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Impact of Experience Year and Marketing Methods on Socio-Economic Status of Fishermen at Gezira State, Sudan (Case Study)

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Abstract

The present investigation was conducted to provide baseline information of socio economic status in Gezira State localities and to study Impact of Experience and Marketing Method on Socioeconomic Status of Fishermen at Gezira State, Sudan. The study was conducted through visits and personal interviews of fishermen using specific designed questionnaire to study the Impact of Experience and Marketing Method on Socioeconomic Status of Fishermen community. The fishermen were asked specific questions through questionnaire. A total of 144 fishermen were investigated and interviewed. 12 representative fishing sites were visited though the proposed investigation. The data was analysed using statistical package for Social Science (SPSS). Frequency and basic descriptive statistics was calculated and Chi-Square test of independency was performed for quetionaire's analysis. The findings of the study showed that, There were significant differences ($P \leq 0.05$) in experience (year) among fishermen on all localities. And there was highly significant differences ($P > 0.05$) in marketing methods among all localities. The more whole sale marketing method was found at Wad Medani and Almanagil localities. Almanagil locality was recorded the highest figure in whole sale, so that means, the people in this locality eat more fish than other locality as percentage. We noted that, at some localities like South Gezira, Alhasahisa, Algurashi and Um elgura; the people have no whole markets for fish, so will make fish expensive, and this issue will make people have no ability to eat fish as rich animal protein.

Keywords: Experience, Marketing methods, alhasahisa, um elgura, socio-economic.

Introduction

Socio-economic studies on fisheries have been met with worldwide interest in the last 20 years (Baticados 2004. Witherell *et al*., 2000). These studies provide basic reference for the necessary management measures increasing thus their overall efficiency. For this reason, the demand for socio-economic data has increased as stated in the Green Paper on the Future of the Common Fisheries Policy of the European Union (European Commission, 2001)). As a result, a number of studies concerning socioeconomic parameters of fisheries have been carried out in countries of the northern (Dominguez *et al*., 2004, Mardle *et al*., 2002, Alban, 2004, Virtanen, 2001) and southern Europe and the Mediterranean (Farrugio *et al*,. 1993, Freire and Garcia, 2000, Virtanen, 2001, Whitmarsh *et al*., 2003), in the latter case mostly concerning small-scale

fisheries which is the sector with the highest social importance (Freire and Garcia, 2000). In the same context, the level of regional dependence on fisheries has been examined in a series of studies (Brookfield *et al*., 2005, Tzanatos *et al*., 2005). The number of professional fishing vessels was the highest in the 15-memberstate European Union of 2001, whereas the engine power per vessel was the lowest (European Commission, 2001). The large continental coastline and the number of inhabited islands make fisheries more important at a local level (Tzanatos *et al*., 2005).

Sudan is rich in tremendous water resources because of its potential represented in the Nile River, which is one of the long rivers of the world with its blue and white branches and we find that they represent the internal sources of water, including channels, excavations, sewers and creeks (Morsi,

1987). The role of control is weak in the application of regulations. The yield from fishing gives a relatively higher return during the summer season. This is due to the increasing amount of fishing, the non-participation of women in fishing and the average yield among fishermen in the state Zainab, 2009). High illiteracy rate in the fishermen community and high percentage of married people and low educational level (Shaima, 2009).

Sudan is a country rich in water resources estimated at an area of about 1.8 million km 2, extending between lines 3-23 north and 9-22 east, allowing multiple ecological climatic characteristics. This diversity enriches the country with natural resources and multiple animal wealth estimated fisheries production capacity represented by inland and marine fisheries in the range of 110 thousand tons (currently 35 thousand tons while the South 75 thousand tons after the separation) (Ministry of Animal Resources,2016). Sudan has great sources of fishery resources represented in the Nile and its tributaries and lakes with a total length of 6400 km and an area of 2 million hectares representing reservoirs lakes on the Nile and a total area of about one million hectares. Exclusive economic 96100 km there are also non-Nile watercourses in the valleys and valleys with an estimated water of about 4.9 billion and resources are 8.2 billion cubic meters and groundwater estimated at about 2.8 billion cubic meters and groundwater estimated at 4.9 billion. The above-mentioned resources consist mainly of inland water from aquaculture, finfish and other aquatic organisms. Molluscs crustaceans, fisheries are characterized by the nature of livelihood with a margin for commercial activities, especially in the open and deep areas of marine water. Inland water area in Sudan (rivers, lakes, reservoirs) around 2 million hectares representing the Nile and its tributaries and associated lakes and reservoirs lakes total length of about 6400 km 4000 miles and dam areas stretch half the area (Ahmed, 2017). Industrial fisheries are considered as highly productive worldwide, however Freire and Allut (2000) stated that small-scale coastal fisheries are believed to be of much greater social significance than industrial fisheries (FAO, 1995). Despite this fact, small-scale fisheries have been systematically ignored and marginalized in both developing and developed countries (Berkes, 2003). Quantitative information on small-scale fisheries receives scant coverage in the literature (Salas *et al*., 2007). In most societies, small-scale fishermen suffer the greatest deprivations as they have low social status and incomes, poor living conditions and little political influence (Pomeroy and Williams, 1994). Many of the world's small-scale fisheries and fishermen are in a state of crisis, and neither decision-makers nor fisheries scientists give them sufficient attention. According to the FAO (2002), 5.8 million small-scale fishermen earn less than US$ 1 day)1. Stobutzki *et al*. (2006) stated that coastal fisheries resources are severely depleted, and that overfishing is ongoing throughout South and Southeast Asia, symptomatic of the lack of effective management of the fishing capacity in the region. Indeed, many coastal fisheries throughout the world are facing the dilemma of fisheries collapse, the search for income, and the difficulty in sustaining their fishing livelihoods (Salas *et al*., 2007). To safeguard the role of fisheries in coastal communities, up-to-date information is needed to monitor the effects of management measures, regulations and government policies in support of the economic and financial health of fisheries (Tietze *et al*., 2005). Sustainable fishing is directly related to proper resource management and viability of the fishing community, specifically to assure a positive economic performance for the entire fishing activity through appropriate regulatory measures and enforcement thereof. Modern fishery management must consider not only the biological parameters but also the cultural, environmental, political, and especially socio-economic dimensions of the fishery management. In this context, Whitmarsh *et al*. (2000) expressed the necessity of considering both biological and economic information when evaluating the performances of fisheries and advising fishery management. In this respect, economic indicators may be considered as a useful additional tool to provide decision-makers with criteria for developing improved management strategies (Bonzon, 2000).

The FAO has published several technical papers and guidelines on measuring the economic viability of marine capture fishery (Lery *et al*., 1999). These guidelines include indicators to determine the sustainable development of marine capture fisheries (FAO, 1999), to assess the techno-economic performance of these fisheries (Tietze *et al*., 2001), and to achieve a feasibility assessment by employing a database on socio-economic indicators for the Mediterranean fisheries as a case example. Following these guidelines can lead to information on the economic performance and fishing efficiency of marine capture fisheries (Tietze *et al*., 2005).

Justification
The impact of social and economic characteristics on the fishermen community.

Objective
To study the experience and marketing method impact on socio-economic status of fishermen community at Gezira State, Sudan.

Methodology
Study Area
The study was conducted in fishing areas at Gezira State localities (South gezira, Alhasahisa, Wad Medani, Alkamleen, Almnagil, Algurashi, East gezira, and Um elgura), Sudan.

Experimental Design
The study was conducted through visits and personal interviews of fishermen using specific designed questionnaire to study the impact of experience and marketing method on socio-economic status of fishermen community at Gezira State, Sudan. The fishermen were asked specific questions through questionnaire. A total of 12 fishing sites were visited though the proposed investigation.

Sampling
A total of 144 fishing area were visited. 12 representative fishermen were randomly asked to fill-out the questionnaire in fishing sites in all localities of Gezira State.

Statistical Analysis
The statistical package for Social Science Computer Software (SPSS version 14.0) was used to analyze data. Frequency and basic descriptive statistics was calculated and Chi-Square test (χ^2) test of independency was performed for quetionaire's analysis. A P-value of ≤ 0.05 was considered indicative of a statistically significant difference.

Results and Discussion

Table 1: Experience Impact on fishermen community at Gezira State, Sudan

		Experience (Years)%			
		Less than 5	5-15	More than 15	Total
Localities	South gezira	1	23	7	31
		5.9%	28.4%	15.2%	21.5%
	Alhasahisa	1	10	11	22
		5.9%	12.3%	23.9%	15.3%
	Wad Medani	5	14	8	27
		29.4%	17.3%	17.4%	18.8%
	Alkamleen	1	15	5	21
		5.9%	18.5%	10.9%	14.6%
	Almnagil	4	5	9	18
		23.5%	6.2%	19.6%	12.5%
	Algurashi	1	6	3	10
		5.9%	7.4%	6.5%	6.9%
	East gezira	1	4	3	8
		5.9%	4.9%	6.5%	5.6%
	Um elgura	3	4	0	7
		17.6%	4.9%	0%	4.9%
	Total	17	81	45	144
	%	100%	100%	100%	100%
	S.L.	*			

S.L. ≡ Significance Level.
Pearson Chi-square ≡ 25.82
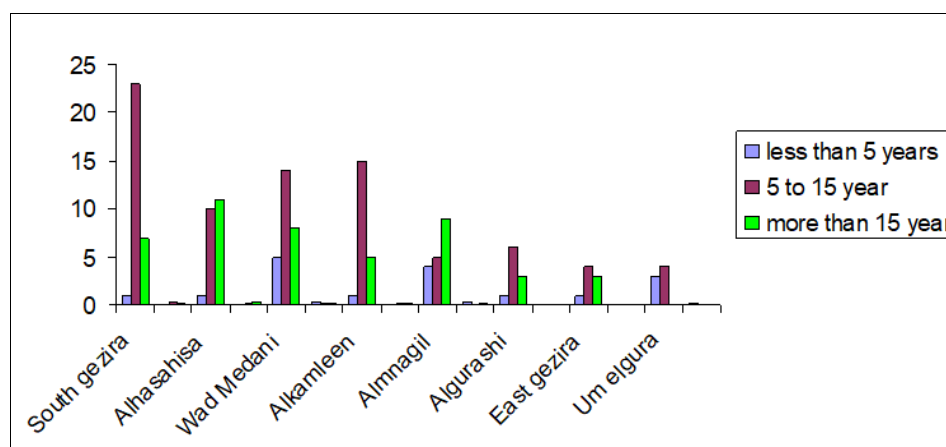* ≡ Significant Different ($P \leq 0.05$)

Fig 1: Experience impact on fishermen community at Gezira state, sudan

The study was conducted in fishing areas at Gezira State localities (South gezira, Alhasahisa, Wad Medani, Alkamleen, Almnagil, Algurashi, East gezira, and Um elgura), Sudan. The study was implemented through visits and personal interviews of fishermen using specific designed questionnaire to study the experience and marketing method impact on fishermen community at Gezira State, Sudan. The fishermen were asked specific questions through questionnaire. A total of 12 fishing sites were visited though the proposed investigation.

The findings of the present study showed some fact on the manifesto of the education levels and age among Gezira State Localities.

Table (1), showed that, the experience (year) impact on fishermen community at Gezira State localities: South gezira; (less than 5 year, 5 to 15 year, and more than 15 year) was (59%, 28.4%, and 15.2%, respectively. Alhasahisa; (less than

5 year, 5 to 15 year, and more than 15 year) was (59%, 12.3%, and 23.9%, respectively. Wad medani (less than 5 year, 5 to 15 year, and more than 15 year) was (29.4%, 17.3%, and 17.4%, respectively. Alkamleen (less than 5 year, 5 to 15 year, and more than 15 year) was (5.9%, 18.5%, and 10.9%, respectively. Almanagil (less than 5 year, 5 to 15 year, and more than 15 year) was (23.5%, 6.2%, and 19.6%, respectively. Algurashi (less than 5 year, 5 to 15 year, and more than 15 year) was (5.9%, 7.4%, and 6.5%, respectively. East Gezira (less than 5 year, 5 to 15 year, and more than 15 year) was (5.9%, 4.9%, and 6.5%, respectively. And Um elgura (less than 5 year, 5 to 15 year, and more than 15 year) was (17.6%, 4.9%, and 0.0%, respectively. There were significant differences ($P \leq 0.05$) in experience years among fishermen on all localities. The study showed that at Wad medani, Almanagil and Um elgura localities; the youngest

fishermen (less 5 year) were have more experience than the oldest fishermen. On the other hand, the other studied localities the oldest fishermen (more than 15 year) were have more experience than other localities. On the contrary, at Um elgura locality, we found that, people aged more than 15 year were not practicing fishing. In general, we noted that the people aged from 5 to 15 year have an equal experience on fishing in localities, so that means, the other ages of people may have other jobs than fishing. We found that, people living near to the Blue Nile (Wad medani locality) are depended on fishing more that people live far away from Blue Nile.

Table 2: Marketing Method Impact on fishermen community at Gezira State, Sudan

Localities		Marketing Method%				Total
		Per kilogram	Retail-sale	Whole sale	all	
	South gezira	3	7	0	0	31
		15.0%	26.5%	0%	8.3%	21.5%
	Alhasahisa	4	16	0	2	22
		20.0%	15.7%	0%	16.7%	15.3%
	Wad medani	3	21	3	0	27
		15.0%	20.6%	30.0%	0%	18.8%
	Alkamleen	2	18	1	0	21
		10.0%	17.6%	10.0%	0%	14.6%
	Almnagil	4	8	5	1	18
		20.0%	7.8%	50.0%	8.3%	12.5%
	Algurashi	1	1	0	8	10
		5.0%	1.0%	0%	66.7%	6.9%
	East gezira	1	6	1	0	8
		5.0%	5.9%	10.0%	0%	5.6%
	Umalgura	2	5	0	0	7
		10.0%	4.9%	0%	0%	4.9%
	TOTAL	20	102	10	12	144
	%	100%	100%	100%	100%	100%
	S.L.	NS				

S.L. ≡ Significance Level.
Pearson Chi-square ≡ 97.57
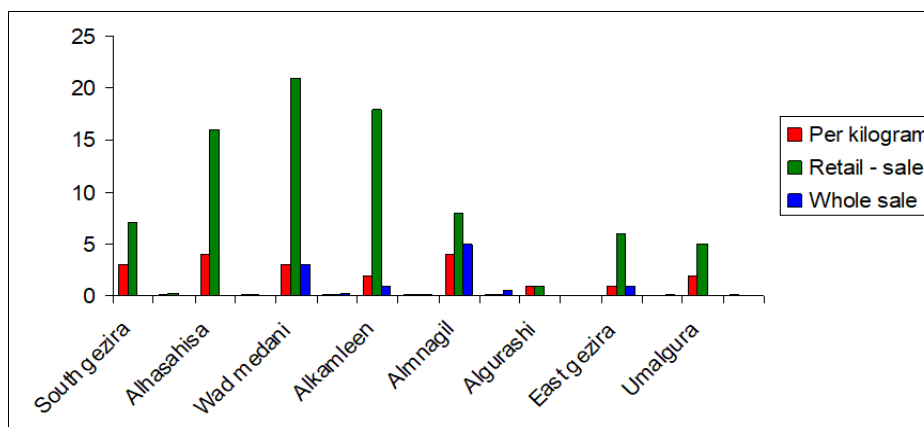NS. ≡ No Significant Different ($P > 0.05$).

Fig 2: Marketing Method Impact on fishermen community at Gezira State, Sudan

Table (2), showed that, the marketing method impact on fishermen community at Gezira State localities: South gezira; (Per kilogram, Retail sale, and Whole sale) was (15%, 26.5%, and 0.00%, respectively. Alhasahisa; (Per kilogram, Retail sale, and Whole sale) was (20%, 15.7%, and 0.00%, respectively. Wad Medani; (Per kilogram, Retail sale, and Whole sale) was (15.0%, 20.5%, and 30.0, respectively. Alkamleen; (Per kilogram, Retail sale, and Whole sale) was (10.0%, 17.6%, and 10.0%, respectively. Almnagil; (Per kilogram, Retail sale, and Whole sale) was (20.0%, 7.8%, and 50.0%, respectively. Algurashi; (Per kilogram, Retail sale, and Whole sale) was (5.0%, 1.0%, and 0.0%, respectively.

East gezira; (Per kilogram, Retail sale, and Whole sale) was (5.0%, 5.9%, and 0.0%, respectively. and Um elgura; was (Per kilogram, Retail sale, and Whole sale) was (10.0%, 4.9%, and 0.0%, respectively. There were no significant differences ($P>0.05$) in marketing methods among all localities. The more per kilogram marketing method were found at Alhasahisa, Almanagil and south Gezira localities. And the more retail sale marketing method was found at Alkamleen, Wad Medani and south Gezira localities. The more whole sale marketing method was found at Wad Medani and Almanagil localities. Almanagil locality was recorded the highest figure in whole sale, so that means, the people in this

locality eat more fish than other locality as percentage. We noted that, at some localities like South Gezira, Alhasahisa, Algurashi and Um elgura; the people have no whole markets for fish, so will make fish expensive, and this issue will make people have no ability to eat fish as rich animal protein.

Conclusion

The study was conducted in fishing areas at Gezira State localities (South gezira, Alhasahisa, Wad Medani, Alkamleen, Almnagil, Algurashi, East gezira, and Um elgura), Sudan. The study was conducted through visits and personal interviews of fishermen using specific designed questionnaire to study the education levels and age influences on fishermen community at Gezira State, Sudan. The fishermen were asked specific questions through questionnaire. A total of 12 fishing sites were visited though the proposed investigation. The findings of the study showed that, There were significant differences ($P \leq 0.05$) in experience (year) among fishermen on all localities. And there was highly significant differences ($P > 0.05$) in marketing methods among all localities. The more whole sale marketing method was found at Wad Medani and Almanagil localities. Almanagil locality was recorded the highest figure in whole sale, so that means, the people in this locality eat more fish than other locality as percentage. We noted that, at some localities like South Gezira, Alhasahisa, Algurashi and Um elgura; the people have no whole markets for fish, so will make fish expensive, and this issue will make people have no ability to eat fish as rich animal protein.

Recommendations

According to the findings of the study, recommended that;

- More attention can be focused of fishermen community to improve the socio-economic condition of the fishermen and thereby improve their well fare.
- Marketing methods (whole and retail sale) should be set up in all localities to l*et al*l people have ability to buy there fish needs.
- Government should set up markets with specific designs for fish sale.

Acknowledgement

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