their income in DLM (Table 8).

Table 8. Benefits Gained from Rehabilitation of the Markets according to International Standards

	SLM		DLM	
	Frequency	Percent	Frequency	Percent
Increasing the size of the deal	20	54.1	22	73.3
Increase income	1	2.7	5	16.7
Increase income & Increasing the size of the deal	14	37.8	3	10.0
Increase income, Entry in the export market & Increasing the size of the deal	2	5.4	0	00.0
Total	37	100.0	30	100.0

Table 9. Gross margin and value shares of actors in sheep value chain, Sennar State (SDG)

Chain actor	Variable costs	Revenue (Selling Price)	Gross Income (Revenue – Costs)	Added value (Revenue – Previous actor's revenue)	Gross margin (Gross income x 100 / Revenue)	Value share (Added value x 100 / Retail price)
Producer	200	650	450	650	69.2	83.3
Middleman	670	700	30	50	4.3	6.4
Village Trader	720	740	20	40	2.7	5.1
Wholesaler	760	780	20	40	2.7	5.1
Total				780		100

*Price Source Abuhugar LIU Sennar State.

Table 9. Presents the Gross margins and the value shares of actors in six month old sheep of standard class value chain, Sennar State. The producer has a gross margin of 69.2%, middleman gross margin of 4.3%, while the village trader and wholesaler has a gross margin of only 2.7%. The producer earns 83.3% of the final price, and middleman earns 6.4%, while village trader and wholesaler earn only 5.1%.

According to the LIUs officers interviewed, the rehabilitation for livestock markets conducted the producers with national and international marketing processes through data base center and markets boards, easy access of livestock trading process, availability of information and market services, increase livestock prices, organization of livestock market regulations. Also the rehabilitation provided business and trade opportunities for sundry traders and service providers e.g. food and beverages sellers, manufacturers of leather work, farming equipment and husbandry devices, animal traders, butchers, laborers and

porters, blacksmiths and vendors, transporters and truckers ..etc.

In addition to the introduction of the provision of information by used of the internet technology as fast and efficient method, this were enhanced sales transparency by simple means, including recording transactions and establishing easy and free access to market price information through livestock markets database . The main intended result of rehabilitated of livestock markets are to increased animal trading and increase the livestock export rates, but up to now the functionality of export transaction not performed so far, because of absence of livestock export infrastructure such as air craft...etc.

Also that at each livestock market a cafeteria was built to provide food and refreshments to market goers, which create a social communication among all producers, traders and exporters helps to improve production through the information flow and exchange of ideas for improvement and promoting. Moreover, it was voiced by several inhabitants in the neighborhood of the markets that security

improved and home prices soared up because of the police presence, water supplied and that public transport also improved.

From the other hand, LIUs officers interviewed explained that markets sustainability remains as a concern. The PCU may still be required to follow up closely on the completion of the pending works. The two markets rehabilitated showed deficiencies and incomplete works, Discussions between States and localities stakeholders are still ongoing to negotiate the future of the rehabilitated livestock markets. On the institutional side, the market board's consolidation and a greater engagement of the communities, building their capacity and ownership, stand out as priorities. On the financial side, the distribution of market fees (by which a 70 percent are allocated to the localities for non-market-related purposes) is being questioned by different stakeholders. In this case marketing systems are remains a challenges, and should be consider to make these rehabilitated livestock markets are more attractive to producers and for livestock markets sustainability.

IV. DISCUSSION

Though women in both markets are found to practice different types of trade, yet they are not involved in livestock marketing. This may be attributed the fact that in rural communities trading in livestock is considered as a man job. Illiteracy among livestock dealers in the two livestock markets could be due to the fact that the survey was carried in rural areas where access to educational institutes is not easier. Livestock dealer could have more interaction with the international communities and hence compete effectively in export market if they were well educated. It was realized that most of the beneficiaries of age above forty indicating the youth were not involved in such business, this is attributed to fact that youth don't have enough capital to start such type of business which needs a relatively high capital and also they don't have accesses to loans.

Cattle and sheep are the main animal type present in Damazin and Sinjah livestock markets, while goats are only present in DLM. The only explanation for the presence goats in Damazin is that people in Blue Nile State are much poorer than that in Sennar state so they tend to keep goats (Goat is the cow of the poor man). The marketing channels in the two markets resemble that described by [4] and [3].

In both livestock markets most of the traders depend on self –finance indicating that there was less access to financial institutions. In SLM the marketing activities oriented towards export more than in DLM because Sinjah is much near the ports and the market farcialities in Sinjah are better than that in DLM.

Most traders (intermediators) in the livestock markets started before the inception of the project, yet a considerable of them involved in livestock marketing after the inception of the project, the project seems to the intermediators in Damazin more than those in Sinjah.

In SLM Most of the respondents included in the survey described the rehabilitation of livestock markets as excellent, while in DLM they described it fair. SLM was more rehabilitated than DLM so the traders in Sinjah are satisfied than those in Damazin. In Both livestock markets the traders benefited from the rehabilitation of livestock markets through increasing the size of the deal and increase

their income, but the percentage of export of livestock was very low because of absence of livestock export infrastructure.

The existence of livestock market designed accordance to international standards attracted them and help the recovery of the livestock trade, so the main intended result of rehabilitated of livestock markets is to increase the higher livestock export rates, and increased animal trading.

The project acted to development of the surrounding area, where several inhabitants in the neighborhood benefited from the rehabilitation of the two markets. Communication among all producers, traders and exporters, information flow and exchange of ideas, this supported by [2] which pointed that marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.

The high gross margin and value share of producers in comparison to the other actors in the value chain indicated that producers who shoulder the higher costs and risks gain the higher return the matter that satisfied the project objectives and supported [10] who explained that "In an ideal market situation, with perfect competition and transparent information, the size of the gross margin reflects the amount of labor, expenses and risks that an actor has put into the product. The higher the labor, expenses and risks, the higher the gross margin –a fair principle. When gross margins are excessively high in a certain part of the value chain without a reasonable explanation, this may be an opportunity for intervention to make the chain more efficient." Like gross margins, the size of the value share also reflects the amount of costs and risks that an actor has put into the chain.

V. CONCLUSION

From the present study it is observed that the development and rehabilitation of livestock markets are commendable, the project have great impacts which improve access to regular updates on animal prices information, increase marketing deals, increase beneficiaries' inputs and income for their livelihoods and reducing poverty. The study found that youth and women were not involved in this type of business; most of the traders depend on self – finance, and there was low percentage of livestock export.

The study recommended that MLFR should consider the challenges in the marketing systems specifically in market management to make these rehabilitated markets more attractive to producers. Livestock markets management and market's board should work to decrease the number of intermediators involved in livestock marketing for the benefit of the primary producers. Encouragement of youth and women to enter this type of business and facilitating the access to loans for livestock dealers. MLFR together with the States and localities stakeholders should act to finalize livestock export infrastructure.

REFERENCES

- [1] Abbott JC. Marketing, the rural poor and sustainability. Agriculture and food marketing in developing countries: Selected reading: The Netherlands CTA. 1993.
- [2] American Marketing Association (AMA), 2013. (Online) available at <<http://www.Marketing power .com/AboutAMA/Pages/DefinitionofMarketing.asp>>
- [3] Aklilu Y. An audit of the livestock marketing status in Kenya, Ethiopia and Sudan. Volume 1. African Union–

- Interafrican Bureau for Animal Resources (AU-IBAR), Nairobi, Kenya.2002.
- [4] ARSC. Livestock Market Statistical Data 2003. 9th Edition, Omdurman: ARSC, July 2004.
- [5] D. Fahey The Political Economy of Livestock And Pastoralism In Sudan. IGAD Livestock Policy Initiative. Dan Fahey Institute for International Studies University of California, Berkeley. Research Director: David K. Leonard Institute of Development Studies (Sussex). IGAD LPI Working Paper No. 06 – 08, 2007.
- [6] Dixie G. Horticultural marketing. Food and Agricultural Organization (FAO). United Nation, Rome, p. 111. 1989.
- [7] Emam AA. Agricultural Marketing. Printed in Ministry of Education press, Khartoum, Sudan (Arabic version). 2002.
- [8] ILPMP. Improving Livestock Production & Marketing Project - Monitoring and Evaluation Unit – Quarterly report January –March 2012.
- [9] ILPMP. Improving Livestock Production & Marketing Project, Report 2013.
- [10] KIT and IIRR. Trading up: Building cooperation between farmers and traders in Africa. Royal Tropical Institute, Amsterdam; and International Institute of Rural Reconstruction, Nairobi. ISBN: 978-90-6832-699-4 2008.
- [11] Sudan tribuan (2015). (online) available at <<http://www.sudantribune.com/spip.php?mot1412>>, accessed on 16-1-2015>.
- [12] T. Hubbs, P.V. Preckel, A.P. Schinckel, J. Deen, K.A. Foster, S.E. Curtis and E.W. Johnson. The New Economics of Livestock Production Management, Selected Paper prepared for presentation at the American Agricultural Economics Association Annual Meeting, Orlando, FL, July 27-29, 2008.
- [13] Weller, D. Launch of the Agricultural Growth Program-Livestock Market Development Project. Remarks by Dennis Weller. USAID Ethiopia Mission. 2012.
- [14] World Bank. Sudan Stabilization and Reconstruction: Country Economic Memorandum. Volume 1: Main Text, Report No. 24620-SU. Washington, DC: The World Bank. 2003.
- [15] World Bank. Implementation Completion and Results Report- The World Bank. Report No: ICR00002124.2013.