Coastal wetland area of Ogun State is known for fish production in the southwestern part of Nigeria. The study area was divided into two strata (lagoon and marine strata). One hundred structured (100) questionnaires were administered (fifty questionnaires in each strata) to the female fisherfolks. Information obtained included personal data, level of education, years of experience in the job, areas of involvement in fisheries activities and secondary occupations. Descriptive statistics (frequency distribution and pie charts) were used to elucidate the information obtained. The study showed that there was decrease in number of women participating in fisheries activities with increase in age. Eighty-nine percent respondent female fisherfolks were polygamous with an average size of five children per woman. Literacy level in the study area was low; secondary school education was the highest educational attainment of the female respondents. Women were actively involved in fisheries activities (fish smoking, marketing of fresh and smoked fish and middlemen). Women were also engaged in active fishing which was restricted to lagoon environment. Involvements in secondary occupations were common practice among the women fisherfolks to augment their income. Problems confronting these women were highlighted and measures to ameliorate them were discussed.

Keywords: women, fish, fisherfolk, coastal, wetlands.

INTRODUCTION
Fisheries sector is an important source of food and livelihood for many people around the world. Fish provides a vital source of protein and cash income for many families in the developing countries. About 200 million people throughout the world are estimated to depend on fish for all or part of their incomes (Akpaniteaku et al., 2005). Women play important roles in fisheries and in maintaining households and communities. Although fish production is traditionally considered as masculine enterprise, women’s role in fisheries is complementary and crucial. One of the most important commodity handled by women is fish (Akpaniteaku et al., 2005). In coastal wetland communities, women are deeply involved in artisanal fisheries activities. These activities include unloading of fish from landing canoes, fish marketing and processing (Cochrane et al., 2009); basically form the link between production and consumption.

Traditionally, women are obliged to take care of the family in terms of feeding, clothing schooling, health care (Nauen, 1989) and...
some other domestic chores like cooking, cleaning, fetching of water and firewood. These primary responsibilities are often combined with crop farming to support the family. Income-generating opportunities depend on local needs and circumstances and also on the ingenuity of the women in tapping them (Madhu, 1989). Families depend mainly on free fish supplied by the women of the household who are engaged in fish marketing (Adeyemo, 1983). Policy makers overlook the significant role women play in fisheries production and there is not enough information on women involvement in artisanal fisheries in the study area. The aim of this study was to highlight the relevance and contributions of women in the coastal wetland area of Ogun State, Nigeria in fish food security.

MATERIALS AND METHODS
The study covered nine coastal wetland towns and villages in Ogun Waterside Local Government Area, Ogun State, Nigeria. The study area was divided into two major strata: lagoon and marine fishing communities. The lagoon fishing communities comprised four locations which were Iwopin, Ode-Omi, Makun-Omi and Awodikora-Osa while marine fishing communities (five locations) included Awodikora-Okon, Igbeki, Oloumeta, Igbosere, and Bolorunduro as shown in Figure 1. Interviews were conducted with the aid of structured questionnaires according to FAO (1999). Fifty (50) questionnaires were administered in each strata of the study area. The questionnaire was used during the interview to elicit information relating to the general personal data of the respondents, educational level, years of experience in the occupation, their roles in fishing, processing, storage, marketing of fish and alternative secondary occupations. Questionnaires were administered to female fisherfolks during the interview. The respondents were exclusively interviewed at fish landing spots, smoking huts and market squares. Completed questionnaires were collated and analyzed with simple statistical tools such as frequencies and percentages. Pie and bar charts were used to elucidate variables of interest.

Figure 1. Map of the coastal wetland area of Ogun State
RESULTS AND DISCUSSION
The results revealed that age categories of the women fisherfolk differ greatly from one another and that there was decrease in women participation in fisheries activities such as fish smoking, marketing of fresh and smoked fish, middlemen and active fishing with increase in age in the study area (Figure 2). Age was an important factor in fisheries activities. However, respondents whose ages were between 21–30 years were the most prominent in coastal fisheries activities which accounted for 40.9%. The women in this category are still in their active age to contribute meaningfully to fisheries production. Majority of the respondents (93%) were married women still living with their husbands as shown in Figure 3, while 2% and 5% were widows and divorced respectively. Eighty-nine percent of the women interviewed in the fishing communities were from polygamous families while 11% was monogamous. Fifty-three percent of the women had an average family size of 5 children per woman.

![Figure 2. Age distribution of the women fisherfolk respondents in the coastal wetland area of Ogun State, Southwest Nigeria.](image)

![Figure 3. Marital status of women fisherfolk respondents in the coastal wetland area of Ogun State, Southwest Nigeria.](image)
Riedmiller (1994) reported average family size of six children per woman in fisheries sector of Lake Victoria. The size of the family is a direct factor to the level of responsibilities carried by the women in that they are responsible for the upkeep of their children. It was observed that wives of the fishermen buy fish from their husbands and smoke them before taking products to the markets. Consequently, the fishermen tend to marry more than one wife so that they can have enough hands to take care of their catch.

It was observed that the women were not highly educated; only 20% had secondary school education which was the highest educational level attained by the respondents (Figure 4). Suwanrangsi (2001) noted that educational status of women in the fisheries sector is inferior to that of men. Nauen (1989), Medard (2001), Akpaniteaku et al., (2005) and Ekesionye and Okolo (2012) reported high degree of illiteracy among women in fishing communities and it was a factor limiting their active involvement in developmental programmes and training.

The most common fisheries practice engaged by the women was marketing of smoked fish (63.8%) while active fishing (3.7%) was the least (Figure 5). This result corroborated the report of Akpaniteaku et al., (2005) that in rural fishing communities, women are predominantly engaged in fish handling, processing and marketing.

Figure 4. Educational background of women fisherfolk respondents in the coastal wetland area of Ogun State, Southwest, Nigeria
Nwabueze (2012) reported participation of women in artisanal fish production in Delta State. The study carried out by European Commission (2003) showed that women make up the majority of workers in the processing of fish products, but hold mainly low-grade unskilled jobs where they have few career prospects. In Europe, women are involved in all levels of the fishery production chain, from fish capture, to seeding and harvesting in aquaculture, to processing and marketing (European Commission, 2003). Alamu (2000) also observed that women in the Kainji Lake area engaged in post-harvest activities, like processing, preservation, and marketing. Engagement of women in active fishing is limited to the lagoon area in the study area; it is forbidden for women to be engaged in active sea fishing in the marine environment. Traditionally, they believed that it is a taboo for women to fish in the sea. In some cases, women that act as middlemen bought fishing gear and hired them out to men for a share of the catch. This corroborated the report of Medard and Wilson (1996) and Medard (2001). Figure 6 shows that majority of the respondents (31.8%) had been in the business for over twenty years while 24.2% had less than 11 years of experience.

Apart from fisheries activities, the results showed that 95% of the respondents were involved in multiple occupations such as crop farming (rice, cassava, maize and palm oil), coconut business and petty trading. This was necessary to augment their income especially during the period of low catch and unsteady market prices. Though they have separate budgets from their husbands, women contribute part of the household expenses. Indeed, the role of women in providing for their families has become crucial with the declining returns from artisanal fisheries. Adeyemo (1983) reported that families depend mainly on fresh fish supplied by the women of the household who are engaged in fish marketing. In some coastal fishing communities, elderly women and children collect shellfish along the shores, adding to family income and nutrition (FAO, 2004). In the

Figure 5. Fisheries activities engaged by women fisherfolks in the coastal wetland area of Ogun State, Southwest Nigeria.
European Union, women control 39 per cent of the fish industry, administering and controlling significant sums of money and generating substantial returns for their household and community (Aguilar, 2002).

Livelihood diversification is a means of risk transfer and reduction in the face of shocks (Cochrane et al; 2009). Apart from active fishing, women engaged in other fisheries activities and form trade unions which moderate their activities. In Lake Victoria, active participation of women in direct fishing is limited to hauling of beach seine (Geheb, 1997). In these study areas, gears employed by the women in brackish water ecosystem for fishing were traps of various types, set gillnets of small size and hooks coupled with small plank or dugout canoes as fishing crafts. Fisherwomen in the area may have been limited to these gears because of their strength.

Women in the study area are mainly involved in post-harvest fisheries activities. Their participation in fish smoking activities contributes to availability of smoked fish products in the markets. It was observed that smoked fish products command higher price than fresh fish in the study area. This might be due to the fact that there was no other means of preserving fish since there was no electricity. Fisherfolk lack the facilities to preserve their products and have few storage capacities. These factors compel the fisherfolks to sell the fish they cannot handle by smoking fresh at cheap prices because of the perishable nature of the products.

Different types of oven were employed for smoking fish in the study areas. These include box, mud, full-drum and half-drum (Figure 7). Use of drum ovens was conspicuously absent in marine wetland area which could be due to the salty nature of the area which could result in short life span of the metallic materials. All the respondents in the area make use of box oven in smoking their fish products. This could be as a result of large quantities of fish being handled at a time. However, Ikiara (1999) opined that processing as a means of prolonging the shelf life of fish products is complicated by the additional cost it requires.

![Figure 7. Types of oven used for fish smoking by women fisherfolk respondents in the coastal wetland area of Ogun State, Southwest Nigeria](image-url)
Makun-Omi, Efire and Epe are popular market outlets which serve as central markets for all the fishing communities in the study area. Smoked fish products from these markets are the principal source of cheap fish protein for the cities in the neighbouring cities and towns. Transportation of fisheries products from the marine beach to the markets is a herculean task because of the long distance and poor transport infrastructure.

The major constraints facing women in fisheries in the study area as depicted in Figure 8, included lack of fund, poor transportation, lack of fire wood for fuel, invasion of aquatic floating plants especially water hyacinth (*Eichhornia crassipes*) which is peculiar to those in lagoon wetland area. Others were lack of gear and smoke from the fuel wood. However, insufficient availability of wood for fuel (83%) and lack of credit facilities (65.7%) were the major constraints militating against the women fisherfolks. Sen *et al*; (1991) reported access to, and availability of credit facilities as one of the major constraints in fisheries sub-sector and that women in fishing communities have greater difficulties in obtaining formal credit than men.

Women play predominant and significant role in the post-harvest sector of the coastal wetland fish production in Ogun State. Women's role in post-harvest processing, marketing and distribution of fish has not been given the right place. Women in the fisheries should be developed through extension training programmes and skill acquisition, easy access to information, provision of credit facilities to improve their businesses, improved transport facilities, health and education services to improve their participation in development programmes. Furthermore, women fisherfolks should be provided with improved processing technologies affordable for easy and rapid adoption. Women association should be encouraged and promoted. United Nations (2004) urged governments to consider the developing and issuing of strategy changes that will ameliorate obstacles to women’s full participation in
sustainable development and public life. Women fisherfolks should be given the opportunity to express their concerns, experiences and opinions, both within professional producers, union organisations and in policy-making bodies. The ability of women to network in order to facilitate broad exchanges of experience and information is also essential to their advancement in the sector. Consequently, women fisherfolks should be empowered, through provision of improved transport system, introduction of new technologies, improved health services, adequate education and regular training. These would enable them to contribute their quota to the actualization of one of the millennium goals - food security.

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Role of women in fisheries in coastal wetland area of...


(Manuscript received: 23rd April, 2012; accepted: 18th February, 2013.)