



Sudan University of Science and Technology

College of Graduate Studies



**Socio-economic and Technical Appraisal of Fishermen
community in Jabel Aulia, Fatih Alaglien, Alshijra, and
Khartoum State -Almawrda Fishing Sites**

التقييم الاجتماعي-الاقتصادي والفني لمجتمع الصيادين في مواقع الصيد بجبل أولياء
و فتوح العقليين و الشجرة و المورد - ولاية الخرطوم

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**Thesis Summated in Partial fulfillment of Requirements for
The Degree of Master of Science in Fish Science and
Technology**

**Bachelor (Honors) in fisheries & Wildlife Science
Department Of Fisheries and Wildlife Science
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

آيات

﴿ وَيَرَى الَّذِينَ أُوتُوا الْعِلْمَ الَّذِي أُنزِلَ إِلَيْكَ مِنْ رَبِّكَ هُوَ الْحَقُّ وَيَهْدِي إِلَى صِرَاطٍ الْعَزِيزِ الْحَمِيدِ ﴾
[سبأ: 6]

﴿ إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ ﴾

[فاطر: 28]

DEDICATION

To my dear mother
To my Kindly father
To my soul mate, Affag Hassan God rest her soul
To my sister and brothers
To my friends

ACKNOWLEDGMENTS

Thanks and appreciation to my supervisor Assistant Prof., Dr.Mubark Eisa Abdelrahman Tibin for his estimated efforts and continuous guidance and patience.

And thanks go to doctors at the Sudan University of Science and Technology, fishermen for their cooperation to complete this study.

ABSTRACT

This study was conducted to evaluate the socio-economical conditions and technical appraisal of the fishermen community in Khartoum state in four fishing sites, Jabel Aulia, FatihAlaglien, Alshijra, and Almawrda. The study was conducted in May 2017. The data was collected through the questionnaire. Descriptive analysis was done for analyzing the data of the study by using Excel Microsoft Office (Windows2007) and SPSS version 24. It was found that most of the fishermen belonged to the age groups of 46-60 about (24% in Almawrada), (45% in FatihAlaglien), (44% in Alshijra) and (34.5% in Jabel Aulia). All fishermen surveyed are male (100%) and Muslim (100%). Social status of fishermen most of them are married about 60% in Almawrada, 50% in FatihAlaglien, 60% in Alshijra, and 70% in Jabel Aulia. The data showed that most fishermen work full time in FatihAlaglien and Jabel Aulia about 70% and 56.7%, but in Almawarda and Alshijra most of the fishermen work part-time about 60% and 52%. Furthermore, it was reported that the largest percentage of fishermen own fishing boats about 85%, 80%, 73.3%, and 72%, FatihAlaglien, Almawrda, Jabel Aulia, and Alshijra, respectively. Most of the fishermen catch second-degree fish in the four regions about 65% in FatihAlaglien, 46.7% in Jabel Aulia, 40% in Almawrda and Alshijra. The largest percentage of fishermen do not use illegal nets about 96% and 4% use illegal nets in Alshijra, 80% reply, no and 20% reply yes in Almawrda, 65% reply no and 35% replies yes in FatihAlaglien and 63.3 reply no and 36.7% replies yes in Jabel Aulia. Through this study, it was noted that the fishermen's community needs more studies in the educational and financial aspects because most fishermen depend on fishing as basic professional fishermen need training and guidance courses on fisheries, methods of conservation, and fishing gears.

الخلاصة

أجريت هذه الدراسة على مجتمع الصيادين لتقييم الوضع الاجتماعي الاقتصادي والفني لمجتمع الصيادين بأربعة مواقع لصيد الاسماك جبل أولياء، فتيح العقليين، الشجرة والموردة بولاية الخرطوم في أربعة مواقع صيد هي جبل أولياء ، فتيح العقليين ، الشجرة والموردة لتقييم الوضع الاجتماعي والاقتصادي والفني.. أجريت الدراسة في شهر مايو 2017. تم جمع البيانات من خلال الاستبيان. تم إجراء تحليل وصفي لتحليل بيانات الدراسة باستخدام برنامج (Excel Microsoft Office (Windows2007 والإصدار 24 من SPSS. وتبين أن معظم الصيادين ينتمون إلى الفئات العمرية 46-60 حوالي (24% بالمواردا) ، (45% في فتيح العقليين) و (44% في الشجرة) و (34.5% في جبل أولياء). جميع الصيادين الذين شملهم الاستطلاع هم ذكور (100%) ومسلمون (100%) الوضع الاجتماعي للصيادين معظمهم متزوجون حوالي 60% في الموردة و 50% في فتيح العقليين و 60% في الشجرة و 70% في جبل أولياء. وأظهرت البيانات أن معظم الصيادين يعملون بدوام كامل في فتيح العقليين وجبل أولياء بحوالي 70% و 56.7% ، أما في المواردا والشجرة فإن معظم الصيادين يعملون بدوام جزئي حوالي 60% و 52%. كما أشارت التقارير إلى أن النسبة الأكبر من الصيادين يمتلكون قوارب صيد حوالي 85% و 80% و 73.3% و 72% ، فتيح العقليين ، الموردة ، جبل أولياء ، الشجرة على التوالي. يصطاد معظم الصيادين أسماك الدرجة الثانية في المناطق الأربع حوالي 65% في فتيح العقليين ، 46.7% في جبل أولياء ، 40% في الموردة والشجرة. النسبة الأكبر من الصيادين لا يستخدمون شباك غير قانونية حوالي 96% و 4% يستخدمون شباك غير قانونية في الشجرة 80% ردوا لا و 20% ردوا بنعم في الموردة 65% ردوا بلا و 35% رد بنعم في فتيح العقليين و 63.3% رد لا 36.7% أجابوا بنعم في جبل أولياء. وقد لوحظ من خلال هذه الدراسة أن مجتمع الصيادين يحتاج إلى مزيد من الدراسات في الجوانب التعليمية والمالية ، لأن معظم الصيادين يعتمدون على الصيد كمهنة أساسية يحتاج الصيادون إلى دورات تدريبية وإرشادية حول المصايد وطرق الحفظ ومعدات الصيد.

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CHAPTER ONE

INTRODUCTION

1-1-Background of study

Fish and fisheries is an important sector of most of the developing and developed countries of the World from the standpoint of income and employment generation. (Panigrahi *et al.*, 2014) like any other countries of the world, rivers, reservoirs and aquaculture are the main sources of inland fisheries in Sudan. The socio-economic - cultural environment like consumer behaviour, traditional knowledge of fishing techniques, the historical presence of fishing communities all add to productivity. The natural fisheries of Sudan are divided into two main sectors; the inland fisheries (freshwater fisheries) and the marine fisheries of the Red Sea. The inland fisheries are composed of the main Nile and its tributaries which are 6500 km long. There are reservoirs formed due to dam's construction on the rivers; such as Jebel Aulia reservoir on the White Nile, Rosaries and Sennar reservoirs on the Blue Nile, Setat reservoir on Atbara River and Marawe reservoir on River Nile and Nuba Lake, which is the Sudan portion on Nasir Lake. It lies in the northern part of Sudan, and it was formed by the construction of the Egyptian high dam south of Aswan. It is the richest source of fish in the Main Nile inside Sudan, in addition to the Sud region at upper White Nile (AwadElkarim, 1999). Khartoum State covers an area of 21000 km² and the fish stock in it is estimated around 15,000 tons, but the amount exploited is not more than one thousand tons. The fishing and landing side is found in the fisheries inside Khartoum State in JabalAwlia, Kalakla, Fetiah Al-Agaleen, El-Mawrada, the newly formed island of Al-Fitihab, Al-Sagai, Al-Sabalwaga and Al-Jeriaf area on the Blue Nile (AbdalMusalib, 2000). The process of handling, distribution and marketing of fish is carried by fishermen, traders (Degebassa, 2010). The fish sector in Khartoum State is characterized by being artisanal in general the method and fish gears of fishing did not find their chance to be modernized effectively. Add to that there are not enough means of storing, refrigeration and simple transportation (Ministry of Agriculture, 2004). Fish and fisheries products play a significant socioeconomic role of Bangladesh in terms of nutrition, income, employment and foreign exchange earnings and depend on fish as the principal source of animal protein (Das *et al.*, 2015). Inadequate fisheries regulations: In many fisheries, current

rules and regulations are not strong enough to limit fishing capacity to a sustainable level. Lack of implementation/enforcement: Even when fisheries regulations exist, they are not always implemented or enforced. For example, many countries have still not ratified, implemented, or enforced internationally. Lack of transparency and traceability: Customs agencies and also retailers are not always ensuring that the fish entering their country and shops is caught legally and sustainably. As a result, consumers are unwilling to supporting poor management by purchasing fish from unsustainable fisheries. Shore Infrastructure: a lack of adequate shore facilities is a major constraint. Inadequate or absent landing jetties, service facilities including workshops, ice and cold storage facilities, spare parts and fuel facilities handicap fishing communities and constrain the quality and therefore the ultimate value of the fish landed.(SG and Okomoda, 2015).

1.2 Problems of the study

There is insufficient information about the fishermen socio-economic status in Khartoum state.

1.3 Significance of the study

Fishermen are part of society and important component in capture fisheries, where they work to provide their sustainability. Therefore, it is necessary to get knowledge about the economic, social and technical aspects of the fishermen community.

1.4 Objectives

The general objective of this study is to understand the socio-economic condition (their problems and constraints) of fishermen.

However, the specific objectives are:

- 1-To evaluate the socio-economic status of the fishermen.
- 2-To determine the reasons effect the development of their profession.

CHAPTER TWO

2. LITERATURE REVIEW

A socio-economic condition is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers, 1992). A probabilistic study on the socio-economic status of the fishermen community of the river-side villages of River Churni was conducted during 2012. A total sample of respondents was 240 families and only the main earning member was considered as respondents. A pre-tested interview schedule was used for the collection of information after conducting a preliminary survey to construct a clear idea about the status of fishermen on riverside areas. The result of the study revealed that most of the responded were belonging to the Hindu community (58.75%) besides Muslims (37.91%) and others. About 50.83% of total respondents were found to belong under the age group above 19yrs and below 40 years. About 36.25% were belonging to the Scheduled caste category. Illiteracy was found one of the major problems of the studied area as about 34.16% respondents were found to be illiterate. Using of very simple equipment's or gears for fishing were found among the fishermen (Panigrahi et al, 2014). This study was undertaken to update the livelihood status of fishermen community in Batiaghata upazila of Khulna district from February to December 2013. The data were collected through the questionnaire, survey, group discussion and public interview. The results of the study revealed some interesting facts and showed that most of the involved fishermen are in 16-30 years age group (45%) whereas the majority of them were Hindu (62%). About 75% of the fishing community was illiterate and 24% was literate. (Das et al, 2013). The present study aimed to provide baseline information of the socio-economic status of Jabel Aulia and El-Mawrada fishery in the White Nile in Sudan due to there is a lack of information in this field. Descriptive analysis was done for analyzing the raw data of the study by using Excel Microsoft Software 2003. Social data showed that male fishermen group was dominant in both sites (97.6%, 100%) respectively. Age groups of fishermen ranged between 20 and 70 years; where age group 31- 40 years was dominant in Jebel Aulia and age group 41-50 was dominant in El-Mawrada. Six educational categories were recorded where primary education was dominant in the two locations (48.8%, 44.4%)

respectively; whereas, secondary education was the second in the two locations (24.4%) and (27.8%) respectively. Part-time fishermen were dominant in both sites (34.1%, 11.1%) whereas full-time fishermen were the lowest (4.9%, 16.7%). Most of the fishermen were married (85%, 94%) in both sites; whereas unmarried fishermen were the lowest (14%, 5.6%). As regards to the fishermen's other activities results showed that most of them were not practising any other activities (97.6%, 88.9%). Category of the business owner was dominant. Data showed that experience groups of fishermen in JabelAulia and El Mawrada fishery ranged between 5 to 40years. Where experience group 6 - 15yr was dominant in Jebel Aulia and group more than 35years was dominant in El- Mawrada Experience group more than 35 years had the highest percentage in both sites. Most of the fishermen in both sites did not get any training course (100%, 100%), except the fishermen of El- Mawrada who obtained some training in fish extinction (5.6%). Concerning fisher's ownership, the results showed that owner list was dominant in both sites (85.4%, 66.7%) whereas, rent ship in both was the second (21.4%), (16.7%) (Ahmed *et al.*,2015).The present study was carried out to assess the livelihood status of the traditional fishing community of Meghna Riveadjacent to Narsingdi District from September 2015 to March 2016. Data were collected through the well-structured questionnaire survey from Noyapara, Diaspora, Birpur and Boiddamara char close to Meghna River. A total of 100fishermen were selected randomly for interview. The findings of the study revealed some interesting facts and showed most of the fishermen was Hindu (63%) belonging to the age of 24-45 years. Almost 71% of the fishermen were illiterate (Bhuyan and Islam, 2016). A probabilistic study on the socio-economic status of the fisherman community of a village in Dharwad district was conducted during 2007. A total sample of respondents was 57 families and head of the family was considered as respondent for collection of the data in addition to the head of the fisherman co-operative society. The pre-tested interview schedule was used for a collection of the information from the fisherman community. The results of the study revealed that the male population constituted around 52.33 percent indicating the dominance of males in the fisheries sector. Amongst the total fishermen's only13.84 percent were found to be literate. 45.78 percent of the population falls under the age group of fewer than 20 years and the total earning population constituted around 56.60 percent. The dominance of the male population was evident in all the categories indicating that fishing and related activities are the domain of males(Basavakumar *et al.*, 2012).This study was

conducted to evaluate the socio-economic analysis of artisanal fisher folks in Ogun Waterside Areas, Ogun State using structured interview guides to collect primary data randomly from eighty respondents in four fishing communities (Iwopin, Oni, Makun-omi and Agbalegiyo) in 2011 fishing season. The results reveal that almost average (53.8%) of the fisher-folks were males while 81.2% were in the active age distribution of 20-60 years, no formal education (60.0%) while 37.5% are in the bracket of 11-20 years fishing experiences, married (91.3%) and (68.8%) are not members of any fisher cooperative societies.(Olaoye *et al.*, 2012).The present study was conducted to evaluate the livelihood status of the fishing community of the Kirtonkhola River adjacent to the Barisal town during the period from April to November 2011. The investigation was conducted on Bella, Rasulpur and Amanatganj area of the Barisal town adjacent to the river using a structured questionnaire. It was found that most of the fishermen belonged to the age groups of 31 to 40 years (56.00%), represented by 88% Muslim. The family size of the fishing community usually consists of 5-6 members and medium family is the predominant (70%) among the fishermen but in a joint family (84.00%). Over 80% of the fishermen primary occupation was fishing, 10% was engaged in agriculture and daily labour activities respectively (Moruf *et al.*, 2012).

CHAPTER THREE

3. MATERIAL AND METHODS

3.1 Study area

This study was carried during May 2017 to evaluate the socio-economic and technical appraisal of fishermen community covered JabelAulia(30, fishermen), Fatih Alaglien(20, fishermen)Alshijra(20, fishermen) at The White Nile and Almawrda (30, fishermen) at The River Nile, fishing sites in Khartoum State.

3.2 Data Collection Method

The data was collected directly from the fishermen through personal discussions and interviews regarding the various aspects of the socio-economic conditions by using questionnaire contain 36 questions like religious composition, age composition, education, social status and income structure. A total of 100 fishermen were selected randomly for this study for the all fishing sites..

3.3 Statistical analysis

Descriptive analysis was done for analyzing the raw obtained data of the study by using frequency in SPSS Statistic 24 and Microsoft Office Excel 2007.

CHAPTER FOUR

4. RESULTS

4.1 The age composition of fishermen in four sites

Figure 4.1 below, show the age frequencies of fishermen in the four regions. The highest percentage of fishermen 45% in Alftiah site is between 46-60 years old, and the lowest percentage 0% in the Alshijra and Ftaih Alaglien area is less than 15 years old.

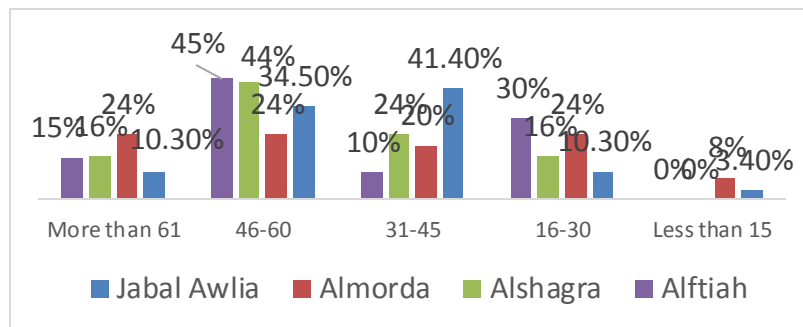


Figure4.1 shows the age of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.2 The sex of fishermen in four sites

Figure 4.2 below, show the sex frequencies of fishermen in the four sites. The percentage of male 100% and the female 0%. It is noticeable that there is no female component in the profession of fishing and men are in dominant.

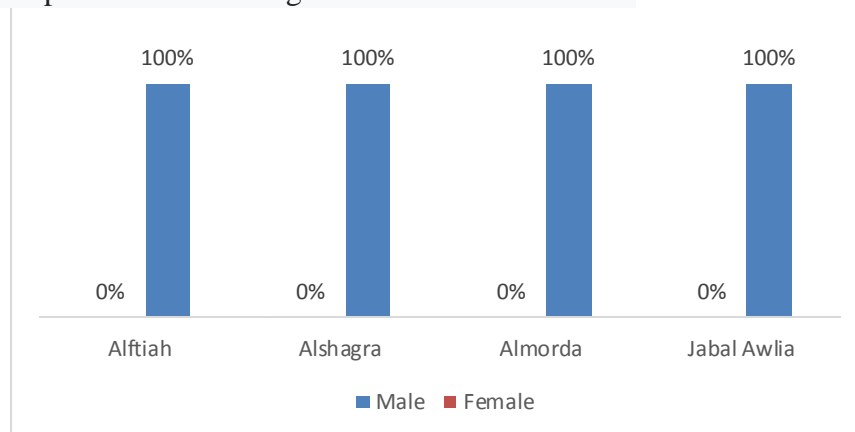


Figure4.2 shows the sex of fishermen in four fishing sites ,JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.3 The Social status of fishermen in four sites

Figure 4.3 below, show the social status frequencies of fishermen in the four sites. The highest percentages of fishermen are married 60% in Alshijra and Almawrda, and the lowest is divorced 0% in Almawrda.

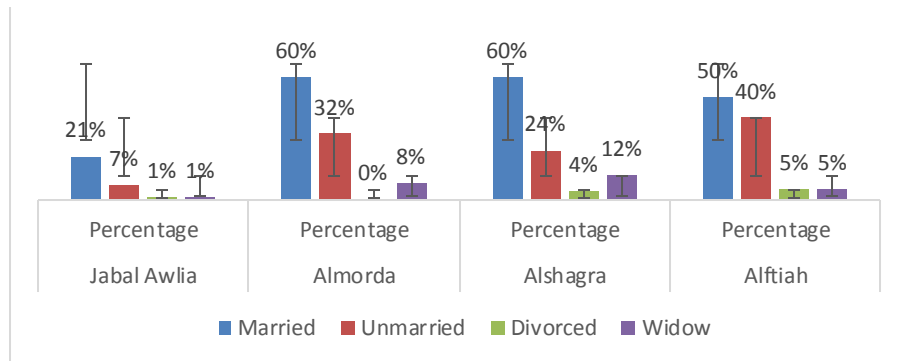


Figure 4.3 shows the social status of fishermen in four fishing sites, Jabal Awlia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.4 The family size of fishermen in four sites

Figure 4.4 below, show the family size frequencies of fishermen in the four regions. The large family more than 7 members was highest percentage about 72% and the lowest medium family 5-7 members about 8% in Alshijra.

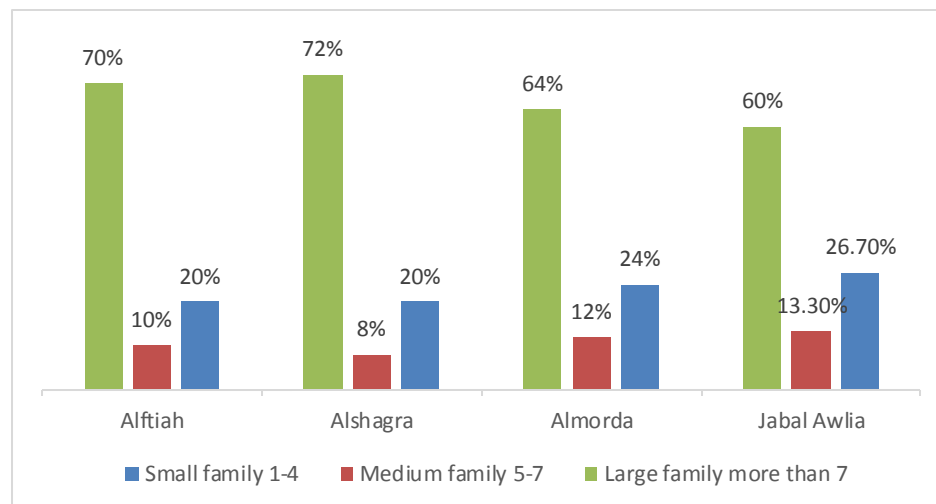


Figure 4.4 shows the family size of fishermen in four fishing sites, Jabal Awlia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.5 The religion of fishermen in four sites

Figure 4.5 below, show the religion status frequencies of fishermen in the four regions. The religion in four sites is Muslim 100%.

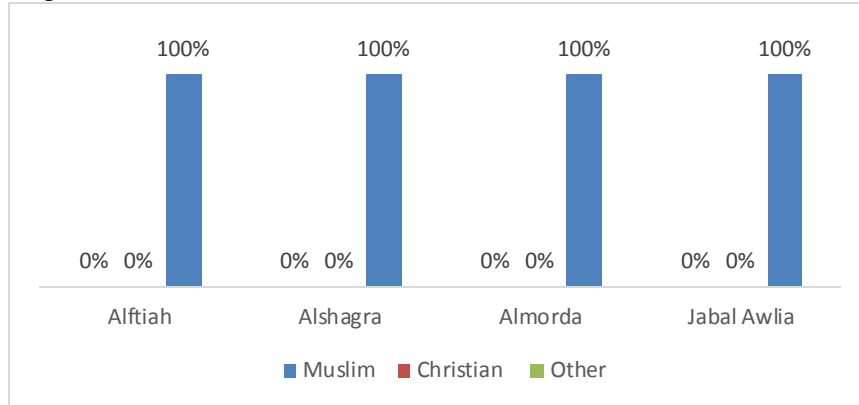


Figure4.5 Shows the Religion status of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.6 The Educational status of fishermen in four sites

Figure 4.6 below, show the educational status frequencies of fishermen in the four sites, primary education was highest percentage 40% and diploma was lowest percentage 0% in JabelAulia.

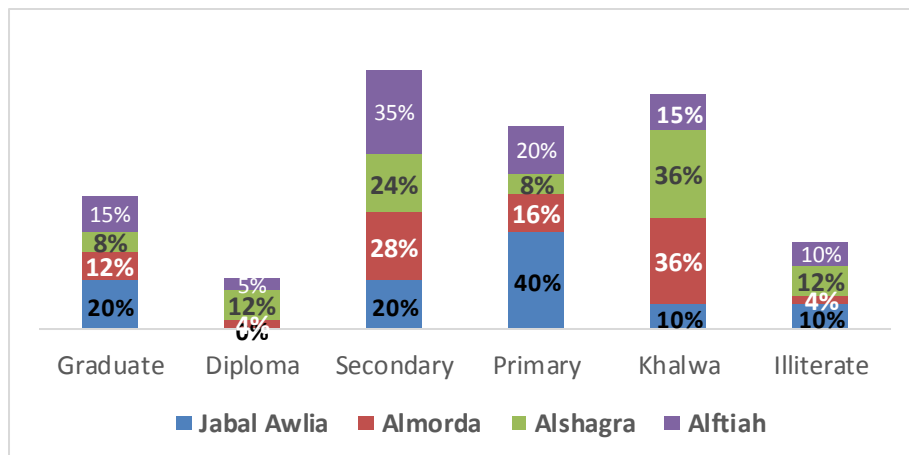


Figure4.6shows the educational status of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.7 The experience period of fishermen in four sites

Figure 4.7 below, show the experience period frequencies of fishermen in the four sites. The highest percentage was 16-20 years 60% and lowest more than 20 years 0% in Ftaih Alaglien.

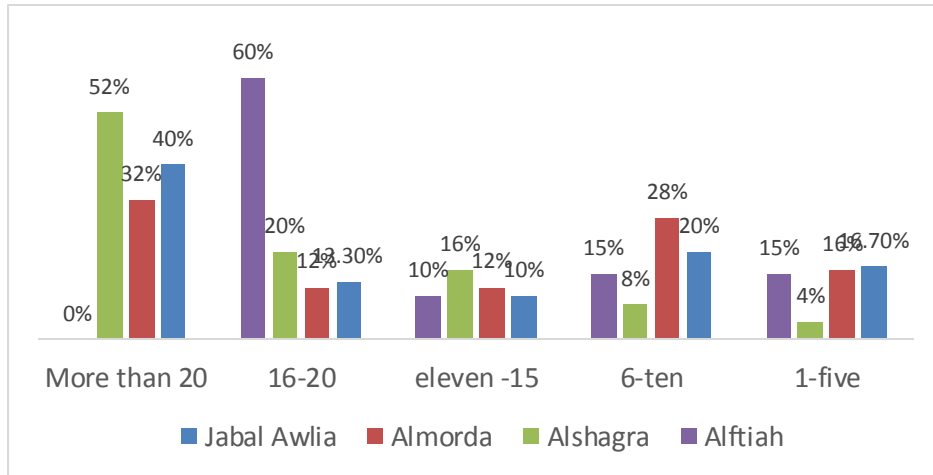


Figure4.7 Shows the experience period of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.8 Fishing working time in four sites

Figure 4.8 below; show the fishermen work full time or part time frequencies in the four sites. Full time was highest percentage 70% and the lowest the part time 30% in Ftaih Alaglien.

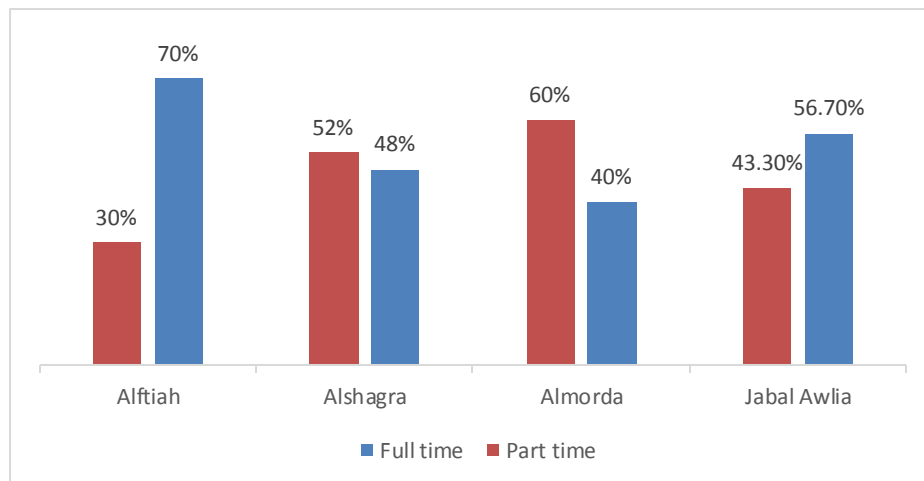


Figure4.8 shows fishing working time in four fishing sites ,JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.9 The other job of fishermen in four sites

Figure 4.9 below; show the other job of fishermen frequencies in the four regions. In Ftaih Alaglien the highest percentage was just fishermen about 75%.

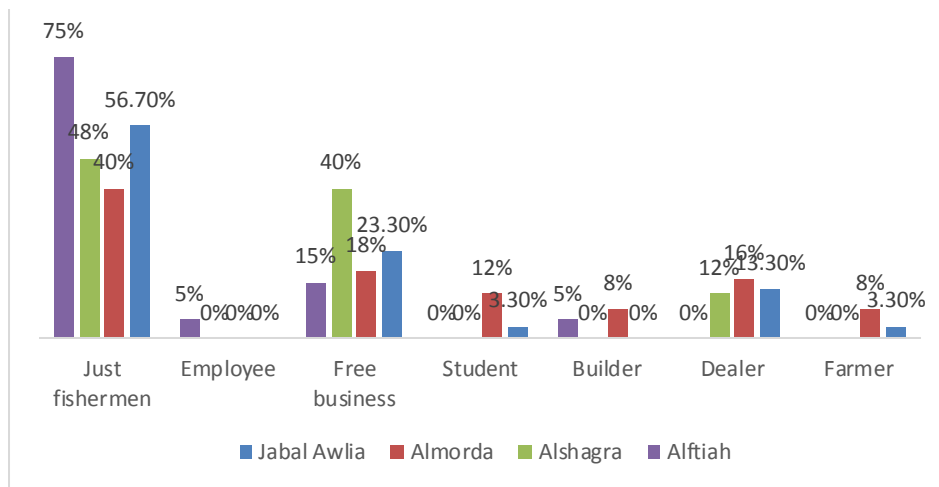


Figure 4.9 shows the other job of fishermen in four fishing sites, JabalAwlia (30, fishermen), FtaihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.10 The boat of fishermen is owned or leased in four sites

Figure 4.10 below, show the boat of fishermen is owned or leased frequencies in the four sites. In Ftaih Alaglien the highest percentage was owned boat about 85% and the lowest 0% does not own boat.

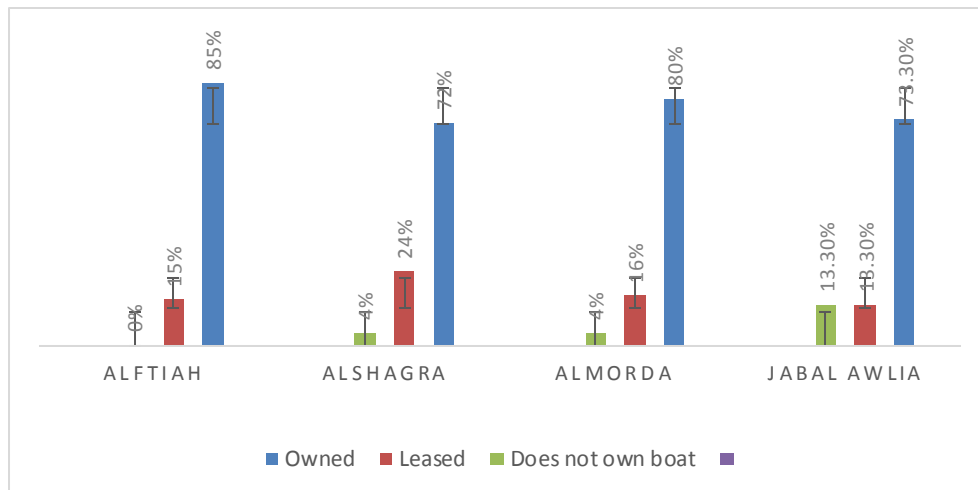


Figure 4.10 shows the boat of fishermen is owned or leased in four fishing sites JabalAwlia (30, fishermen), FtaihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.11 The licensed boat of fishermen in four sites

Figure 4.11 below, shows the licensed of boat of fishermen frequencies in the four sites. In Ftaih Alaglien the highest percentage was licensed 95%.

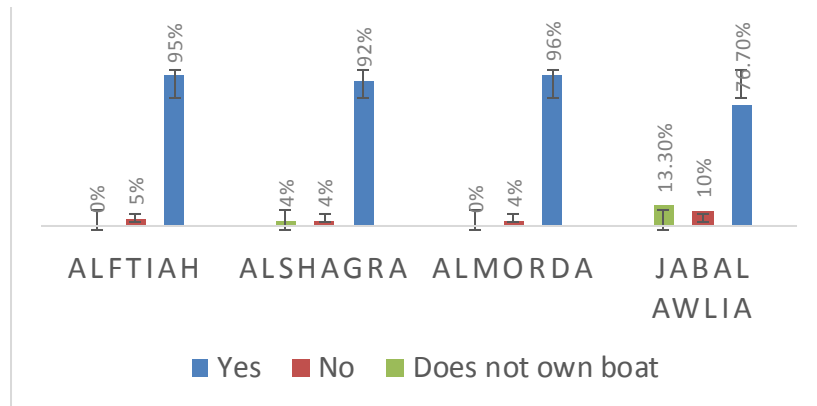


Figure 4.11 shows the licensed of boat of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.12 The type of boat of fishermen in four sites

Figure 4.12 below; show the type of boat of fishermen frequencies in the four sites. In Ftaih Alaglien the highest percentage was iron boat 55% and the lowest did not own boat 0%.

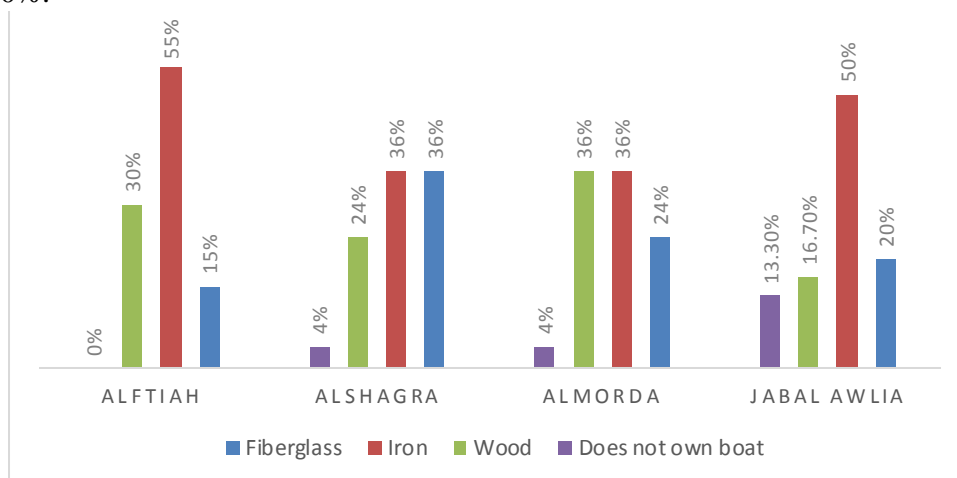


Figure 4.12 shows the type of boat of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.13 The machine of boat of fishermen in four sites

Figure 4.13 below; show the machine of boat of fishermen frequencies in the four sites. The highest percentage of fishermen owns a boat machine about 85% and the lowest about 15% in Ftaih Alaglien.

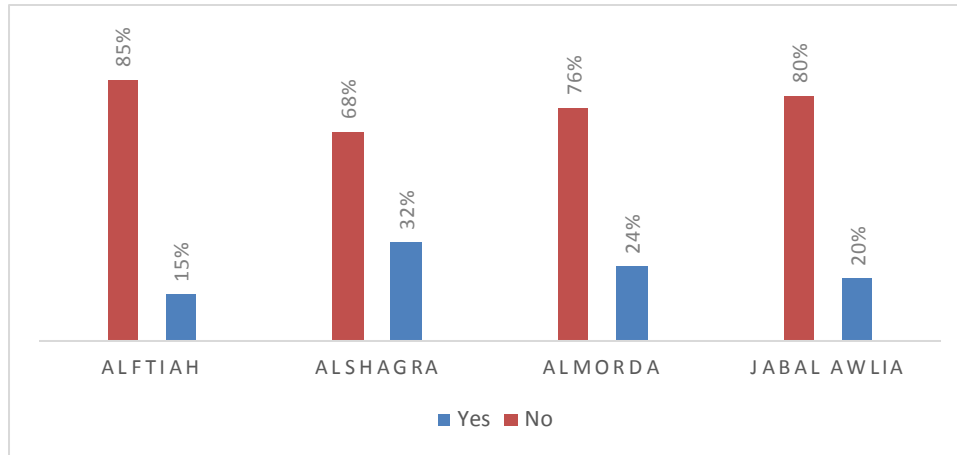


Figure 4.13 shows the machine of boat of fishermen in four sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.14 The way of workin four sites

Figure 4.14 below, show the fishermen operate alone or with worker frequencies in the four sites. In Alshijra the highest percentage of fishermen work with worker about 92% and the lowest operate alone about 8%.

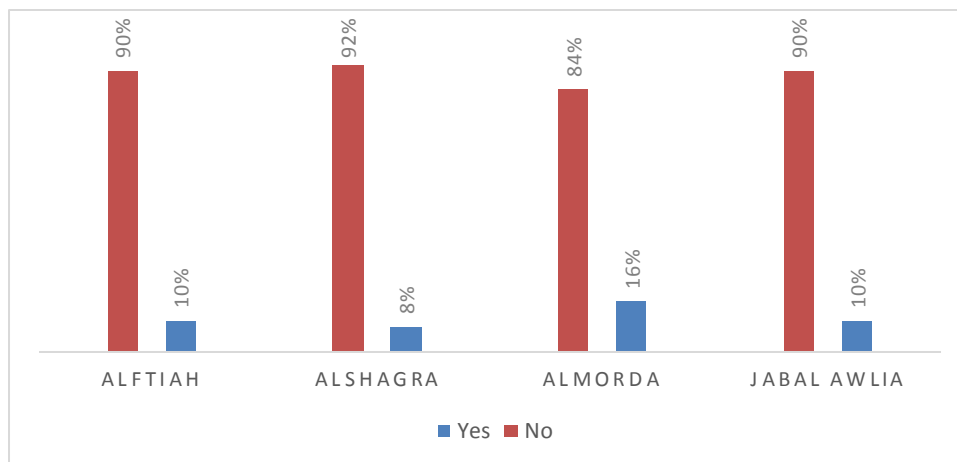


Figure 4.14 the way of work in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.15 The worker in four sites

Figure 4.15 below, show the worker frequencies in the four sites. The highest percentage of fishermen is change worker 88% and the lowest is stableworker 4% in Alshijra.

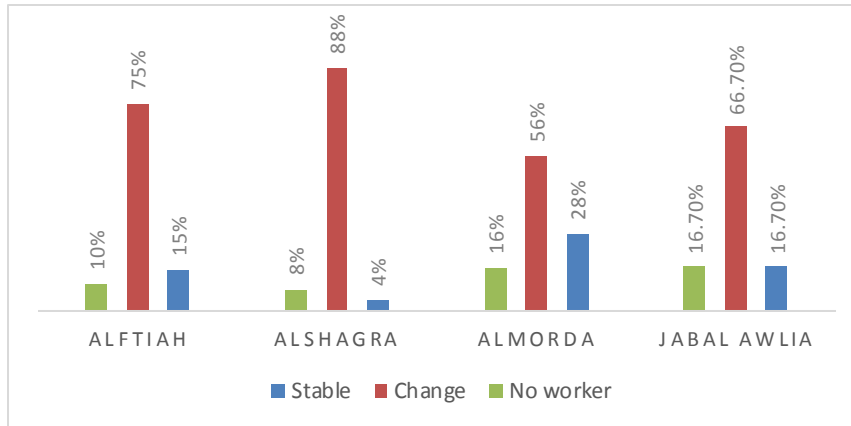


Figure 4.15 shows the worker in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.16 The preferable area of fishing

Figure 4.6 below, show the preferable area of fishing frequencies in the four sites. The highest percentage the fishermen prefer deep fishing areas about 75% of and the lowest 0% prefer pelagic in Ftaih Alaglien.

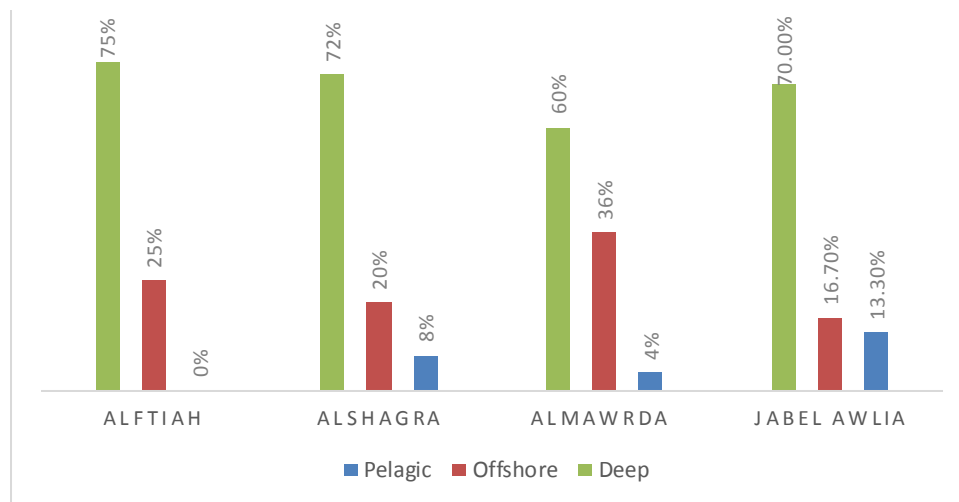


Figure 4.16 preferable area of fishing in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.17 Fishing gears used in four sites

Figure 4.17 below, show the fishing gears frequencies in the four sites. In Ftaih Alaglien the highest percentage about 95% uses nets.

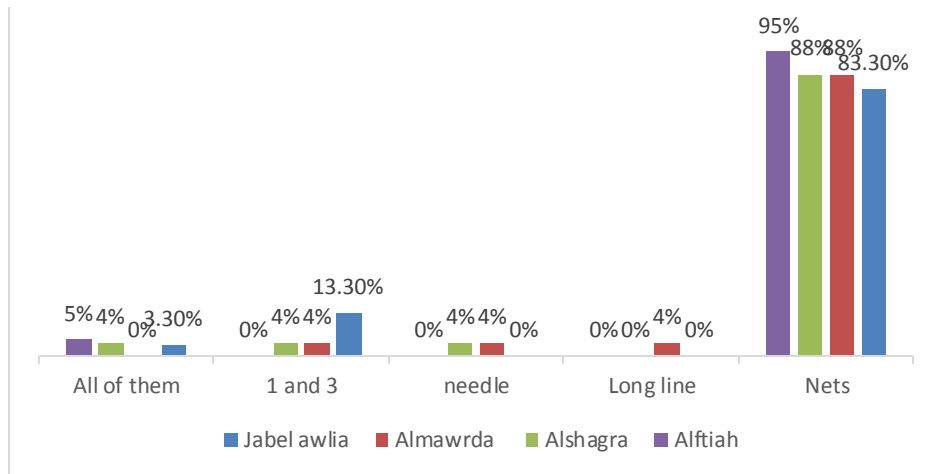


Figure 4.17 fishing gears in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.18 Time of fishing in four sites

Figure 4.18 below, show the time of fishing frequencies in the four regions. The highest percentage catching at interval about 85% and the lowest percentage throughout the day about 15% in Ftaih Alaglien.

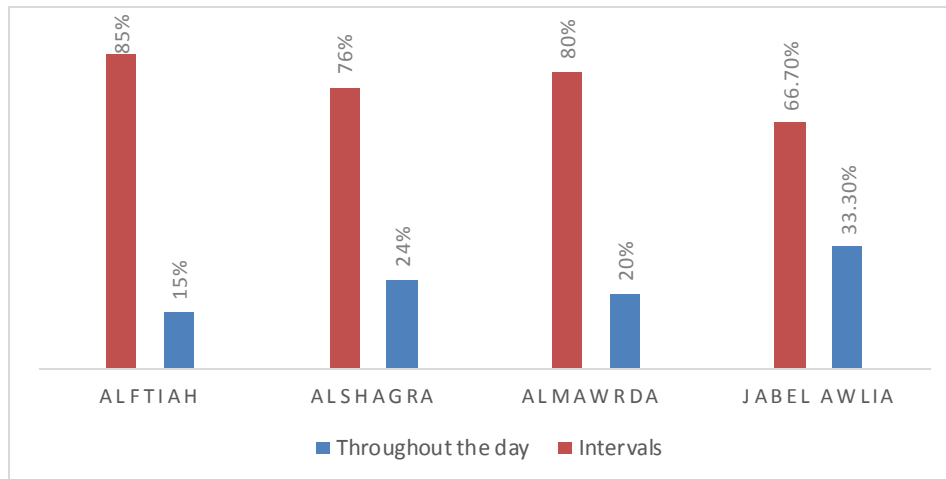


Figure 4.18 Time of fishing in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.19 The keeping method of fish in four sites

Figure 4.19 below, show the keeping method of fish frequencies in the four sites. In Ftaih Alaglien the highest percentage keep by using ice about 70% and the lowest percentage use ice and box about 0%.

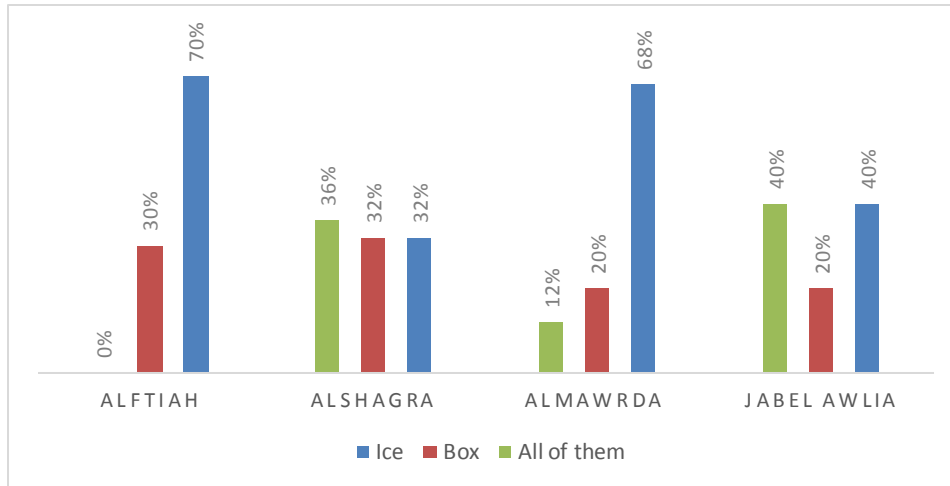


Figure 4.19 the keeping method of fish in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.20 The way of fish marketing in four sites

Figure 4.20 below, show the way of fish marketing frequencies in the four sites. The highest percentage of fishermen sell directly to the consumer about 76% and the lowest they sell to brokers about 24% in Almawrda.

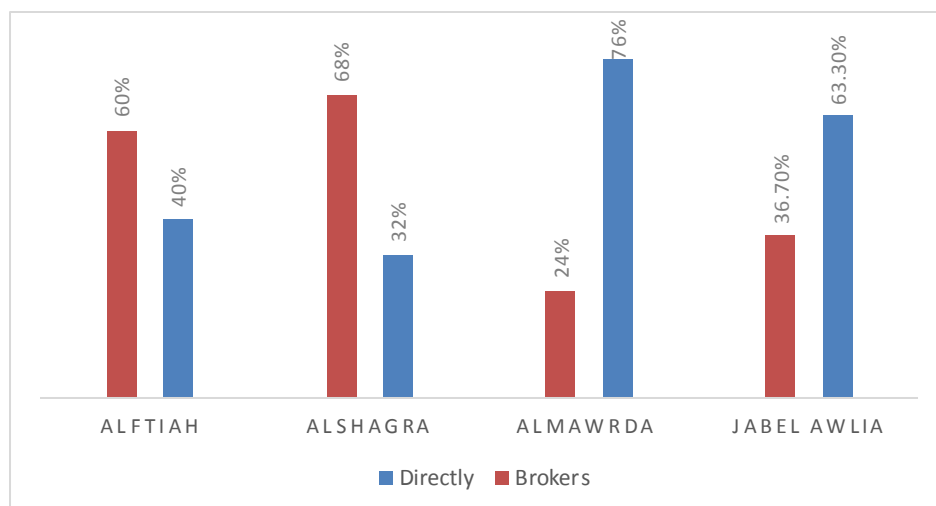


Figure 4.20 shows the way of fish sells in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.21 The type of catch fish in four sites

Figure 4.21 below, show the type of catch fish frequencies in the four sites. The highest percentage of fish caught from second degree about 65% in Ftaih Alaglien.

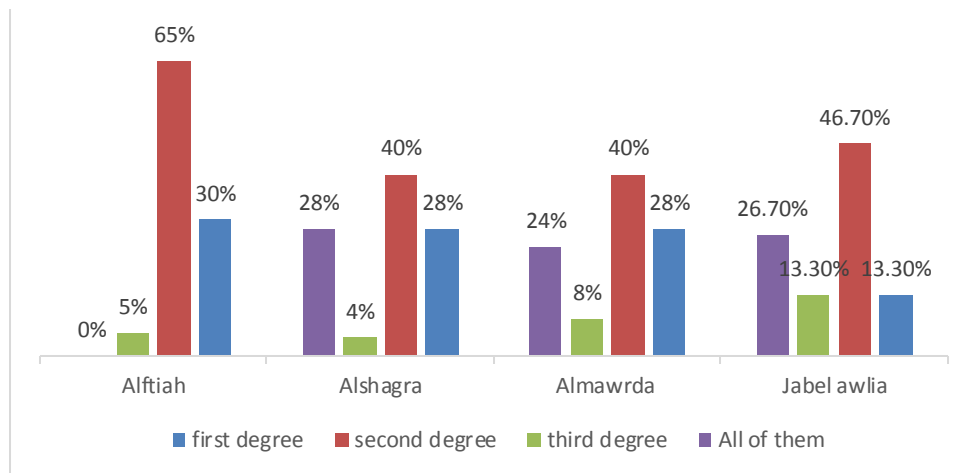


Figure 4.21 the type of catch fish in four fishing sites, Jabel Aulia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.22 The quantity of fishing in four sites

Figure 4.22 below, show quantity of fishing frequencies in the four sites. The quantity of fish caught 10 - 50 kg the highest percentage 70% in Jabel Aulia.



Figure 4.22 shows the quantity of fishing in four fishing sites, Jabel Aulia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.23 The change in abundant of species over time in four sites

Figure 4.23 below, show the change in abundant of species over time frequencies in the four sites.

The change increased was the highest percentage about 93.3% and the lowest no change about 0% in JabelAulia.

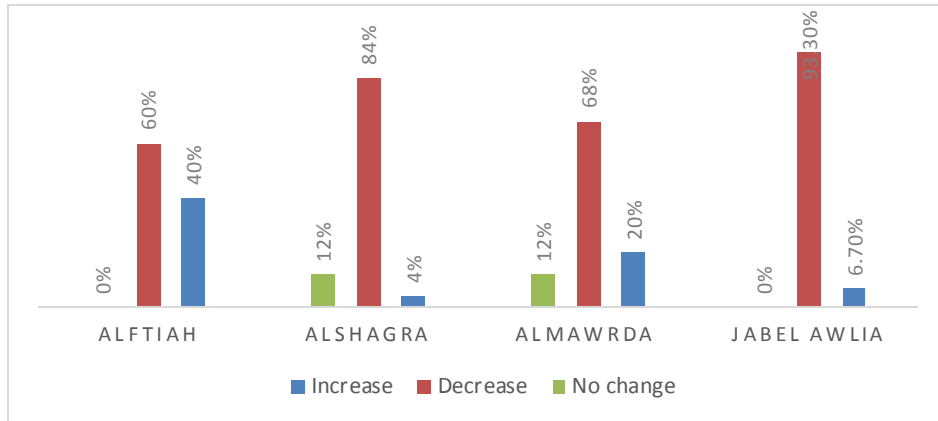


Figure 4.23 the change in abundant of species over time in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.24 The rate of income of fishermen in four sites

Figure 4.24 below; show the rate of income of fishermen frequencies in the four sites. Income rate decrease was the highest percentage 92% and the lowest 8% was increase in Alshijra.

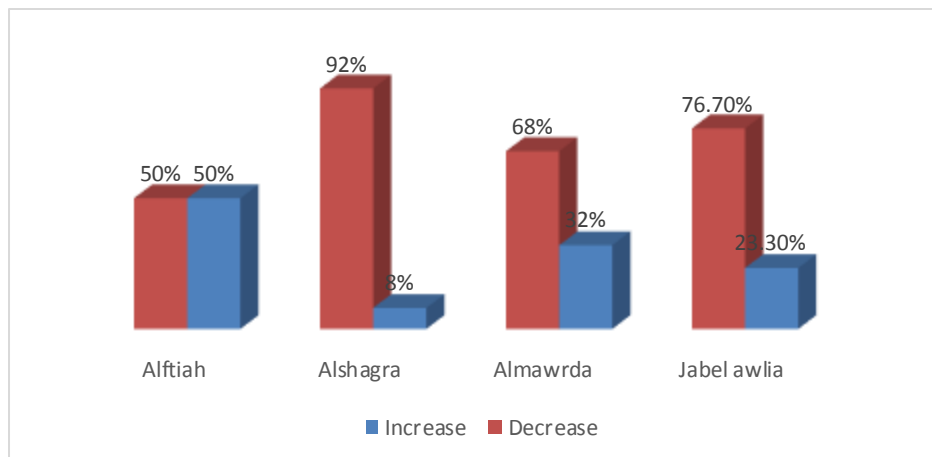


Figure 4.24 the rate of income of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.25 The abundant fish in four sites

Figure 4.25 below; show if there problem in the fishing supply are you continuing to catch or not frequencies in the four sites. In Almawrda the highest percentage reported yes about 100% and the lowest reported no about 0%.

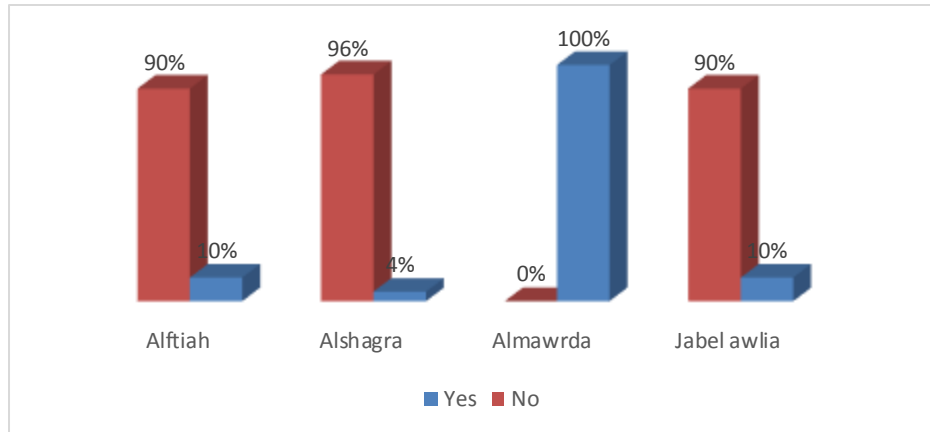


Figure 4.25 shows the abundant fish in four fishing sites, Jabel Aulia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.26 The fishermen association in four sites

Figure 4.26 below, show member of fishermen association frequencies in the four sites. In Alshijra the highest percentage reported no 96% and the lowest reported yes 4%.

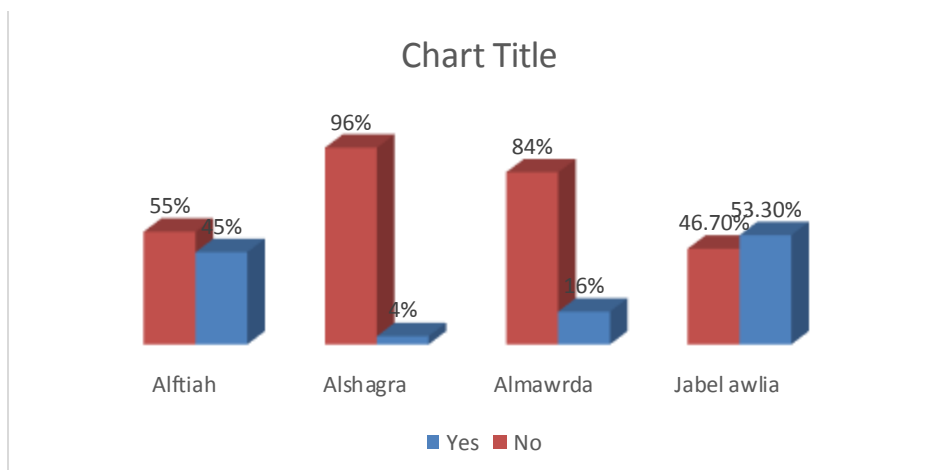


Figure 4.26 the fishermen association in four fishing sites, Jabel Aulia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.27 Services provided by the competent authorities in four sites

Figure 4.27 below; showare the competent authorities paid to fishermen training course and guidance frequencies in the four sites. The highest reported no 100% and the lowest percentage reported yes 0% in Alshijra.

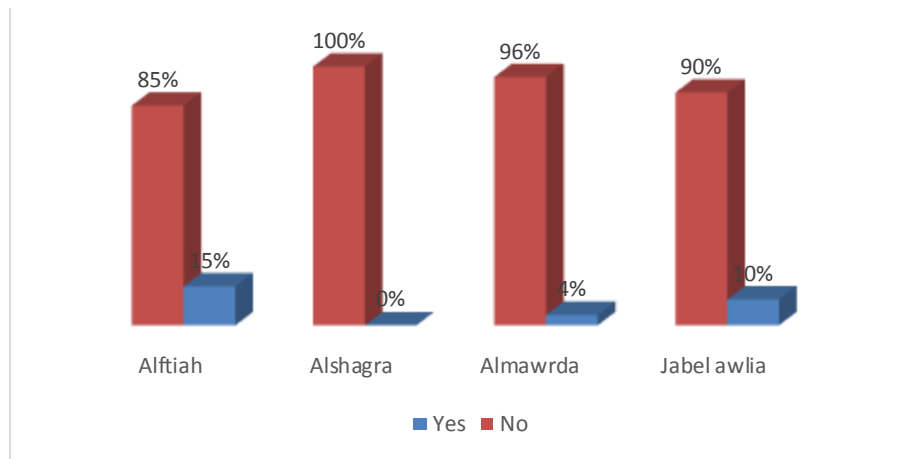


Figure4.27 shows services provided by the competent authorities in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.28 Relationship between fishermen and competent authorities in four sites

Figure 4.28 below, shows there relationship between fishermen and competent authorities' frequencies in the four sites. In Alshijra the highest percentage reported no 100% and the lowest reported yes 0%.

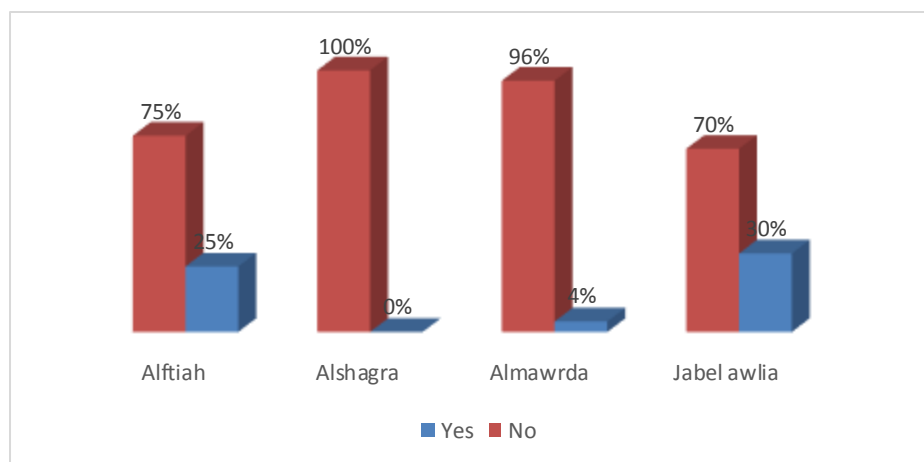


Figure4.28 shows relationship between fishermen and competent authorities in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.29 Using illegal fishing method

Figure 4.29 below, show illegal method of fishing frequencies in the four sites. In Alshijra the highest percentages reply no 96% and the lowest reply yes 4% in Alshijra.

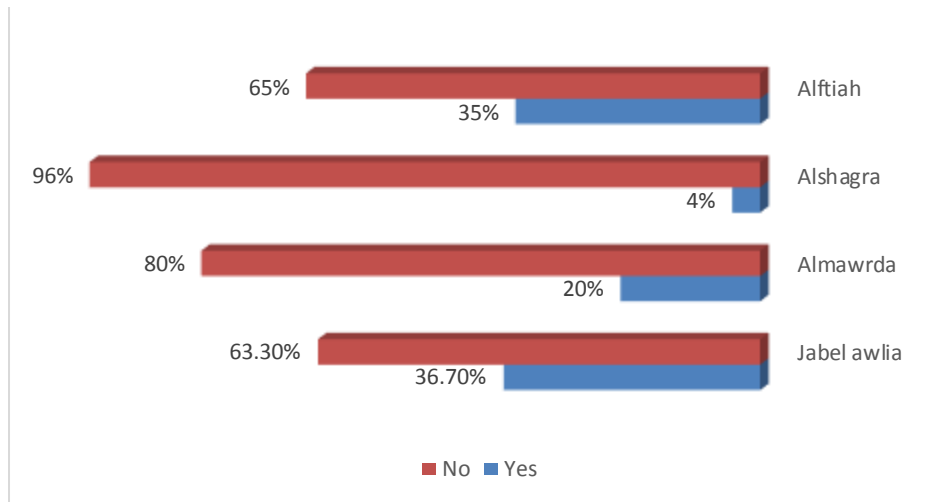


Figure 4.29 shows using illegal method of fishing in four fishing sites, Jabel Aulia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.30 Problems during the fishing in four sites

Figure 4.30 below, show face problem while fishing frequencies in the four sites. In Alshijra the highest percentage answer no 80% and the lowest answer yes 20% in Alshijra.

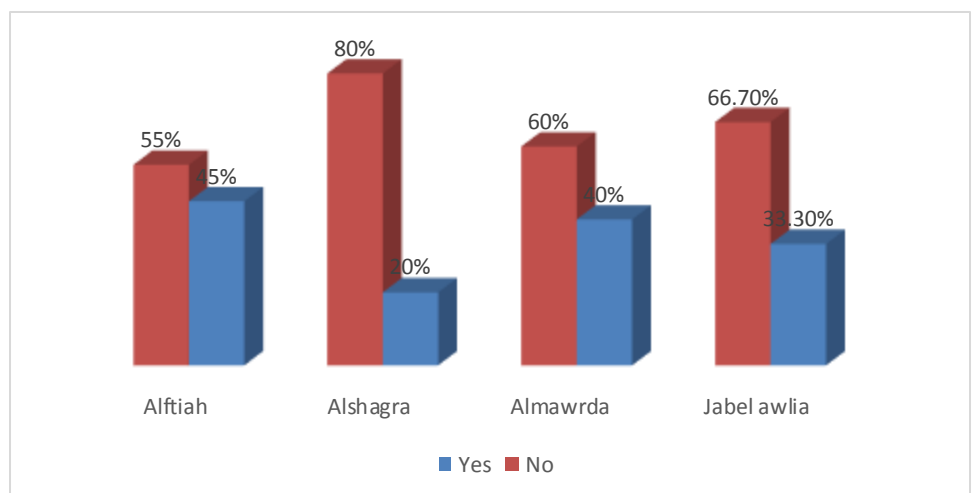


Figure 4.30 problem during fishing in four fishing sites, Jabel Aulia (30, fishermen), Fatih Alaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.31 Plans expansion of fishermen in four sites

Figure 4.31 below, shows plans expansion of fishermen frequencies in the four sites. In Fatih Alaglien the highest percentage reply no about 65% and the lowest reply yes 35%.

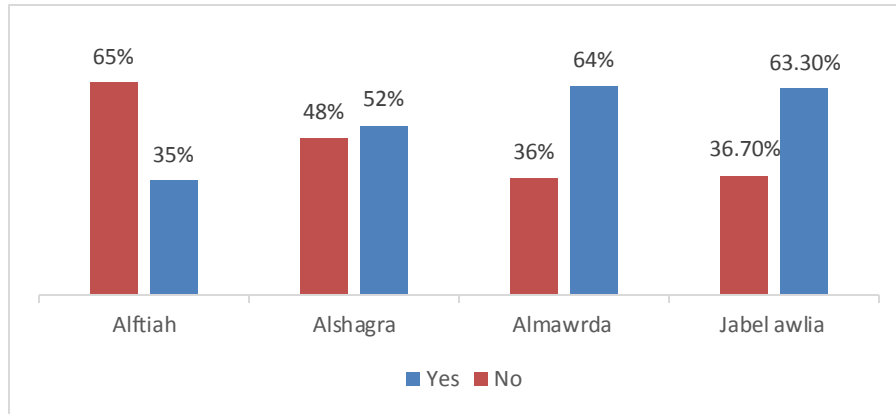


Figure 4.31 plans expansion of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.32 The plans of fishermen in four sites

Figure 4.32 below; shows the plans of fishermen frequencies in the four sites. In Fatih Alaglien the highest percentage of fishermen do not have an expansion plan 65% and the lowest buy more net 4% in Almawrda and Alshijra.

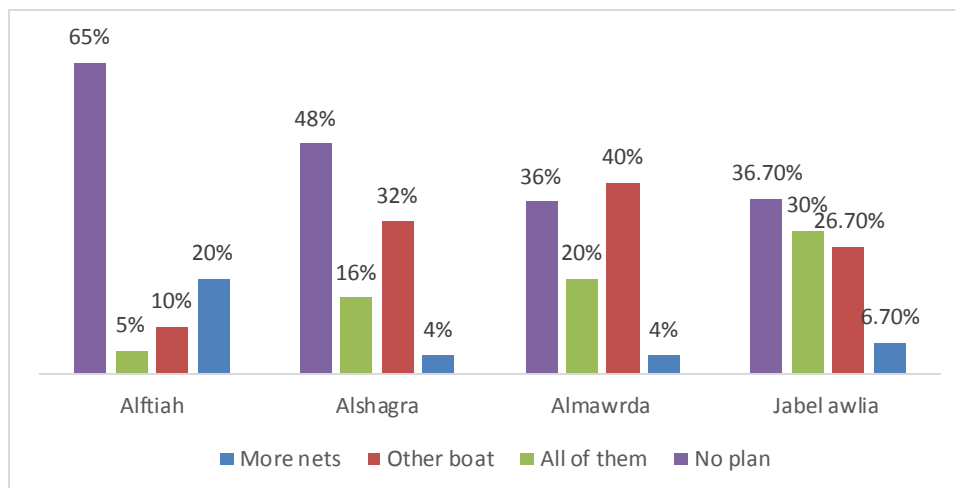


Figure 4.32 the plan of fishermen in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.33 Amount of small fish in the catch in four sites

Figure 4.33 below, show amount of small fish in the catch frequencies in the four sites. The highest percentage of fishermen replies little amount fish 100% and the lowest reply more 0% in Alshijra.

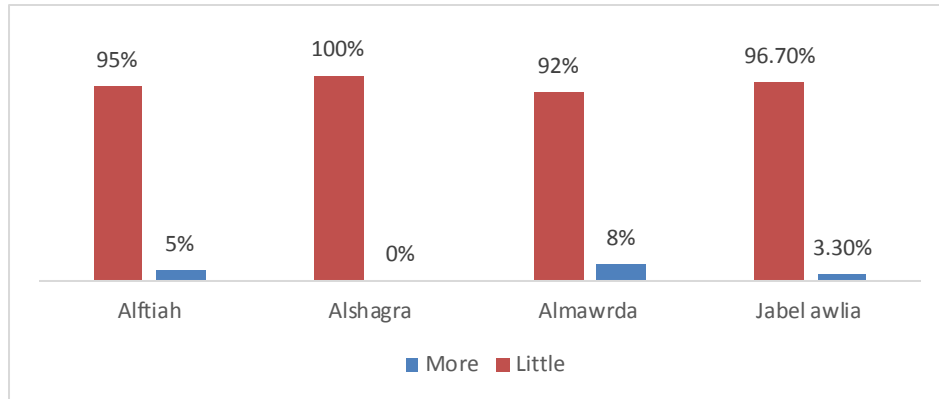


Figure 4.33 amount of small fish in the catch in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.34 The most consumption species in four sites

Figure 4.34 below, show the most consumption species frequencies in the four sites. The most consumption was *Oreochromis niloticus* about 68% in Almawrada and the lowest consumption was *Bagrus byad* 0% in Alshijra and Ftaih Alaglien.

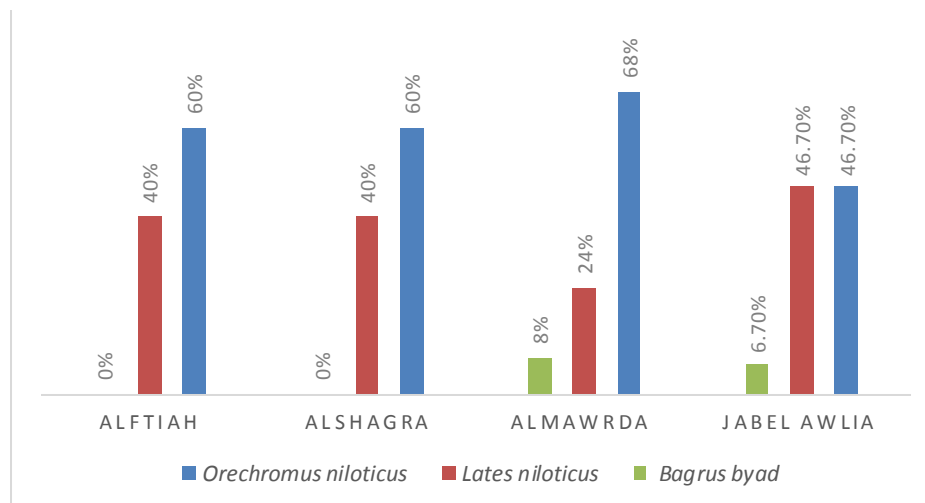


Figure 4.34 the most consumption species in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.35 The season of abundant fish in four sites

Figure 4.35 below, show the season of abundant fish frequencies in the four sites. The season of abundant fish was Summer 83.30% in JabelAulia and the Autumn was 0% in JabelAulia and Alshijra.

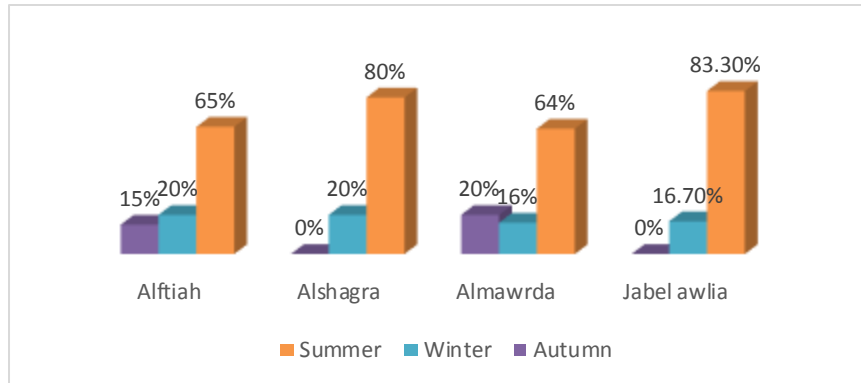


Figure 4.35 the season of abundant fish in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

4.36 The by catch in four sites

Figure 4.36 below, show the by catch frequencies in the four sites. Most of fishermen return the by catch again about 100% and do not return about 0% in Almawrda.

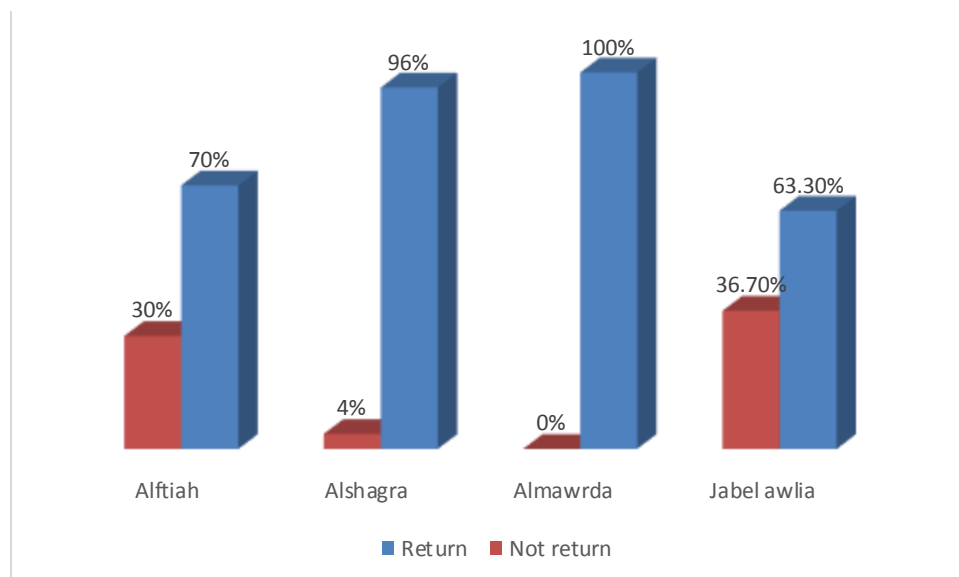


Figure 4.36 the by catch in four fishing sites, JabelAulia (30, fishermen), FatihAlaglien (20, fishermen) Alshijra (20, fishermen) at The White Nile and Almawrda

CHAPTER FIVE

5. DISCUSSION

Total 100 fishermen were interviewed and it was reported that the socio-economic condition of fishermen using the survey indicators like sex ratio, religion status, age distribution marital status, educational status. Most of the fishermen in four areas age ranged between 46-60 and the lowest percentage of fishermen less than 15 years in the Jebel Aulia 3.4% and Alkawrda 8%, while their percentage in the Alshijra and Ftaih Alaglien areas 0% (figure 1) this result is disagree with results of (Minar *et al.*, 2012) It appeared that age group of 31-40 years was the highest (56.00%) and 41-60 years was the lowest (14.00%). All fishermen surveyed were Muslims 100% this result is disagreeing with (Das *et al.*, 2015) 62% belongs to Hindu community while the rest 38% were belongs to Muslim community and male in the four regions were covered 100%. This result disagree with result of (Ahamed *et al.*, 2015) male 97.6% and female 2.4%. Most of fishermen are married 70% in Jabelawlia, 60% in Alkawrda and Alshijra, 50% in Ftaih Alaglien, divorce rate is the lowest percentage, correspond with result of (Ahamed *et al.*, 2015) married 85%. The largest percentage of fishermen belong to large families more than 7 members in four sites followed by small and families this result disagree with (Minar, 2012) the highest percentage of fishermen belongs to the medium families 70%. The educational level of the fishermen differs from one region to another at the highest level in the two areas of Alkawrda, and Alshijra 36%, they studied Khalwa, in Ftaih Alaglien, they studied to the secondary stage 36% and they studied to the primary stage in Jebel Aulia 40% this result is disagree with (Minar *et al.*, 2012) most of the fishermen are illiterate (80%). The largest percentage of fishermen own boats in the four sites 85% in Ftaih Alaglien,

80% in Almawrda, 73.3% in Jebel Aulia and 72% in Alshijra and a small percentage do not own boats. Experience period groups of fishermen ranged between 1 to more than 20 years, the highest rate is more than 20 in 52% in Alshijra, 40% in Jebel Aulia, and 32% in Almawrda agree with (Ahamed *et al.*, 2015) Experience group more than 35 yr had the highest percentage as 26.8% in JebelAwlia and 38.9% in Almawrada; followed by experience group 6-15 yr(29.3 %) in JebelAwlia and in Almawrada (27.8%). Some fishermen work in other job besides fishing like free business 40% in Alshijra, 23.3% in Jebel Aulia, 18% in Almawrda and 15% in Ftaih Alaglien, this result is disagree with (Ahamed *et al.*, 2015) free business 3% and other job 0%. Most of fishermen preferable deep water to fishing in four region 75%, 72%, 70% and 60% in Ftaih Alaglien, Alshijra, Jebel Aulia, and Almawrda respectively. The amount of fish caught 10-50 kg, is the highest rate in JebelAulia 70%, 60% in Ftaih Alaglien, 56% in Alshagra and 48% in Almawrda, this result not compatible with (Ahamed *et al.*, 2015), category of less than 5 kg by season was dominant (100%) but the other categories had (0%) (Less than 5 kg, 5 - 7 kg, 7 - 9 kg and more than 9 kg). A small percentage of fishermen are members of the fishermen's association about 53% in Jebel Aulia, 16% Almawrda, 4% Alshagr and 45% in Ftaih Alaglien, this result correspond with (Ahmed *et al.*, 2015) member of fishermen society (2.4%). About 100% in Alshijra, 96% in Almawrda, 75% in Ftaih Alaglien and 70% in Jebel Aulia of fishermen said that the competent authorities do not provide them with training and guidance courses, and 0% in Alshijra, 4% in Almawrda, 25% in Alftiah and 30% in Jebel Aulia this result agree with (Ahmed *et al.*, 2015) 5.6% say yes, the competent authorities do courses for them the relationship between fishermen and the competent authorities illegal net collection campaigns just.

CHAPTER SIX

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Through this study, it was noted that the fishermen's community needs more studies, to shed light on them for their importance in the field of fisheries. Establishing fishermen societies is important to help fishermen buy nets and fishing boats. The fishermen's community needs studies in the educational and financial aspects, because most fishermen depend on fishing as basic profession fishermen need training and guidance courses on fisheries, methods of conservation and fishing gears. The fishermen have knowledge of illegal fishing gear though some of them use it. Some fishermen had problems during fishing, such as dust and rain. The educational level of the fishermen is weak and the illiteracy rate is not low. There is no relationship between the fishermen and the competent authorities, except for illegal confiscation campaigns. Some fishermen work in other jobs because only the fishing profession is not economically sufficient.

6.2 Recommendation

- A. Activating fishermen association to help them buy nets and boats.
- B. Fishermen need training and guidance courses on fisheries, methods of conservation and fishing gears.
- C. Introduce new technology to increase efficiency of fishing that it leads to improve the income.
- D. It is important to consider the fishermen in policies because they are the main factor who affects our environment.
- E. Do other studies on the fishermen community in different seasons.

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8. Appendix

8.1 Questionnaire

A-Personal information

1-Fishermen age

1. Less than 15 2.16-30 3. 31-45 4.46-60 5.More than 60

2-Fishermen sex

1. Male 2.Female

3-Social status of fishermen

1. Married 2.Unmarried 3.Divorced 4.Widow

4-Family size of fishermen

1. Small family 1-4members 2. Medium family 5-7members 3. Large family more than 7members

5-Educational status of fishermen

1. Illiterate 2.Khalwa 3.Primary 4.Secondary 5.Diploma

6- Religion status of fishermen

1. Muslim 2. Christian 3.Other

B-Job information

1- Experience period (Years) of fishermen

1. Less than5 2.6-10 3.11-15 4.16-20 5.More than20

2- Are you a fisherman full time or part time?

1. Full time

2. Part time

3-The other job of fishermen

1. Farmer

2.Builder

3.Dealer

4. Employer

5.Student

6.Free business

7. Just fishermen

4- Preferable area of fishing

1. Pelagic

2.Offshore

3.Deep

5-Fishing gear of fishermen

1. Net

2.Long line

3. Needle 4. 1 and 3

5. All of them

C. Information about boats and marketing

1- The boat is owned by you or leased?

1. Owned

2.L leased

3. Does not own boat

2- Do you operate alone?

1. Yes

2.No

3-What is the situation of the workers?

1. Stable

2.Change

3.No worker

4- Is the boat licensed?

1. Yes 2.No 3. No boat

5- What is the time of Fishing?

1. Throughout the day 2.Intervals

6- What are the fish keeping methods?

1. Ice 2.Box 3. All of them

7- What the kind of boat?

1. Fiberglass 2.Iron 3.Wood 4.No boat

8- Do you own a machine of boat?

1. Yes 2.No 3. No boat

9- What is the way of fish sell?

1. Directly 2. Brokers

10- What types of fish are cached?

1. First degree 2. Second degree 3. Third degree 4.All of them

11- The quantity of fishing

1. Less than 10 2.10-50 3.50-100 4.More than 100

12- What the change in abundant of species over time?

1. Increase

2. Decrease

3. No change

13- What the change of rate income over time?

1. Increase

2. Decrease

3. No change

14- If there are problems in the fishing supply, are you continuing to catch or do something else?

1. Yes

2. No

D. Other information

1. Are you a member of the fishermen association?

1. Yes

2. No

2- Are the competent authorities paid to fishermen training course and guidance?

1. Yes

2. No

3- Is there relationship between fishermen and competent authorities?

1. Yes

2. No

4- Are you using an illegal method?

1. Yes

2. No

5- Do you face any problems while fishing?

1. Yes

2. No

6- Do you have any plans of expansion?

1. Yes

2.No

7-What is the plan?

1. More nets

2.Other boats

3.All of them

4.No plan

8- How match small fish they saw in your catches?

1. More

2.Little

9- What is the most consumption's species?

1. *Oreochromisniloticus*

2.*Latesniloticus*

3.*Bagrusbyad*

10- What the season of abundant fish?

1. Summer

2.Winter

3.Autumn

11- How do you deal with by catch?

1. Return

2.Not return

8-2 Tables

Table 4.1 Age of fishermen in four sites

Age	JabalAulia	Almawrada	Alshijra	Ftaih Alaglien
Less than 15	3.4%	8%	0%	0%
16-30	10.3%	24%	16%	30%
31-45	41.4%	20%	24%	10%
46-60	34.5%	24%	44%	45%
More than 61	10.3%	24%	16%	15%

Table 4.2 Sex of fishermen in four sites

Sex	JabalAulia	Almawrada	Alshijra	Ftaih Alaglien
Male	100%	100%	100%	100%
Female	0%	0%	0%	0%

Table 4.3 Social status of fishermen in four sites

Social status	JabalAulia	Almawrada	Alshagra	Ftaih Alaglien
Married	70%	60%	60%	50%
Unmarried	23.3%	32%	24%	40%
Divorced	3.3%	0%	4%	5%
Widow	3.3%	8%	12%	5%

Table 4.4 Family size of fishermen in four sites

Family size	JabalAulia	Almawrada	Alshijra	Ftaih Alaglien
Small family 1-4	26.7%	24%	20%	20%
Medium family 5-7	13.3%	12%	8%	10%
Large family more than 7	60%	64%	72%	70%

Table 4.5 Religion status of fishermen in four sites

Religion status	JabalAulia	Almawrada	Alshijra	Ftaih Alaglien
Muslim	100%	100%	100%	100%
Christian	0%	0%	0%	0%
Other	0%	0%	0%	0%

Table 4.6 Educational status of fishermen in four sites

Educational status	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Illiterate	10%	4%	12%	10%
Khalwa	10%	36%	36%	15%
Primary	40%	16%	8%	20%
Secondary	20%	28%	24%	35%
Diploma	0%	4%	12%	5%
Graduate	20%	12%	8%	15%

Table 4.7 Experience period of fishermen in four sites

Experience period	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
1-5	16.7%	16%	4%	15%
6-10	20%	28%	8%	15%
11-15	10%	12%	16%	10%
16-20	13.3%	12%	20%	60%
More than 20	40%	32%	52%	0%

Table 4.8 Fishermen full time or part time of fishermen in four sites

Fishermen full time or part time	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Full time	56.7%	40%	48%	70%
Part time	43.3%	60%	52%	30%

Table 4.9 the other job of fishermen in four sites

The other job	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Farmer	3.3%	8%	0%	0%
Dealer	13.3%	16%	12%	0%
Builder	0%	8%	0%	5%
Student	3.3%	12%	0%	0%
Free business	23.3%	18%	40%	15%
Employee	0%	0%	0%	5%
Just fishermen	56.7%	40%	48%	75%

Table 4.10 the boat of fishermen in four sites

The boat	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Owned	73.3%	80%	72%	85%
Leased	13.3%	16%	24%	15%
Does not own boat	13.3%	4%	4%	0%

Table 4.11 the licensed of boat of fishermen in four sites

The licensed of boat	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Yes	76.7%	96%	92%	95%
No	10%	4%	4%	5%
Does not own boat	13.3%	0%	4%	0%

Table 4.12 the type of boat of fishermen in four sites

The type of boat	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Fiberglass	20%	24%	36%	15%
Iron	50%	36%	36%	55%
Wood	16.7%	36%	24%	30%
Does not own boat	13.3%	4%	4%	0%

Table 4.13 Machine of boat of fishermen in four sites

Do you own a machine	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Yes	20%	24%	32%	15%
No	80%	76%	68%	85%

Table 4.14 Operate alone in four sites

Operate alone	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Yes	10%	16%	8%	10%
No	90%	84%	92%	90%

Table 4.15 the worker in four sites

The worker	JabalAulia	Almwrada	Alshijra	Ftaih Alaglien
Stable	16.7%	28%	4%	15%
Change	66.7%	56%	88%	75%
No worker	16.7%	16%	8%	10%

Table 4.16 Preferable area of fishing in four sites

Preferable area of fishing	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Pelagic	13.3%	4%	8%	0%
Offshore	16.7%	36%	20%	25%
Deep	70.0%	60%	72%	75%

Table 4.17 Fishing gears in four sites

Fishing gears	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Nets	83.3%	88%	88.5	95%
Long line	0%	4%	0%	0%
needle	0%	4%	4%	0%
1 and 3	13.3%	4%	4%	0%
All of them	3.3%	0%	4%	5%

Table 4.18 Time of fishing in four sites

Time of fishing	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Throughout the day	33.3%	20%	24%	15%
Intervals	66.7%	80%	76%	85%

Table 4.19 The keeping method of fish in four sites

The keeping method	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Ice	40%	68%	32%	70%
Box	20%	20%	32%	30%
All of them	40%	12%	36%	0%

Table 4.20 The way of fish marketing in four sites

The way of fish sell	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Directly	63.3%	76%	32%	40%
Brokers	36.7%	24%	68%	60%

Table 4.21 The type of catch in four sites

The type of catch	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
first degree	13.3%	28	28%	30%
second degree	46.7%	40%	40%	65%
third degree	13.3%	8%	4%	5%
All of them	26.7%	24%	28%	0%

Table 4.22 The quantity of fishing in four sites

The quantity of fishing	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
less than 10	6.7%	0%	0%	5%
10-50	70%	48%	56%	60%
50-100	20%	52%	40%	30%
more than 100	3.3%	0%	4%	5%

Table 4.23 The change in abundant of species over time in four sites

The change in abundant of species over time	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Increase	6.7%	20%	4%	40%
Decrease	93.3%	68%	84%	60%
No change	0%	12%	12%	0%

Table 4.24 The rate of income of fishermen in four sites

The rate of income	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Increase	23.3%	32%	8%	50%
Decrease	76.7%	68%	92%	50%

Table 4.25 The fish abundant four sites

Problem in the fishing supply	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Yes	10%	100%	4%	10%
No	90%	0%	96%	90%

Table 4.26 The fishermen association in four sites

Member of fishermen association	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Yes	53.3%	16%	4%	45%
No	46.7%	84%	96%	55%

Table 4.27 Services providing by competent authorities four sites

Training course and guidance	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Yes	10%	4%	0%	15%
No	90%	96%	100%	85%

Table 4.28 Relationship between fishermen and competent authorities in four sites

Relationship between fishermen and competent authorities	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Yes	30%	4%	0%	25%
No	70%	96%	100%	75%

Table 4.29 Using illegal fishing method in four sites

Illegal method	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Yes	36.7%	20%	4%	35%
No	63.3%	80%	96%	65%

Table 4.30 Problem while fishing in four sites

Face problem while fishing	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Yes	33.3%	40%	20%	45%
No	66.7%	60%	80%	55%

Table 4.31 Plans expansion of fishermen in four sites

Plans expansion	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Yes	63.3%	64%	52%	35%
No	36.7%	36%	48%	65%

Table 4.32 The plan of fishermen in four sites

The plan	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
More nets	6.7%	4%	4%	20%
Other boat	26.7%	40%	32%	10%
All of them	30%	20%	16%	5%
No plan	36.7%	36%	48%	65%

Table 4.33 How many small fish in your catch in four sites

Small fish	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
More	3.3%	8%	0%	5%
Little	96.7%	92%	100%	95%

Table 4.34 Most consumption species in four sites

Consumption species	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
<i>Oreochromis niloticus</i>	46.7%	68%	60%	60%
<i>Lates niloticus</i>	46.7%	24%	40%	40%
<i>Bagrus byad</i>	6.7%	8%	0%	0%

Table 4.35 The season of abundant fish in four sites

The season	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Summer	83.3%	64%	80%	65%
Winter	16.7%	16%	20%	20%
Autumn	0%	20%	0%	15%

Table 4.36 By catch in four sites

By catch	JabelAulia	Almawrada	Alshijra	Ftaih Alaglien
Return	63.3%	100%	96%	70%
Not return	36.7%	0%	4%	30%