**WOMEN IN FISHERIES: A CASE STUDY OF OGUN STATE COASTAL ESTUARY, OGUN STATE, NIGERIA**

**1.0 INTRODUCTION**

The fisheries sub-sector is a significant source of fish food and livelihood for many people living in the coastal communities, as it supplies animal protein necessary for growth and income for many households in these rural communities (Akinrotimi *et al*., 2007). According to FAO (2012), on the state of world fisheries and aquaculture, almost 45 million people worldwide were directly engaged, full time or part time, in the fishery primary sector in 2008. Furthermore, the FAO believes that there are an additional estimated 135 million people employed in the secondary sector, including postharvest activities. According to the same report, and on the basis of information from 86 countries, 5.4 million women worked in the primary fisheries and aquaculture sector in 2008, representing 12 % of the total workforce. Women have been reported to play a vital role in fishery related activities around the world, especially in the coastal environment, where these activities are classified majorly in three ways; fishing, processing and marketing (Olufayo, 2012). Their role in food production, like coastal fishery has become more relevant as a way of reducing poverty and enhancing food security. Also, women play a key role in the development of fisheries sector in addition to their role of sole household managers in most of fishermen families. The participation of women to the labour driven segments of fishing sector attributed to the overall development of aquaculture and increase in the exports of marine products. The occupational pattern of women has further undergone a structural change with the shift from net mending to fish marketing and processing (Manimekalai and Sujathkumar, 2015). Women are part of two integral part, society and family. They are a potential resource for nation development. However, their full potential yet is to be utilized in the productive activities such as professional occupation in generating extra income.

Women in fishing communities play multidimensional roles and their involvement in fisheries value chains are often considered as invisible in spite of being active in a wide range of activities both in capture and culture fisheries. Globally, women play an integral role in the aquaculture and fisheries sectors. Even though women’s roles and responsibilities are beginning to change in some countries, there are still constraints that can limit their participation (Manimekalai and Sujathkumar, 2015). Furthermore, the women role are embedded as housewife, accompanying her husband as well as taking care of the children (Hutajulu 2015). Worldwide, women in fishing communities have been observed to participate actively in fisheries and also play a part in the maintenance of their families (Nwabeze *et al*., 2013). In many parts of the world, women have engaged actively in fish business. In the European countries for instance, women control 39% of the fish industry, making a huge amount of money for themselves and their families (Aquilar, 2002). The crucial engagement of women in natural resources-based occupation such as fisheries in the rural communities has long been accepted but not recognized and not valued as men contribution (Obetta *et al*., 2007). Traditionally women have been playing a major role in agriculture. They have always been intimately involved in the agricultural production process. But a broad division exists wherein women are mostly engaged in home based agricultural work while men perform agricultural activities in the field (Ahmed *et al*., 2012). It is revealed from many researches that besides regular household work 43% of women are involved in activities related to agriculture and 15% had taken agriculture as their second line occupation. It can therefore be assumed that about 58% of women are directly or indirectly engaged in agriculture related activities (Hossain, 1991). Fishing could be a full time occupation for men; however, the involvement of women is also significant. Nevertheless, full time engagement of women in fisheries is no longer a rare scenario (Ahmed *et al*., 2012). They are directly or indirectly engaged in activities like making fishing nets, repair and maintenance of the gears, sorting of fingerlings (especially in coastal areas), fish processing, transportation, and marketing. Yet, most women in fisheries lack access to physical and capital resources, decision-making and leadership positions, to training and formal education (Ahmed *et al*., 2012). Access to these critical resources and services would improve the efficiency, profitability and sustainability of their activities. Although large-scale fisheries development projects, mechanization and improved technology may increase productive capacities in fisheries but at the same time they can also increase the post-harvest workload of women. This extra burden is often undertaken without a rise in pay or at the expense of other possible income-generating activities. If a fisheries activity is enlarged or mechanized, it often becomes the domain of men. Women should be equal partners and productive participants in fisheries activities that will improve their own and their family's nutritional and living standards (Ahmed *et al*., 2012). In the coastal areas many women are engaged in collecting seed, transportation, and marketing of the fingerlings (Ahmed *et al.,* 1993; Ahmed *et al.,* 2012). It has created self-employment opportunity for women (Alam, 1996). Women are employed in the catching sector, in aquaculture farms and processing factories, in the field of seafood sales and within the bodies which manage the fisheries sector (Frangoudes, 2011; Zhao, 2013). Also, many more women engage in fishing with small implements, wading and gleaning the shores for shellfish and collecting seaweed. In artisanal fishing communities, women are mainly responsible for performing the skilled and time-consuming jobs that take place on shore such as net making and mending, processing the catch and marketing it (Ahmed *et al.,* 2012).

**1.1 Justification**

Women are important productive workers in the economy making up about one-third of the labor force. Women in fishing communities also play an important role in fish production and processing across the world. Their role encompasses social and economic responsibilities, both within and outside the family. There are essential differences between the economic, social and political roles of men and women in most rural communities especially in fishing communities. According to Nwabueze (2010), women’s participation in aquaculture was recognized by many researchers and practitioners. Shalesha and Stanley (2000), reported that women perform important functions in the fisheries of most Asian and African countries. However, rural fishing women live in poverty with no purchasing power, and suffer from malnutrition due to low protein intake (Nwabueze, 2010). In order to improve the existing condition of women fishers, it is necessary to understand present status of women involved in fishing and fish marketing. Since these activities were uncertain and fluctuate, the women (the wife) have significant contribution to fulfill their daily need. This was supported by Nugraheni (2012), that the limited income of fisherman community can be seen with significant involvement of their wife in supporting the household economics. Sakdiyah (2000), conducted research in Gunungkidul and found that the wife of fisherman has low education background but their role on generating income for family was very productive. Also, Kusnadi (2001), reported that in the coastal community environment, the role of women has major contribution on land social-economic activities, while their husband staying in the sea for fishery activities. However, fish production is customarily considered as masculine venture, women role in fish related activities is though supportive, is imperative and indispensable (Cliffe *et al*., 2011). However, their role is repeatedly being ignored and relegated, consequent of primordial systems of social setting, which is prevalent in the rural areas of many **developing countries** like Nigeria (Ibrahim *et al*., 2011). Tamale (2004) reported that the non-recognition of women contribution in production process is enhanced by uneven allocation of resources. Therefore, lack of access and control over productive process is one of the major factors limiting women participation in economic activities such as coastal fishery practices (Acharya, 2003). Bhaumik *et al*. (1993) identified the socio-economic problems as perceived by rural women-folk which impeded their participation in various inland fisheries activities in West Bengal, India. Chapman (1998) describes the role of women in fisheries research and development in Lao PDR. Felsing *et al*. (2000) analyses the role of women in the aquaculture sector in Southeast Asia.

The role of women in fisheries encompasses social and economic tasks both within and outside the family (Sultana *et al.,* 2001). Women spend a major part of the day doing household chores. Some women are simultaneously involved in fisheries-related work, along with other income-generating activities. Women’s involvement in income-generating activities to supplement the family income enables their male counterparts to work elsewhere (Shelly and Costa, 2001). There is therefore the need to promote and to encourage women folk in this sector, so as to boost supply of food fish and improve the economic welfare of their families (IFAD, 2008; Ekpo, 2013). Fisheries is an important activity, that is predominant in coastal areas, the role of women in fisheries related activities in these areas are very crucial and critical to the overall economy of the state. This study aims to evaluate the activities of women in fisheries in the community and which aspect they most dominate and their livelihood in the study area.

**1.2 Objective of the study**

The main objective of the study is to determine the contribution of women to the fisheries activities in the Ogun coastal estuary.

The specific objectives are to:

1. investigate the socio-economic characteristics of women in the study area.
2. assess the role level of women in fulfilling the family need on small scale fisheries sector in the study area.
3. identify fish species smoked by women in the study area.
4. assess the situation of women in fisheries-related activities in the study area.
5. identify the challenges and constraints of women in various fisheries activities in the study area.

**CHAPTER TWO**

**2.0 LITERATURE REVIEW**

**2.1 Women and fisheries**

Closer inspection of fisheries globally, indicates that while certain fishing activities are more commonly undertaken by men, others are dominated by women. Women are involved in the capture, processing and sale, as well as finance aspects of fisheries, yet many of these roles have been overlooked and continue to be under-acknowledged in fisheries management and policy development (Chapmam, 1987; Matthews, 1993; Kronen and Vunisea, 2003; FAO, 2007; Weeratunge *et al*., 2010). The traditional roles of men and women within societies have contributed toward the notion that women participate minimally in fisheries economies. Men are typically regarded as the providers (i.e., hunters, fishers) while women stay at home and look after the home and family—as the caregivers. Such dichotomous division of labor is somewhat dated, as women have become heavily involved in the workforce in many sectors of the economy, and thus act both as providers and caregivers. Yet, despite technological advances in fisheries, many of the traditional ideologies with respect to gender roles in fisheries have remained relatively un-changed, and governance has failed to recognize the unequal division of labor (Weeratunge *et al*., 2010).

Small-scale fisheries play a crucial role in poverty reduction and food security (Kébé, 2009). Yet are often overlooked and undervalued in management and policy (Pauly, 2006; Zeller *et al*., 2007; Chuenpagdee, 2011; Mills *et al*., 2011; Sharma, 2011). By extension, women, as major participants in small-scale fisheries and aquaculture, have a fundamental role in development and production. Inclusion of women in the decision- and policy-making process is key to developing appropriate strategies for poverty alleviation and food security in light of changing global conditions. Reducing vulnerability and building resilience in communities at national, regional and global scales requires the consideration of and contribution by women to security (Engelman *et al*., 2009). For example, climate change will have a considerable impact on fisheries, both in terms of increased participation in fishing activities, and decreased productivity, due to changing species distributions and generally declining catch potential (Cheung *et al*., 2009; Cheung *et al*., 2010; Sumaila *et al*., 2011). Women have a fundamental, but under-valued, role in food and nutritional security, however, their contributions to national economies have been largely over-looked due to their dominance in the informal economy (Massaih, 1993; Chen, 2000)

**2.2 General description of women in fisheries**

An assessment by the WorldFish Center estimated that women represent between 5 and 73% of the total capture fisheries workforce (including full-time and part-time; fishing and post-harvest activities) in nine major fish producing countries (Weeratunge *et al*., 2010). This translates into an average participation rate by women of almost 50% for all fisheries-related activities (Weeratunge *et al*., 2010; Worldbank, 2010). A recent global estimate of marine fisheries employment (in 144 coastal countries) suggests that approximately 260 million (±6 million) people are involved in global marine fisheries, including full- and part-time jobs in direct and indirect sectors, men, women and children (Teh and Sumaila, 2011). Interestingly, Asia and Africa contributed the most to worldwide fisheries employment, likely because of the limited job opportunities in parts of these two continents. Although participation varies considerably from one region to the next. Women may participate less in catching fish, particularly large fish. However, they have a disproportionately high participation rate in the collection of invertebrates, the processing and marketing of catch, and they make up the bulk of laborers in seafood processing plants in many parts of the world, such as Asia, Africa and the Pacific (Matthews, 1995; Bennett, 2005; Weeratunge *et al*., 2010). Yet, in most countries and regions, these contributions are barely recognized.

**2.2.1 Europe**

In Europe, women have had a substantial role in the processing sector since the 19th century, particularly important during the peak of the herring fishery (Rana and Choo, 2001). The WorldFish Center estimates the participation by women in the fisheries sector in the European Union to be 6% and 59% for marine fishing and processing, respectively, with a total of over 65,000 women employed in these two sectors combined (Rana and Choo, 2001). Women in this region play a relatively minor role in capture fisheries (aside from gathering shellfish) compared to their role in support, marketing, processing, trading and other fisheries-related activities (DEFRA, 2012). The full extent of women’s participation in these activities, particularly their role in supporting fishing operations, fisher-families and communities is currently unknown (Frangoudes and O'Doherty, 2004; Frangoudes, 2011). Despite greater gender equality in Europe[1](file:///C:\\Users\\USER\\Downloads\\Women%20and%20fisheries%20%20Contribution%20to%20food%20security%20and%20local%20economies%20-%20ScienceDirect.htm" \l "fn1) , women are still largely excluded from fisheries management systems, such as fisheries cooperatives and policy development (Rana and Choo, 2001). While in some countries such as France, women legally obtained the right to be fishers in 1963, much of the informal work that they do to support family fishing businesses goes unrecognized. Some legal recognition was afforded to women indirectly involved in fisheries with the adoption of European Council Directive (816/613/EEC) in 1986 on “the application of the principle of equal treatment between men and women engaged in an activity, including agriculture, in a self-employed capacity, and on the protection of self-employed women during pregnancy and motherhood” (Frangoudes and O'Doherty, 2004). Further EU legislation has extended the legal status of women who assist their husband fishers, with an entitlement to social security and benefits such as old-age pensions, health care and maternity benefits. However, such legal status exists in only some EU member states such as in France, and to a lesser degree in Spain and Portugal (Frangoudes and O'Doherty, 2004). This has allowed some recognition and legal status to women who do much of the administrative work and support roles in fisheries (e.g., book-keeping, mending nets, auctioning fish, etc.) (Frangoudes and O'Doherty, 2004). Women, themselves, often do not see this as work, as it can be done at home while undertaking other household and child rearing activities. The economic value of this role is the opportunity cost of hiring someone else to specifically fulfill this role. To date, this has not been quantified but needs to be considered in the valuation of women’s role in fisheries. Zhao (2013) suggests that while women contribute significantly to the fishing industry, they are under-recognized, either unpaid or under-paid, and are limited in participating in management and policy making.

**2.2.2 Africa**

Africa has gained considerable attention in terms of the contribution of small-scale fisheries to poverty reduction and food security (Kébé, 2009). In addition to the primary sector of fishing, processing and trading have been recognized as adding substantial value to the economy, which was previously under-estimated. With respect to gender and fisheries, some recent work has highlighted the roles of women in African fisheries. The fisheries sector provides income generating opportunities for women, often considered among the poorest and most marginalized groups in developing countries (Williams, 2001). For example, in the Congo, 80–90% of fish traders are women (Kébé, 2009). In parts of Mozambique, women’s involvement in the trade of fish has been highly integrated into the culture both as a way to supplement meager household incomes and because the majority of male laborers were increasingly employed in South Africa n mines, while in other parts of Mozambique women are minimally involved (Johnson, 1992). In West Africa, women play a key role in the processing and financing of fisheries (Marquette *et al*., 2002; Overå, 2003; Demby *et al*., 2012). However, women’s role in processing has changed with the increased demand for fresh fish on the international market. Fish are increasingly sold fresh to retailers supplying European markets, transferred directly to boats destined for Europe or to factories designed with European health specifications in mind. Market women in West Africa provide monetary credit to fishermen and maintain well-defined client–patron relationships (Johnson, 1992). Although women in West Africa tend not to catch fish, they have a key role in distributing it, which determines economic returns to the family, and in support activities such as supplying provisions (e.g., ice, bait and salt) and repairing fishing gear (Johnson, 1992). In East Africa, on the other hand, women glean from the intertidal zone in Mozambique (Wynter, 1997), while in Tanzania, they engage in seaweed farming, octopus trapping and netting small fish in the intertidal zone (Porter *et al*., 2008). However, as octopus has become a valuable commodity on the international market, women are being increasingly displaced by men from this activity, which previously provided them with both an income and food.

While women are fundamentally involved in fishing activities for survival and for livelihood, their contributions go largely unseen. Consequently, women are excluded from fisher organizations, ignored by creditors and receive little training to improve fishing techniques, opportunities and conditions (Williams, 2001). As a fundamental component of food and income security planning in rural African communities, gender considerations must be addressed, particularly as globalization threatens the domestic availability of primary resources such as fisheries (Alder and Sumaila, 2004; McCay, 2006; Porter *et al*., 2008).

**2.2.3 Americas**

Literature on women in fisheries in Canada and the US is limited. However, considerable attention has been given to the role of women in fishing communities in Newfoundland and Nova Scotia, particularly during the height of the Atlantic cod fishery (Burton, 2012). Women played an important role in the processing of cod for export to Europe and the Caribbean—major trading partners in this fishery (McCay, 2006). Furthermore, women in Canadian indigenous northern communities have had a role in fisheries, but have largely been excluded from decisions affecting the resources that they are exploiting (Chuenpagdee *et al*., 2006; Kafarowski, 2006).

In Latin America (Mexico, and Central and South America), women participate directly in fishing-related activities and indirectly in supporting fisher families and communities (ICSF, 2002). Women in this region are more involved in processing, aquaculture and marketing than in capture fisheries (Pereira, 2001). However, much like in other regions of the world, their work goes un-noticed and rarely appears in fisheries sector statistics and/or in socio-economic valuations (ICSF, 2002). Women are starting to organize themselves and find a collective voice in fish worker cooperatives in order to raise their profile within fishing communities and at the level of government. Through participation in workshops and conferences, women are starting to contribute to discussions on the link between sustainable fisheries and healthy fishing communities (ICSF, 2002).

**2.2.4 Asia**

The changing role of women in Asian fisheries can be attributed to several factors, including increased aquaculture production, movement of labor between countries and evolving social status of women. As the largest aquaculture producing region in the world, Asia has an increasing number of women involved in this sector. Despite a greater labor contribution by women to the aquaculture sector compared to men, women are largely excluded from decision-making processes (FAO, 2007). In China, which generated 62% of reported world aquaculture production in 2008 (FAO, 2010), women represent 33% of the rural aquaculture labor force, while in Indonesia and Viet Nam this contribution is between 42% and 80% (Weeratunge *et al*., 2010). The role of women as regular and stable household food providers in places such as the Philippines is changing, and without proper recognition of this role, nutritional security may be threatened. Some effort has been made by the United Nations to establish microcredit programmes in fishing communities to assist in poverty reduction and empowerment of women. This microfinance approach, which provides loans, savings and insurance provisions has been successfully applied in parts of Viet Nam (Kibria and Mowla, 2004) and the Philippines (Tietze and Villareal, 2003). Women in Goa, India, have gained considerable economic independence and empowerment through their work as fish vendors, raising living standards and increasing opportunities for their families (Rubinoff, 1999). In Peninsular Malaysia, environmental degradation and unsustainable resource extractions have reduced livelihood diversity, which may jeopardize gender equity within households and communities where women previously worked alongside men in fishing activities (Nowak, 2008). The transformation from subsistence economies to global market economies, dominated by trade, has resulted in shifting social and economic roles of women in Bangladesh (Guhathakurta, 2008; Sachs, 2005) and likely throughout much of Asia.

**2.2.5 Oceania**

Traditionally, women in Oceania have had an important role in providing regular and stable food supplies to their families, including contributing significantly to marine-derived household protein through their collection of nearshore fish and invertebrates, known as reef gleaning (Chapman, 1987). While the role of women in fisheries in the Pacific has historically been restricted to these near shore subsistence activities, this role is changing. In Fiji, for example, this role has shifted from primarily subsistence as the target to subsistence as surplus, with much of the catch being sold on the market (Vunisea, 1995). Women provide the major labor force for this sector. According to Chapmam (1987), the role of women in the Pacific is much better recognized than in other regions of the world.

**2.3 Women in fisheries contribution to nutrition**

Although women's involvement in fisheries is widespread, occurring throughout the world, here we focus our quantitative assessment on the small-island developing countries of the Pacific region long recognized for their reliance on food from the sea, and where women are known to be heavily involved in fisheries activities (Chapman, 1987). Fish (here to include invertebrates) represent an important and often fundamental component of the diet in many parts of the world, making major contributions to protein demand and providing crucial micronutrients to the diets of men, women and children. Fisheries and aquaculture for local consumption contribute considerably toward household nutritional security, particularly in the developing world. Proper nutrition is fundamental to immune function, childhood growth, cognitive development and function, and to reproductive success (Kawarazuka and BénéLinking, 2010). While fisheries-related livelihoods, in particular small-scale fisheries, have been linked to household nutritional security (Kawarazuka and BénéLinking, 2010), more work is needed to understand the relationship between nutrition and small-scale fisheries. Women’s contribution of fish and shellfish to Pacific Island diets has been under-estimated, but is likely more important than that of men, due to the regular and frequent inputs by women’s fishing activities compared to that typically carried out by men (Matthews, 1993). Furthermore, most of the catch taken by women goes to feeding their family, whereas catches by men go mostly to markets. In Kiribati and Western Samoa, 16% and 17%, respectively, of household protein demand is met through reef gleaning activities by women alone (Chapman, 1987). Throughout the Pacific, the traditional diet, which includes a high proportion of locally caught seafood, has been significantly degraded by imports of cheap and often unhealthy protein alternatives and the adoption of a western diet (WHO, 2003).

**2.4 Women in fish marketing**

Marketing is a process of exchanging goods and services from one person to another with reference to price. A fish market is a market place used for marketing of fish and fish products. However, fish marketing essentially consists of all the activities involved in delivering fish from the producer to the consumer, while distribution provides channels that link the marketing institutions and producers together (Nwabunike, 2015). Fish marketing may be broadly defined as all those functions involved from the point of catching of fish, to the point of final consumption. As the fish, like any other production moves closer and closer to the ultimate consumer, the selling price increases since the margins of the various intermediaries and functionaries are added to it. The price efficiency is concerned with improving the operation of buying, selling and other connected aspects of marketing process so that it will remain responsive to consumer direction (Ali and Jampada, 2008). Nigerians on the coastal areas, creeks and rivers, fish is one of their major source of protein which is essential for healthy human growth. The shortfall has resulted in a low animal per capital consumption rate of 7.5 kg against the 13 kg recommended by the food and agriculture organization (Aynla, 2003).

Marketing plays an important role in a market economy. The role of marketing as an incentive to fish production and productivity cannot be over emphasized. The marketing of agricultural commodities in Nigeria involves various markets or exchange points. The number of exchange points depends on the nature of the point of production and that of consumption (Nwabunike, 2015). If the marketing process is efficient, it will go a long way in providing sufficient food to the populace through the process of market mechanism. The influence of market mechanism on price to a great extent determines the amount of food which peoples can afford. The effect of marketing process is assessed by the ability of the market to create time, place form and possession utility (Nwabunike, 2015). Since rapid preservation and transport became available in the 19th to 21st century fish markets can technically be established at any place. In marketing, fish passes through various market participant and exchange pounds before they reach the final consumer. These market intermediaries are the whole sellers and retailers. Both play important role in the marketing system (Nwabunike, 2015).

**CHAPTER THREE**

**3.0 MATERIALS AND METHODS**

**3.1 Study area**

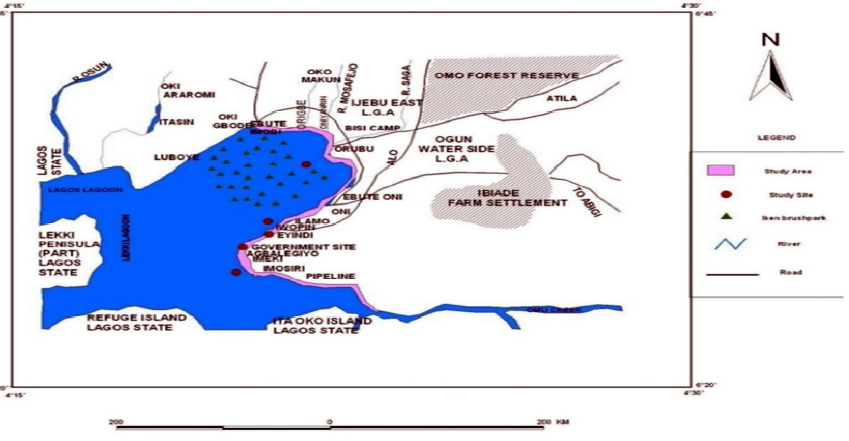
The study was carried-out in Ogun State coastal estuary, located between Ogun Waterside and Ijebu-East Local Government Areas of Ogun State, Nigeria. It is situated between 40°15’ E–40° 30’ E and 60° 20’ N 60° 45’ N and bounded in the east by Lekki lagoon and south by Bight of Benin (Figure 1). The lack of direct access to the Atlantic Ocean coupled with the discharge of Rivers Osun, Mosafejo and Oni into the water makes it essentially freshwater (Abdul *et al.,* 2010). Fishing activities are carried out with canoes (motorised and non-motorised). The fishing gears include; gillnet, seine net, cast net, nonreturn valve traps, brush park fish aggregator and Bamboo traps.

Figure 1: Map of Ogun State coastal estuary

Source: Abdul *et al*. (2010)

**3.2 Sampling method**

Interviews will be conducted with the aid of structured questionnaires according to FAO (1999). Questionnaires will be administered only to female fisher folks and they will be interviewed at mangrove swamps, jetties, fish landing sites, smoking hut, houses and market squares. The structured questionnaires will be used to extract the socio-economic characteristics which include; age, marital status, household numbers, educational level, year of fishing experience, type of fishery activities, livelihoods, alternative secondary occupations and the constraints facing the fisher folks.

**3.3 Statistical analysis**

Data from the study will be subjected to descriptive statistical tool, involving the use of central tendency such as frequency, percentage and charts to explain the various variables of interest using Microsoft excel v. 13 and SPSS (Statistical package for social sciences) v.22.

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