

**The contribution of small-scale fisheries to food and nutrition security, livelihoods and the Sustainable Development Goals of Nigeria**

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## **Executive Summary**

Small-scale fisheries (SSF) are crucial in terms of food and nutrition security, livelihood and integral to achieving Sustainable Development Goals (SDGs) for Nigeria. The background paper- The contribution of small-scale fisheries to food and nutrition security, livelihoods and the Sustainable Development Goals of Nigeria addresses State and Non-State actors for a better understanding and involvement in resolving pertinent issues that impede the full realization of the potential of the sub-sector to meet with many of its known services. It is presented in two parts: Part 1 – The Current Status and Key Issues of Small-scale fisheries in Nigeria and Part 2- Enhancing the Contributions small-scale fisheries make to the Sustainable Development Goals.

Part 1 provided information on the contributions of small-scale fisheries of Nigeria in relation to employment and livelihood stating that the sub-sector provides the bulk of fish production locally. In the areas of food and nutrition security it was indicated that a meal is hardly complete without some form of fish or fish product as either the main animal source food or as a condiment, and these products have connections to traditional food cultures. Cultural roles of fish and small-scale fisheries are noticeable as fishing is the glue that holds together a fishing community and a key factor for socialization and defines social capital and networks rooted through kinship, friendship, intermarriages and many more. Part 1 also indicated that small-scale fisheries is gendered with the men dominant in production i.e harvesting and women in processing, distribution and trade. The part further set the platform for meta governance and roles stakeholders in stewardship. Key challenges and drivers of change identified in this publication include poverty and vulnerability in small-scale fisheries, urbanization drive, population boom and the Blue Economy among others.

Part 2 document actions, policies and informed opinion on enhancing contributions of small-scale fisheries towards Nigeria's quest for attaining SDGs. This part of the publication established a direction relationship between the implementation of the SSF Guidelines and the achievement of SDGs targets especially SDGs 1, 2, 12, 13, and 14. Improving governance and stewardship of small-scale fisheries; access to services, credit and social protection are mentioned as being important to deepen SSF contributions. Emphases on gender equality and making the role of women more visible; and the equally important need for capacity development and strengthening SSF organizations were reiterated.

In conclusion, this publication reaffirmed the situation of Nigeria's fish food system: small-scale fisheries of Nigeria remain very critical and important to the nation's food and nutrition security, livelihoods and national and local economies. Beyond food and income provision Nigeria's small-scale fisheries provide social and cultural values, and opportunities to maintain environmental well-being of the coasts, oceans and inland waters. With increasing population, rising levels of poverty and unemployment, the fishing industry is a safety net from poverty and as means of livelihood for new and established fishers and, employed youth despite ostensible decrease in official catch statistics and contribution to national GDP which in reality be under-evaluated. Substantial opportunities exist within and through small-scale fisheries to secure the foundations of the Sustainable Development Goals, and to progress these Goals in their last decade. One of the most immediate opportunities or tools in which to employ in this regard is to implement the already-committed-to SSF guidelines. The SSF Guidelines provide a vehicle through which Nigeria can meet the commitments laid out in the 1999 Constitution of the Federal Republic of Nigeria, and in both Exclusive and Concurrent Legislative List.

### ***Purpose, Intended Audience and Approach***

This background paper synthesizes established and published information alongside new data, analysis and insights on the values, issues, and opportunities within Nigeria's small-scale fisheries. The interpretations of these data illustrate where small-scale fisheries are a foundation of and pathway toward sustainable development for Nigeria. The new data and analysis reported here were prepared as part of Nigeria's contribution to the Illuminating Hidden Harvest Initiative and with other contributions from national and international researchers. This is the major output spinning off the Illuminating Hidden Harvest Initiative that mobilized those findings into Nigeria's decision-making community.

The background paper is presented in two parts: Part 1: Small-Scale Fisheries in Nigeria – Current Status and Key Issues, and Part 2: Enhancing the Contributions of Small-Scale Fisheries to the SDGS - Applying the SSF Guidelines. This Background Paper illustrates the status (Part1) and opportunities (Part 2) associated with Nigeria's small-scale fisheries, with respect to food and nutrition security, local and national economies, social and cultural services, and effective governance and stewardship of marine and inland aquatic systems

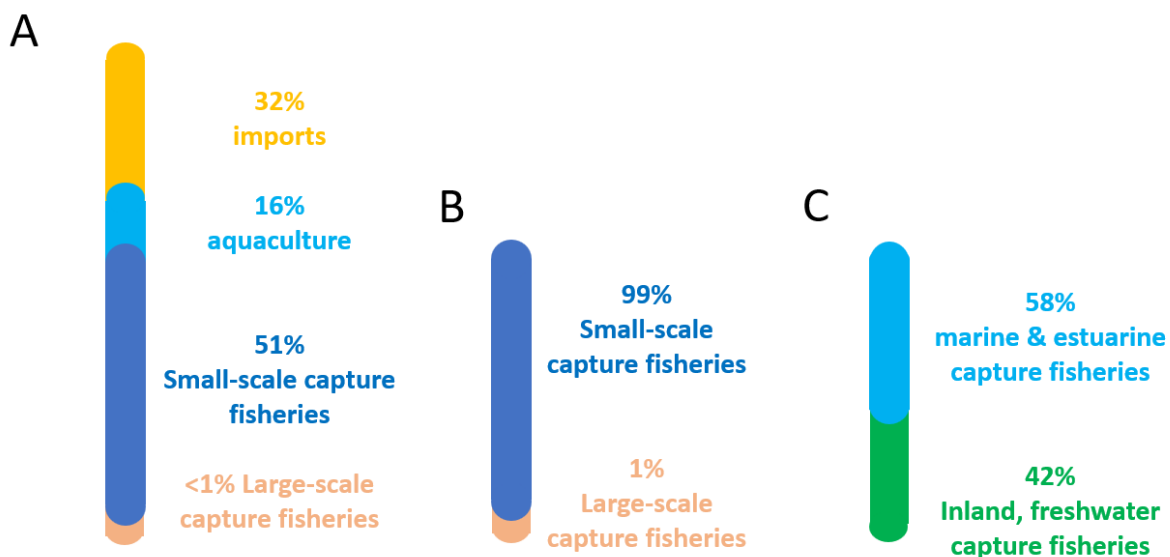
The Background Paper is intended for a wide audience – many of whom may be from fields such as health, development, food and nutrition and agriculture, in addition to the fisheries sector. The Background Paper was designed also to communicate with a broad range of small-scale fishers and the groups that represent them, who are the direct beneficiaries of policy, management or investment improvements that might be brought about by this piece of work. The ultimate objective of this work is to raise the profile of the challenges and opportunities that exist within small-scale fisheries and to bring these into policy and investment planning – where at current they are relatively overlooked. Bringing these opportunities and challenges more centrally into deliberations about sustainable development in Nigeria presents new opportunities to progress food and nutrition security across the nation, and poverty eradication within and across the entire supply chain. It also seeks to speak to the minds of the policy makers to draw their attention to the numerous relationships between Nigeria's small-scale fisheries and sustainable development of the country. It underscores the linkages of sustainable NSSF to attainments of many of the SDGs such as Poverty Eradication (SDG1), Zero Hunger (SDG 2), Responsible Consumption and Production (SDG 12), Life below Water (SDG 14), Life on Land (SDG 15) and Partnership (SDG 17), among others.

We are excited to present for your reading and learning this Background Paper and hope that this present effort will promote efforts by stakeholders and the development agencies in joining hands and driving a process of sustainable and inclusive development in Nigeria, using the opportunities to do so that are presented by small-scale fisheries. One of the most immediate, but not sole goals is to stimulate more widespread and collaborate action to 'walk the talk' on the implementation of the SSF Guidelines and other pre-existing policy commitments made to fishers, food and justice.

## PART 1 – The Current Status and Key Issues of Small-scale fisheries in Nigeria

## 1.1 Employment and Livelihoods

Nigeria's fish supplies and fish related employment come from four main production sources; small-scale fisheries, large scale fisheries, aquaculture and imported products - which we estimate to total near to 2 million metric tons. Most fish harvested in Nigeria are from small-scale fisheries compared with large scale fisheries (Figure 1B). Here we use relative volumes of catch to indicate the relative importance of the sector, however we would predict that employees per volume of fish landed would be higher for small-scale fisheries than for large scale fisheries size of the sector. Small-scale and large-scale fisheries harvest from both marine and freshwater systems (Figure 1A). Whilst the aquaculture sector is growing in Nigeria, it currently produces lower volumes of fish than large and small-scale capture fisheries (Subasinghe et al., 2021). In addition to nationally sourced supplies, an average of 600,000 tons of fish (mainly marine species) are imported each year (Bradley et al., 2020) which accounts for approximately 50% of the total fish supplies in Nigeria (Subasinghe et al., 2021). Inland fisheries tend to be overlooked relative to marine fisheries. Yet, inland water bodies and ecosystems provide substantial employment and large quantities of fish for local food provision in Nigeria (Figure 1C).



**Figure 1** (A) The relative size of the different fish supply sectors in Nigeria (based on volumes) (B) The relative size of small-scale fisheries and large-scale fisheries in Nigeria (based on volumes landed) (C) The relative focus of large scale and small-scale capture fisheries form both inland or coastal waters.

**Figure 1 (A) Total supply of fish and aquatic food production in Nigeria.** Nearly 2 million metric tons are supplied from import, aquaculture, large scale fisheries and predominantly small-scale capture fisheries. **(B) The percentage of landings derived from small-scale fisheries and large-scale fisheries in Nigeria.** Fish volumes were calculated from the year 2017. Data were obtained from FDF, 2017 and from expert elicitation from the Federal Department of Fisheries and Aquaculture. **(C) Small-scale fisheries landing by ecosystem.** Fish landing estimates were available for 2013-2015 (FMARD, 2016a) and extrapolated for 2016-2017 (y2) using the prior year (y1) in the equation  $[\text{growth} = (y2-y1)/y1]$ . The proportion of landings that were caught by LSF were removed based on expert elicitation from Federal Department of Fisheries and Aquaculture. We then averaged the catch per year and reported the catches by inland or marine ecosystems.

Rates and types of employment in pre-, post- and harvesting aspects of small-scale fisheries shape their contribution to the regional and national economy (Halls et al, 2005). A range of strategies are used to estimate the total levels of employment across the pre-, post-and harvest aspects of small-scale fisheries – each method has limitations and assumptions. However, being a largely informal sector, the country lacks time-bound, standardized data collection and reporting methodology to produce reliable statistics for fisheries employment particularly the small-scale fisheries. The best national data set available are the official statistics of 2015 which reported a total of 1.46 million men were employed by small-scale fisheries as harvesters in full-time, part-time and/or subsistence capacities. The IHH Nigeria case study reports 1.47 million as harvesters in 2017. The report also indicated that there are almost twice as many inland fishers (1 023 313 ) as there are coastal/ marine fishers (451651) in full-time, part-time and occasional capacities. These employment statistics did not include the pre- and post-harvest sectors, and most likely underestimated or completely overlooked the labour of women and youth.

Pre-harvest fisheries activities mainly include boatbuilding, gear fabrication, and gear mending – these labor roles are thought to be predominantly filled by men. Employment in this sub-sector constitutes less than 5% of the total small-scale fisheries workforce. Post-harvest activities include processing, selling and transporting fish – these roles are predominantly played by women - it’s estimated that the post-harvest sectors constitute at least 70% of the total small-scale fisheries workforce. According to the IHH Nigeria case study, a total of 6 194 848 people were employed in the subsector (Figure 2). The calculation was based on the ratio of 4.2 postharvest workers:1 harvest worker in the previous Hidden Harvests report. Another estimation suggesting between 4.13 million and 6.86 million women and men for is calculated based on the 1: 3 to 1:5 ratio of fishers (full-time and part-time) to post-harvest workers (Halls et al. 2005; FAO and WorldFish, (2008). The method of Belhabib et al., (2015), however excludes dependents of subsistence fishers, but estimates total number of people dependent directly and indirectly on income generated through engagement in the harvest; pre-harvest and postharvest roles of small-scale fisheries to around 6.96 million in 2015.



**Figure 2. The estimated number of people employed nation-wide in the pre-harvest, harvest and post-harvest parts of small-scale fisheries.** Data source for employment in harvesting; FDF (2007). Pre-harvest employment was extrapolated to the national level from the ratio of pre-harvest to harvest employment that had been determined using data from Lagos state. The total workforce in the post-harvest was extrapolated from national harvest labor estimates, using the ratio of 4.2 postharvest workers:1 harvest worker which was a global estimated ratio employed previously (Kelleher et al, 2012)

Women and youth provide important labor/gain livelihoods from small-scale fisheries. As such, employing sex-disaggregated and youth employment data is increasingly demanded as best practice to understand opportunities and challenges within fisheries (FAO, 2018; Fry et al 2021). However, sex-disaggregated data are often not available in many instances (including Nigeria) women's employment is not counted at all (FAO, 2018). Similarly, across fishing and fish farming in Africa, there is a dearth of data on youth employment (NPCA and AU IBAR, 2016). For Nigeria, sex-disaggregated data and youth employment data were not collected in the 2007 National Fisheries Frame Survey (FDF, 2007). Estimating employment and livelihoods data by sex and youth in SSF required dis-aggregation based on fixed conversions established elsewhere (i.e., Funge-Smith and Bennet, 2019; FAO, 2022). Using these conversions suggests 264,200 (or between 19,000 - 306,600) women worked as harvesters in full-time, part-time and occasional capacities. The IHH Nigeria case study, however suggests 146, 729 women fishers in full-time, part-time and occasional capacities. Based on local studies and FDF (2007), approximately 60% of the total fishers' population or 876,000 fishers were aged 15-40 years.

The informal, highly dispersed nature of small-scale capture fisheries implies that key actors in inland or coastal fishing communities may not be easily accessible and thus not captured in a general household survey. With increasing population, rising levels of poverty and unemployment, small-scale fisheries is a safety net from poverty and an important source of employment for women, men and youth - despite this it is still overlooked and under-evaluated in estimates of GDP (Belhabib et al., 2015; Arulingam et al., 2019).

Small-scale fisheries contributes roughly 70% to annual household income spent on food . However, faced with changes that have affected their dependence on fisheries, food –security and well-being, fisherfolks are compelled to evolve strategies to ameliorate or buffer the negative impacts which have far –reaching consequences. Livelihood diversification is a major coping strategy to reduce over-dependence on fish resources as main source of livelihood, alleviate pressure on fishery resources and allow fishery resources to regenerate (Ifejika et al., 2013) . Livelihood diversity guarantees a fishing households access to one source of income or the other following diversity of income streams, which serves as a buffer against household vulnerability, thereby ensuring improved well-being of the family (Tafida and Galtima, 2016). Income streams can be classified as secondary or subsidiary occupations and following Oladimeji (2018) further categorized according to sectors : agriculture and non-agriculture activities and on the basis of functions as wage –employment and self-employment. Non- agriculture activities have a propensity to attract youth interest and generate income on daily, weekly or monthly basis (Ifejika



et al., 2013). Diversification trends reflects emerging opportunities provided by availability of resources, public policies on private –sector driven economy, state of infrastructure and development at disposal in the communities. Examples of income streams are crop rearing, livestock / poultry rearing, petty trading, fish farming, commercial transportation, sand mining, bee-keeping/ bee hunting, wood carving, civil service, tailoring, brick laying, carpentry, politics, viewing center/ video rentals and other vocational skills (Ifejika et al 2013; Tafida and Galtima, 2016; Agbeja et al 2021)

## 1.2 Contributions of small-scale fisheries to food and nutrition security

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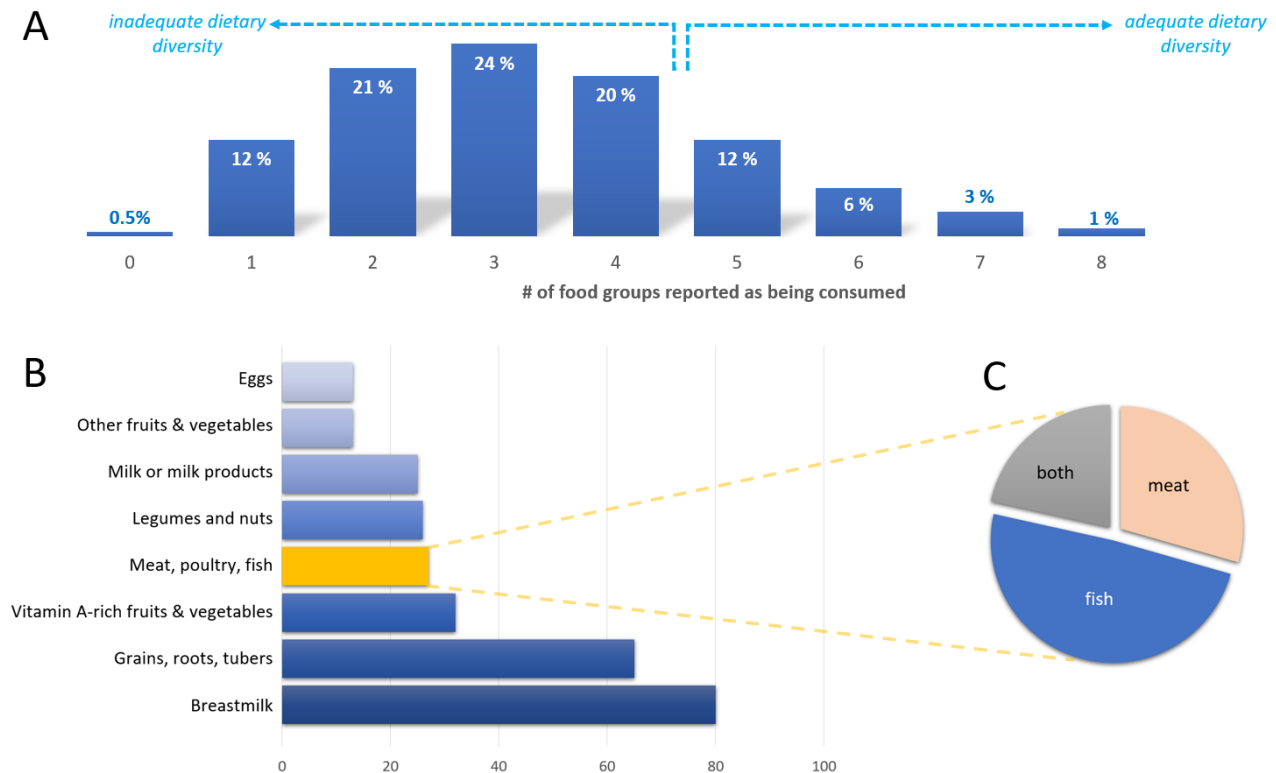
### *Undernutrition in sub-Saharan Africa*

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Sub-Saharan Africa has the highest prevalence of hungry people in the world and bears a tremendous burden of poor nutrition, including undernutrition, especially among children and women (FAO, 2016a). Of particular public health concern is the prevalence of four micronutrient deficiencies i.e., deficiencies in iron, folate, vitamin A and zinc are very high in sub-Saharan Africa children under five years of age compared to the rest of the world (Fanzo, 2012, Kawarazuka, 2010). Inadequate intakes of calcium are also a problem globally, and sub-Saharan Africa is no exception (Beal et al, 2017). These and other nutrient deficiencies have serious health social and economic consequences such as stunted physical growth, intellectual impairments, perinatal complications, lifelong increased risk of morbidity and mortality, reduced ability to earn income and a loss of GDP (Victora et al, 2008). The loss of GDP across the whole continent is estimated to be

In Nigeria, a meal is hardly complete without some form of fish or fish product as either the main animal source food or as a condiment, and these products have connections to traditional food cultures. In fact, smoked fish are considered so valuable they are commonly given as gifts (Byrd et al, 2021). As a result, fish are consumed in many forms in Nigeria – smoked, dried, fermented, and fresh, across all wealth categories (Byrd et al, 2021). It is recommended that on average, each day, people consume a minimum of 40 g of fish, of which 20 g should be from oily fish to reach 450 mg of omega-3 fatty acids (Kranz et al. 2017) and in Nigeria the daily average intake of fish is estimated to be around 26 g/day – 48 g/day.

However, despite the above estimates, there is some evidence that the amount of fish consumed in a given meal is relatively small (Byrd et al, 2021), and fish and aquatic food consumption could increase to target micronutrient deficiencies (hidden hunger) in Nigeria. Indeed, most children in Nigeria do not consume adequately diverse diets (Figure 3A), even though the category of ‘fish’ makes up most of their meat consumption (Figure 3B). Though there are no nationally representative estimates of the prevalence of nutrient deficiencies, the prevalence of stunting is 37% and wasting is 7%, which are higher than the averages found across Africa (i.e., 29.1% and 6.4% respectively). In Nigeria iron anemia deficiency is 68% and vitamin A deficiency is just over 20% (Aghaji et al., 2019; NPC and ICF, 2019). The immediate causes for the persistence of these micronutrient deficiencies are in part due to inadequate dietary intake of micronutrients (Akintola and Fakoya, 2017a).

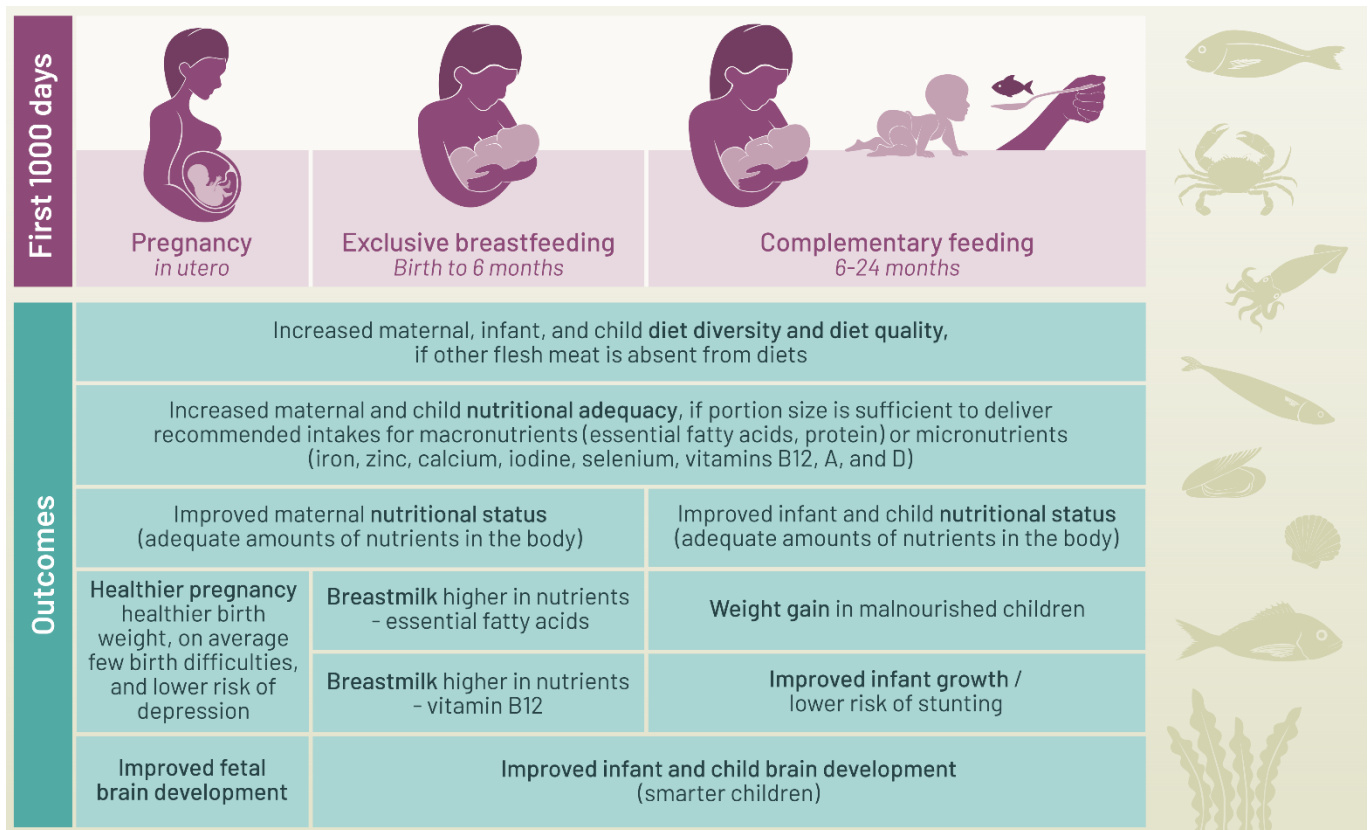


**Figure 3.** (A) The proportion of children in Nigeria under the age of two years that consume one to the maximum eight foods groups that the World Health Organization (WHO, 2017) consider to be optimal for dietary diversity; (B) The eight different food groups and the proportion of children (under two years of age) consuming each; (C) The composition of the ‘meat, poultry, fish’ food group illustrating the relative frequency that fish is the main type of flesh food. Data are based on parents recall of consumption in the previous 24 hours by children aged 0-23 months (n = 12,076) (National Population Commission (NPC) [Nigeria] & ICF, 2019)

Leveraging the fish caught from small-scale fisheries in Nigeria has huge potential to address the burdens of malnutrition. Small fish species consumed whole are good sources of iron, calcium, vitamin A, and B-12 (Thilsted et al, 2016) and are also a good source of omega-3 fatty acids (Jimenez et al, 2015), and many small fish are fished from small-scale fisheries in inland waters. Even eating small quantities of fish enhances bioavailability and utilization of micronutrients of other foods in traditional, high carbohydrate diets indirectly boosting immunity in vulnerable populations (Falaye, 2008; FAO, 2014; Ovie and Raji, 2006). The innate healthfulness of fish and aquatic foods can also contribute to a healthy diet that reduces the burden of diet-related non-communicable diseases, such as heart disease.

As with other animal source foods, fish has become relatively more expensive, with significant increases in real prices due to limited domestic supplies and rising imports of frozen fish in the last decade (Naylor et al., 2021). Fresh and locally processed small fish and crayfish from SSF are the cheapest, richest, and most accessible sources of nutrients to poor households and can be stored for a long time (Akintola, 2015; Fakoya et al., 2019).

Familiarity with use of micronutrient dense as a food-based approach in Asia and Africa to improve in sustainable manner the quality of diet is well documented (Kawarazuka, 2010), but more research is needed on targeting fish from SSF in Nigeria to improve diet and health outcomes. However, there is a good deal of evidence on the role that fish and fish-based products play in the infant and early child period (Figure 4). Fish from SSF currently play an important role in food and nutrition security in Nigeria; an important consideration for policymakers is could they be leveraged and targeted to make fasted progress on reducing both the burdens of undernutrition and overnutrition.



**Figure 4.** Nutrition and health outcomes from eating fish and other aquatic foods in the first 1000 days of life – which is the “critical window of growth” from the time in utero and up to two years of age. Figure reproduced with permission from Byrd et al. (forthcoming).

### 1.3 Cultural roles of fish and small-scale fisheries

Fish is not just a source of food and nutrition, and fisheries is not simply a source of income. Fish and fisheries play various other roles in human society and is intimately linked to culture (Alonso et al., 2017). As small-scale fisheries are described as “too big to ignore”, so too the traditional processing activities and the associated traditional and local knowledge held by women who

prepare and process fish is invaluable (Akintola and Fakoya, 2017a). Methods such as smoking, fermentation, frying, salting, sun-drying, or a combination of these methods, are important means for distributing fish products for household consumption or sale in local markets, intra-regional fish trade and trade with distant African-Caribbean markets in Europe, Asia, and North America (Akintola and Fakoya, 2017a). Traditionally processed fish products are culturally preferred and affordable foods (Agada and Igbokwe, 2016; Loring et al., 2019).

Fishing is the glue that holds together a fishing community (Urquhart, J. and Acott, 2014). It is a key factor for socialization and defines social capital and networks rooted through kinship, friendship, intermarriages (i.e., across ethnic groups and communities) (Fregene and Bolorunduro 2009; Akintola and Fakoya, 2017b). These historical connections help community to appreciate its cultural heritage and can provide knowledge to adjust to a changing world (Urquhart and Acott, 2014). Fisherfolks, fish and seafood are key topics in ethnic icons, sacred or religious practices, songs, folklore, artistry, and aesthetics and also in modern arts and designs (Loring et al 2019). As cultural icons:

- **Fish and Fishing are emblems of local recognition, cultural and religious practices:** fish and fish net are poetic symbols in ritual chants to bolster fish production among indigenous people of the River Niger (Ibrahim 2007); fish as artwork is used to represent Obatala - the Yoruba god of purity and the greatest of all the deities in Ile-Ife, fishes in Osun River are sacred and treated as messengers of the goddess Osun (Folabalogun, 2017).
- **Promote Conservation:** fish is held sacred in Okpo-One stream among the Tivs (Dagba et al 2013); fishing is prohibited until the Argungu fishing festival is declared.
- **Fish are codified linguistic symbols for recording historical events:** fish is one of many Uli (traditional wall and body paintings) animal motifs used as highly codified linguistic symbols in the absence of written words to document past events (Nwafor, 2019).
- **Promote unity, cross-cultural understanding and economic diversification:** each of the over 250 ethnic group has distinctive traditional wealth expressed in forms of cultural festivals and fishing festivals.. Notable among these are the Argungu Fishing Festival (Kebbi State), Ikwerre Fishing Festival (Rivers State) and Igbide Fishing festival (Taraba State) (Badmus et al 2007).
- **Trado-spiritual healing:** shrimps are prepared for retention and vibrancy of the brain in children; in a dish for purgative purpose; fresh electric fish to enhance strong kick in pregnant women, turgidity and strong erection in men, brain stimulation, infertility, stroke; fresh tilapia is used to energize weak pregnancy and cure small pox; tail of sting ray for pregnant women during labour; silver cat-fish, red snappers, sole, shiny nose, bonga, mullet are used to treat constipation, stomach imbalance as well as ejecting congealed blood from women who have just been delivered of babies (Ehinmore and Ogunode, 2013).

#### 1.4 The role of women in small-scale fisheries

Contrary to the long-held perceptions of fishing as a male-dominated domain, women are active in almost all fisheries-related occupations. Nonetheless, women's roles may vary among and within states, communities and villages (Etim et al., 2020). In Nigeria, most women are engaged in the processing, distribution and trading roles of small-scale fisheries, yet women also harvest using nets, supply of fishing inputs such as outboard engines and gears, sell fishing gears, provide canoes through sale or hiring, provide credit to fishers, provide food and medical items to fishers, provide storage facilities, unload fish from boats, make and mend gears, and support fishers during social activities (Fregene and Bolorunduro, 2009; Nlerum and Bagshaw, 2015; Olaoye et al., 2019)

In the harvest nodes of Nigeria's small-scale fisheries, women's roles as fishers are more pronounced in inland fisheries than in marine or coastal fisheries (Funge-Smith and Bennet, 2019). Women participate as active fishers exclusively on small-scale basis, fishing close to the shore of lakes, rivers, lagoons, streams, estuaries, creeks, within mangrove and freshwater swamps using mostly small, static gears and small plank or dugout canoes and paddles as fishing crafts. Active women fishers, most importantly gleaners, work part-time, full-time or occasionally spending between one and four hours each day harvesting. Women are also passive fishers – meaning they fish indirectly through their spouses and children or by hiring out own fishing crafts to other male or female fishers to fish on their behalf (Nwabeze et al 2013; Udong 2011, FAO 2015b).

A group of wealthy and entrepreneurial women are referred to as 'fish mummies'. These women are the major actors in the processing, transportation, distribution and marketing of fish and fishery products in Nigeria. These women are leaders in community-level governance structures and decide on matters pertaining to fish processing and marketing (Akintola and Fakoya, 2017a). In the absence of formal credit, fish mummies are recognized as most critical sources of informal finance or credit to fishers and fish traders - by virtue of this role, fish mummies control catches and fish trade (Udong, 2011; Olaoye et al., 2019). Through fish trade, these women can acquire and maintain power, position, skills and respect in the socio-economic and political spheres, even beyond their own communities (Fakoya, 2020).

Women's involvement in activities such as off-loading of catch and net mending are unpaid and, if they are wives of fishers, taken as extension of their reproductive or household duties. In other instances women may be paid as employed labour. Women's participation in postharvest activities are not recognized or counted as contributions to the national economy in the way men's labour in fishing is valued and counted. This lack of recognition persists because gender disaggregated data are too rarely collected, but even though some data on processing and marketing exist women's roles are still undervalued (Kleiber et al., forthcoming).

#### 1.5 Small-scale fisheries governance and stewardship

The 1999 constitution of the Federal Republic of Nigeria sets the meta - order in the governance of the small-scale fisheries (Akintola et al., 2017). Fishing and fisheries in rivers, lakes, waterways, ponds and other inland waters within Nigeria fall under the authority of the State Governments (of which there are 36 states) whereas, coastal or marine fishing and fisheries

further than five nautical miles from the shore are within the jurisdiction of the Federal Government alone, since the Inland Fisheries Act, 1992 provisions (Akintola et al., 2020). The Constitution expresses the intent that fishing and fisheries management is sensitive to social justice and inclusion of small-scale fishers and other non-state actors (Akintola, 2022).

Both federal and state governments have the authority to issue regulations in the form of decrees, laws, acts, and (in the case of state governments) edicts. Federal laws and decrees that affect the activities of small-scale fisheries include the Inland Fisheries Decree, 1992 (No. 108 of 1992), the Coastal and Inland Shipping (Cabotage) Act (No. 5 of 2003), the Sea Fisheries (Fishing) Regulations, 1972 (L.N. No. 99 of 1971), the Sea Fisheries Act, 1992 (No. 71 of 1992), and the National Inland Waterways Act, 1997 (No. 13 of 1997). Most of the states rely on regulations of the Inland Fisheries Act, 1992 (No. 108 of 1992) to manage their inland fishery stocks. While some states have their edicts others are working to enact theirs. Nigeria's small-scale fisheries operate within a common pool resource and conflict of interest are thrown up from time to time with both States and Federal Government on the management and control of the water ways.

The model of fisheries governance and conflict resolution mechanisms in Nigeria's small-scale fisheries happens in two ways. Intra-fishing conflicts are usually resolved using traditional and/or religious beliefs and systems with the family heads, fishers Chiefs, and Kings playing different roles – only rarely do State institutions such as police and the courts get involved. Inter-sectoral conflicts may follow the same route, but largely resolved through State institutions although the Federal Department of Fisheries throws up the alternative dispute resolution mechanism. Therefore, Nigeria's small-scale fisheries are governed through what is referred to as a pluralistic legal system (Akintola et al., 2017).

Non-State bodies such as fisheries societies, organizations, and cooperatives play very important roles in the stewardship of Nigeria's small-scale fisheries. They provide a means by which government interact with the fishers and are set up to represent the concerns and affairs of the fishers in higher levels of governance (National and State) and policy. Often, externally funded development interventions are channeled to the fishers through these established societies. However, the voice of the fishers are often weakened by the presence of too many of these bodies leading to cacophony of voices and lack of organizational capacity to

Nigeria adopted the *Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication* (henceforth SSF Guidelines) shortly after the Committee of Fisheries (2014) endorsed them. However, to date there has not been a strategic plan of implementation at either the state or national level and awareness of the SSF Guidelines and what they represent remains low. Ownership and country-level implementation is germane to ensure the processes governing small-scale fisheries in terms of the model and spirit is in line with international consensus standards which the SSF Guidelines represent.

## 1.6 Key Challenges and Drivers of Change

### 1.6.1 Poverty and Vulnerability in Small-Scale Fisheries

Nigeria is dubbed the poverty capital of the world. The country faces huge challenges in combating multidimensional poverty with deficits in healthcare, education, and living standards

(Akinyetun et al., 2021). In 2018, the proportion of people experiencing severe poverty was 26.8 percent, while an additional 19.2 percent of Nigeria's people are considered to be vulnerable to multidimensional poverty (United Nation Development Project, 2021a). Nigeria is positioned 161 out of 187 nations in Human Development Index and lies in the bottom third category which is 'low human development' (United Nation Development Project, 2021b).

The poverty related challenges that fisherfolk face are location specific (Oladoja and Adeokun, 2009). The highest incidence of poverty is observed in households engaged in agriculture in rural areas (Oladimeji, 2015). According to Ifejika et al., (2013) fisherfolks are the 'poorest of the poor' amongst the rural household already considered extremely poor. Coastal regions are the most afflicted by poverty and there is propensity of urban waterfront communities to be worse off than rural areas (Ologbon et al 2018;; Fakoya et al 2022). This impact of fishing communities as experiencing perpetual poverty has been challenged - with a suggestion that in fact fishing households are constituting one of the functionally vulnerable groups (Bene, 2009). Another perspective is that fishing itself can be a source of vulnerability for fisherfolks (Bene, 2006). Lack of alternative employment to sustain a decent standard of living in face of declining fish catch increases vulnerability and causes poverty (Neiland et al., 2005). Over the years, there has been marked increase in the population of artisanal fishers with declining fish catch both in quality and quantity, and severe economic aftermath (Kigbu et al., 2014; Odunuga et al., 2018). Other studies, however, have shown that the state of fisherfolks' vulnerability is related to the inadequacy of basic needs (Mills et al., 2009) than to high reliance on natural resources. The lack of basic amenities and infrastructure subjects rural fishing communities to high levels of deprivation, marginalization, exposure to multiple sources of vulnerability, and the women more socially-disadvantaged (Linus et al 2014; Ehirim et al., 2018; Fakoya and Akintola, 2019; Zanna and Musa, 2020). Migrant fishing settlements are often worse off and benefit less from development programmes (Fregen, 2007). Furthermore, insecurity challenges such as terrorism, banditry, sea piracy and kidnappings increase vulnerability of fisherfolks.

### **1.6.2 Urbanization Drive, Population Boom and the Blue Economy**

Closely associated with poverty are challenges of population growth, urbanization and emerging discourse and pressures associated with the Blue Economy. In Nigeria SDG 14 – life below water is a necessary enable to achieving the other Sustainable Development Goals (SDGs) and the realization of the African Union's 2063 Agenda. The Blue Economy promises growth and prosperity, articulating widespread benefits such as improved well-being, reduced environmental risks, and ecological scarcities. However, devoid of a fundamental knowledge of the impacts and interactions of Blue Economy sectors and actors, the likelihood of significant social injustices against SSF looms large in Nigeria. The reality is that growing attraction of Blue Growth presents actual and conceivable dangers which could worsen poverty levels, widen inequalities, accelerate physical displacements of fishing settlements, and increase threats of inter-sectoral conflicts leading to higher levels of vulnerability for SSF with negative implications for well-being and sustainability (Fakoya et al., 2022).

### **1.6.3 Climate Change and Water Management**

Africa contributes least of all the continents to greenhouse gases and associated climate change. Ironically, it is Africa that is bearing the costs of the more developed countries (Paehler, 2007). Climate change is one of key drivers affecting fisheries productivity and fisheries-based



livelihoods in Nigeria. Flooding, erosion and periodic droughts are current environmental problems that will be exacerbated by climate change. Changes in ocean dynamics could shift migration patterns of fish, and possibly contribute to further reduced fish landings (Urama and Uzor, 2010). Late changes in fishing occupation, loss of fishing inputs and increased access/distance to fishing grounds are also aftermath of climate change (Okon et al., 2021)

The coastline of Nigeria has low elevation (only around 3 metres above sea level) making it highly vulnerable to flooding, inundation and erosion, especially at high tides and during the rainy season. Flood water from ocean surge and coastal erosion has led to loss of permanent fishing communities and a proliferation of temporary settlements and fishing camps (Adeoti et al., 2010; Adelekan, 2010; Fabiyi, 2012; Oyekale; 2013; Fakoya and Akintola, 2019). The Intergovernmental Panel on Climate Change (IPCC) linked the rise in sea level to climate change. Increase in Sea Surface Temperature above the thermal limits of commercially important inshore species such as *Pseudotolithus*, *Senegalensis*, *Sardinella maderensis*, and *Penaeus notialis*. could affect their distribution and hence their susceptibility to fishing fleets, becoming more or less “catchable” as a result (Okon, 2010).

In northern Nigeria, fishing communities experience cyclical drought and are especially vulnerable to increasing aridity caused by higher temperatures and reduced rainfall. The greatest impact is occurring in the northeast of Nigeria, where a drier and hotter climate is predicted. The construction of dams and the diversion for irrigation reduces river flow-in and contributes to more severe drying of lakes (Alfa et al., 2008). Lake Chad is the most affected by climate change. Lake Chad was once considered one of Africa’s largest freshwater lakes has shrunk to a mere 500 km, losing nearly 90 percent of its size in 1960 (Urama and Uzor, 2010; NEST and Woodley, 2012). Ironically, communities downstream of dammed rivers are vulnerable to displacement and loss of fishing as livelihoods when water is released from dams and increased rains culminate in the occurrence of floods (Fakoya and Akintola, 2019). Vulnerability to slip into poverty is also a function of resilience and adaptive capacity to natural disasters such as flooding, erosion, and climate change (Islam, 2013). According to Adeleke and Wolff (2016) fishing households are characterized by limited awareness on adaptation capacity to climate change. The works of Medugu et al (2014) and Okon et al (2021) identified lack of research on scale and magnitude of future impacts in the aquatic environment. Also missing are studies on the effects of multiple variables of climate happening simultaneously and limited research on climate change impacts and adaptation in the North region. This implies that the substantial impacts of climate change will remain undiscovered, undetermined, including their exact order and consequences (World Bank, 2019).

Besides these aforementioned factors, inland waterbodies are affected by siltation, weed infestation, poor management of fisheries resources and industrial waste spillage and in extreme situations, fishing activities may cease (NEST and Woodley, 2012). In the Niger Delta region, oil pollution has compounded the deplorable state of brackish water fisheries resources causing loss of essential fish habitats and severe decline in fish species biodiversity (UNEP 2006; FAO, 2007).

#### **1.6.4 Limited availability and uptake of novel of preservation techniques**

Fish is a highly perishable commodity and post-harvest losses and waste occur along all fish supply chains. Precise measurement of post-harvest losses in Nigeria’s SSF supply chains is

difficult to attain. Yet, the global estimates problematic, losses are reported to exceed 30% of the catch (Bene and Heck, 2005), between 30- 50 % of total catch (Bolorunduro et al., 2005; FAO, 2007). Particularly, huge quantities of fish losses occur during peak fishing period through bad handling and preservation because people, processes and facilities are not sufficient to handle the high volumes. Generally, cold chain facilities (i.e., ice plants, cold rooms, refrigerated trucks) are lacking. Further, mechanization of fish processing is low and fish processing is largely done using rudimentary traditional methods. Home -grown technologies for sun-drying and smoking of fish have been developed that can modernize the traditional fish processing but their adoptions has been met with resistance principally because of the higher cost of equipment when available associated with limited access to credit (Akintola and Fakoya, 2017a).

Open sun - drying and hot smoking are the dominant methods of fish preservation. Smoking has persisted as a main method because aside from being used for preservation, the odor and flavor have of smoked fish and fish products is preferred (Akintola and Fakoya, 2017a). There are however product quality, health and safety risks associated with these methods. Hot smoking, in particular, is linked to carcinogenic polycyclic aromatic hydrocarbons that are carcinogenic, mutagenic and endocrine disrupting (Yusuf et al 2015; Fakoya et al 2021). There is also increasing concern about environmental impacts in that wood combustion contributes to deforestation and carbon emissions. In addition, mangrove wood is often preferred to smoke fish, where the reduction of mangrove habitat in turn contributes to decline in fisheries productivity (Ikurekong et al., 2006; Okpiliya et a l., 2014).

PART 2 Enhancing the Contributions small-scale fisheries make to the Sustainable Development Goals

## 2.1 The SSF Guidelines and the SDGs

A range of policies and targets can guide the governance of agriculture, food, water and fisheries towards more equitable and sustainable futures. These include the SSF Guidelines, and the Sustainable Development Goals – both of which Nigeria has made formal commitments to. The SSF Guidelines are a tool that can help Nigeria progress multiple SDGs to the over 200 million citizens. The SSF Guidelines are particularly crucial to the estimated eight million fish workers and as well as 19 million employed in the indirect and secondary sectors. The six objectives of the SSF Guidelines are linked to the delivery of the SDGs: (1) eradicate poverty and improve socio-economic development; (2) enhance the contribution of small-scale fisheries to food security and nutrition; (3) sustainable utilization, management and conservation of fisheries; (4) promote the contribution of small-scale fisheries to a sustainable future (5) provide guidance on policies, strategies and legal frameworks for small-scale fisheries, and (6) to improve public awareness and promote the advancement of knowledge on the culture, tradition, practices, role, contribution and potential of small-scale fisheries

Eradication of poverty and improving socio-economic development is a primary function of a modern society. The full citation of the SSF Guidelines indicates that it seeks to contribute to the equitable development of small-scale fishing communities and poverty eradication and to improve the socio-economic situation of fishers and fish workers within the context of sustainable fisheries management. The State and non-State commitment to implementing the SSF Guidelines would lead to achieving No Poverty (SDG 1) in particular (SDG 1.1, 1.2, 1.3, 1.4, 1.5). Part 2 of the SSF Guidelines titled Responsible Fisheries and Sustainable Development provides guidance for fisheries-specific topics such as responsible governance of tenure and sustainable resource management, but also for crucial intersectoral issues: social development, employment and decent work; value chain, post-harvest and trade; gender equality; and disaster risks and climate change. Often, the small-scale fisheries are located too far away from the market and strategically providing good roads that links them to the markets will ensure reduced post-harvest loss and ensure they get good value for their efforts. Strategic efforts in this direction further leads to attaining Gender Equality (SDG 5), Decent Work and Economic Growth (SDG 8) reducing food waste (SDG 12.3) and Climate Action (SDG 13).

Enhancing the contribution of small-scale fisheries to food security and nutrition would enable the fishers' contribution to at least sustain the average annual contribution of 940,000 metric tons of fish production which presently accounts for approximately 70 percent of fish production in Nigeria. It is a well-established fact that fishes from inland, coastal and brackish water provides the critical food fish and nutrition in the country. On average, a Nigerian will eat 11.2kg of fish each year. The consumption of quality fish can contribute important nutrient and micronutrients to diets which can contribute to childhood development, maternal health and the prevention of non-communicable diseases such as diabetes, heart disease, stroke, cancer, and chronic lung disease fish consumption will increase in Nigeria towards the global average. Small-scale fisheries are expected to continue to provide the needed food fish for many Nigerians, and provides an important foundation for achieving Zero Hunger (SDG 2) particularly the poor and people in vulnerable situations. The nutritional value of fish is particularly important for infants (SDG 2.1), to reduce stunting and wasting in children under 5 years of age, and to meet the nutritional needs of adolescent girls, pregnant and lactating women and older persons (SDG 2.2).

Fish consumption leads to achieving Healthy Life and Well-being (SDG 3) particularly SDG 3.1-3.4.

Pursuing another cardinal objective of the SSF Guidelines that is, the sustainable utilization, management and conservation of fisheries resources consistent with the Code of Conduct for Responsible Fisheries and related instruments will promote achieving Responsible Consumption and Production (SDG 12) especially SDG 12.2 and 12.b (recreational fisheries especially the fishing festivals such as Argungu).

Promote the contribution of small-scale fisheries to a sustainable future is important in terms of the new economic paradigm which is the Blue Economy. Although, Nigeria do not have a Blue Growth in place, there is the Africa Blue Economy Strategy which may largely influence the country's initiative in the Blue Growth since it stems from various pan African instruments and declaration; notably the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa (PFRS), the 2050 African Integrated Maritime Strategy (AIMS); 2016 Lomé Charter and above all the Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future "Agenda 2063". Fisheries, aquaculture, conservation and sustainable aquatic ecosystems in one critical theme in the five strategic steps. Life Below Water (SDG14) is important especially 14.b which is to provide access for small-scale artisanal fishers to marine resources and markets.

The SSF Guidelines objective of providing guidance on policies, strategies and legal frameworks for small-scale fisheries is very important to achieving SDG 14.b.1. The country's national legal systems, laws and policies when modified and/or updated directly or indirectly impact the small-scale fisheries, touching upon a range of issues referred in the SSF Guidelines (e.g. human rights, environment, climate change, gender). Part 1 of the SSF Guidelines deals with the guiding principles and relationship with other international instruments and how they are impacted on the national law and policies. Specifically, 4.2 stated that nothing in the Guidelines should be read as limiting or undermining any rights or obligations to which a State may be subject under international law. These Guidelines may be used to guide amendments and inspire new or supplementary legislative and regulatory provisions.

Fishers are known to be vulnerable and suffer in Nigeria from issue of pollution and inadequate compensation, competition for space with industry fisheries, incessant piracy attacks among other issues related to injustice. The SSF Guidelines deals with issues of injustice and can only be ameliorated by Peace, Justice and Strong Institutions (SDG 16) which calls for strong institution. Institutions such as the Political- Parliament, Ministry of Agriculture and Rural Development- Federal Department of Fisheries, Judiciary- Court, Nigerian Maritime Police, Nigerian Maritime Administration and Safety Agency, Nigerian Oil Spill Detection and Response Agency and others important to the successful implementation of the SSF Guidelines.

The voluntary and not mandatory nature of the SSF Guidelines should not bring up the attitude of their being underrated. The SSF Guidelines are part of the set of international fisheries instruments, the implementation will elevate the country's reputation and brings inherent benefits to the country such as attracting the interest of foreign stakeholders through financial resources, technology-transfer and capacity-building whilst contributing to improving the implementation of international standards in other countries through cooperation. Strategic and faithful implementation of the SSF Guidelines will further lead to achieving the Partnerships for the

Goals (SDG 17) especially targets (SDG 17.6- technology, 17.9 capacity building to support national plans to implement all the Sustainable Development Goals, etc).

It is discerning that implementing the SSF Guidelines in many ways leads to attaining most of the Sustainable Development Goals. This is because many of the ecosystem services offered by the small-scale fisheries such as livelihood and subsistence income, commercial income, food and nutrition, recreational service, cultural service, ecosystem function and biodiversity, regulation of freshwater quantity, flow timing and variability regulation of freshwater quality, educational and scientific opportunities in fisheries are germane to the attainment of sustainable development goals. The country should therefore move away from inertia and start to walk its talk in the implementation of the SSF Guidelines.

## 2.2 Improving governance and stewardship of small-scale fisheries

The SSF Guidelines, together with the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* provide the basis to improving governance and stewardship of small-scale fisheries in harmony with Nigeria's own laws and policies. The foundation for improving governance and stewardship is securing tenure rights for small-scale fishers. Nigeria small-scale fisheries are largely managed under the common property rights or free and open access rights. In Nigeria, waterfront communities, whose livelihoods are predominantly dependent on fishing and related activities, live under constant fear of eviction (Fakoya and Akintola, 2019). Both the Federal and State governments hold responsibility and power over these areas, there have been plethora of instances where areas or fisheries resources have been taken over without compensation or alternative arrangements. The State fisheries edicts and the Federal Inland Fisheries Laws and Regulation are silent on issue of secure tenure rights for fishers.

Secure tenure right is *sine qua non* for sustainable resource management. According to the SSF Guidelines, States, in accordance with their legislation, should ensure that small-scale fishers, fish workers and their communities have secure, equitable, and socially and culturally appropriate tenure rights to fishery resources (marine and inland) and small-scale fishing areas and adjacent land, with a special attention paid to women with respect to tenure rights. For Nigeria to meet commitments it has made, it is imperative that states' edict and federal laws as part of their improving governance and stewardship of the small-scale fisheries are reviewed and revised to reflect the SSF Guidelines and SDG14.b (at least) to achieve the responsible governance of tenure.

Globally, evidence is mounting that small-scale fishing communities and indigenous peoples can and must be central in the restoration, conservation, protection and co-management of aquatic resources and coastal ecosystems. It is only the responsible governance of tenure that will enable the fishers to take the opportunity and incentive to manage the fisheries resources within their territory - either as individuals or groups. The missing link in Nigeria's current arrangement is that there is no provision for secure tenure for small holders, and this has impaired cooperation among fishers for management, in spite of the existence of fisheries cooperative societies that spring up regularly. In the current situations, these fisheries cooperatives and societies are not able to provide the necessary stewardship towards sustainable fisheries since the present common property regime only encourages free rider's behavior and a 'race for fish'

In the face of increasing economic and conservation interests in coastal areas, secure tenure rights would enable (and in fact are essential) for marine reserves and promotion of a healthy ecosystem, conservation of biodiversity efforts to be effective and inclusive. Furthermore, a well-defined right would enable support institutions such as the court system, police and other government and non-government organizations to help confront many of the existing challenges associated with competition for space and resources. For example, small-scale fishers and industrial fishers are regularly competing for resources when industrial fishers make incursion into the five nautical mile zone which is preserved for the SSF. In addition, physical space used by SSF is impacted by criminal activities, banditry and environmental degradation from oil pollution – and fishers have no channel available to them to pursue corrective action or compensation.

## 2.3 Improving access to Services, Credit and Social Protection

. In the fishery sector and within the Ministry of Agriculture, SSF lack enabling conditions, receive little priority in policy, developmental processes (FMARD, 2016b; Fakoya and Akintola, 2018), in national policies on social protection, and micro, small, medium enterprises. These and other challenges have kept the sector in the poor state and limited capacity to contributing to social and economic development of the country. After independence (in 1960), several national fisheries policies and programmes were implemented with that includes strong social protection themes. These were, and remain, largely tending to promote in nature. In the 1970s and 1980s, fisheries projects and programmes were aimed at upgrading the rural fishermen and improving their living conditions to, in turn, drive increases in fish production (Mabawonku, 1990). However, there were serious drawbacks to these programs Poor fishers could not afford the cost of fishing inputs – even though they were subsidized. Then, failure to identify true fishers created leeway for fishing input dealers to assume the identities of fishers to gain these inputs, and then re-sell them (to true fishers) at higher prices. Nevertheless, these programs resulted in some positive and transformational changes – and such change has not been matched by subsequent successive governments. The national economic recession and the IMF/World Bank-supported Structural Adjustment Programme introduced in 1986 caused decline in SSF production (Ovie and Raji, 2006). The aftermath of these, impacted negatively, leading to stalled development and deterioration in the living conditions in many fishing communities.

Agricultural credit and insurance schemes are few of the social protection programmes covering aquaculture and capture fisheries value chains. Fisherfolks, however are either excluded from these programmes or find them difficult to access (Bene et al 2015). Expanding access of social protection programmes to SSF might be complex, but certainly not impossible. The process requires understanding vulnerabilities affecting SSF and removing barriers or impediments to enable access to existing broader social policies. The opportunity can be best taken if programs are designed and implemented in a participatory manner and with nuances to social policies to ensure they are tailored toward the specifics of the sector. Below are recommendations for Nigeria that have been distilled form including the works of Akintola et al (2017), Fakoya and Akintola (2018), Govan et al (2019) and Osiki (2020);

1. Enable access to schemes such as Nigerian Agricultural Insurance Scheme, National Health Insurance Scheme by facilitating flexible payment options, allow low contributions and take into consideration the periodicity of fishing operations and variable incomes of fishers and fish-workers and accessible in terms of location.
2. Enable or expand access to skill acquisitions schemes in alternative livelihoods outside the fishery sector. Livelihood diversification or skill acquisition projects must be in harmony with community capacity, local contexts, aspirations and opportunities to succeed..
3. Encourage social enterprise and entrepreneurship in SSF value chains as means of employment among youth.
4. Extend safety nets programmes to the poor in rural and remote fishing communities lacking basic infrastructure.
5. Utilize the platforms of well-structured, traditional and informal financial arrangements such as ‘*ESUSU*’ to drive social policies to enable access to insurance and access to credit.



6. Rejuvenate implementation of Migrant Fishermen Education policy and other related policies to abolish child labour, enhance attendance rate of children, provide functional literacy education for adults and provide decent work.
7. Develop policies to encourage private public partnerships to provide basic fishery infrastructure and fishing inputs.  
Divert subsidy into a Capital Construction Fund and Fisheries Loan Fund to be accessed by private sector.

There is need for increased awareness on rights of fishers and fish workers, plights of fishing communities and need for social protection, through collective action and lobbying governments at different tiers. This will involve a range of actors working together with the fishing communities, viable social groups, civil society organizations, Fisheries academic / research community, professional fisheries organizations including Fisheries Society of Nigeria, Fisheries Cooperative Federation of Nigeria etc.

## 2.4 Towards gender equality and making the role of women more visible

Gender is a key development issue (ADB, 2006) and "the Sustainable Development Goals have gender equality and women's empowerment at their core....rural women are critical to the success of almost all the 17 SDGs" (Ban Ki Moon, then Secretary General, United Nations). Gender refers to the expectations that society and individuals hold about what it is to be a man or a woman. Gender is context-specific, shaped by economic status, race, ethnicity, education, or disability including other social categories (referred to as –intersectionalities) – for example, in fisheries, men and women possess heterogeneous identities. Gender is one of many factors that influences the opportunities, power and status any individual feels in their community (March et al 1999).

Gender roles and participation are shaped by prevailing gendered socio-cultural norms and expectations, as well as economic contexts. In Nigeria, that dominant gendered division of labour segregates fishing and harvesting as a masculine sphere, and the postharvest activities as a female-domain. Yet, data show that in fact women are engaged in virtually all nodes of the fisheries supply-chains, performing diverse and complementary roles to men. In Nigeria, and in many other contexts, women bear the burden of unpaid domestic tasks and care -giving while at the same time contribute to household expenses (Oduate et al., 2012). Charged with triple burden of reproductive, productive and social roles, women often perform unpaid activities in the fish sector. The rigidity of gendered division of labour is hard to shift, and so whilst women might seek and want further opportunities within the fisheries sector, they are carrying the majority of domestic and care work compared to men. Unless this is also considered and addressed in programming, women-focused programs can inadvertently increase this burden even more or too rapidly introduce to women new freedoms or powers that are not accepted socially – in the worse instances causing backlash.

Globally, socio-economic status of men and women influences their power relationship such that men or women can have predominant roles over others or remain in situations of extreme subservience (FAO 2016). Restrictive norms are mostly biased against women and limit empowerment, level of participation and access to productive resources, basic services and markets. Even among women, differential access to economic and social capital has created hierarchy in the female-centric post-harvest subsector (Udong 2009; Fakoya, 2020) and led to the emergence of a small group of entrepreneurial women who control fish trade in their communities and advance credit lines to poorer men and women creating a strong interdependency between the them, The credit system though exploitative, represents a socio-cultural and economic factor fishermen cannot live without, and yet at the same time struggle to live with (Udong et al., 2011).

In the primary and secondary sectors of inland and marine fisheries, women make up almost half of the workforce. In Africa, an economic evaluation suggests that women's engagement in post-harvest activities alone accounts for approximately half of the aggregate (1.39%) fisheries contributes to the continent's Gross Domestic Product (Du Preez, 2018). Yet until recent, women's importance in the fishery sector has been highly marginalized in developmental policies. A major constraint is the lack of gender-disaggregated employment data in the aggregate fisheries value chains which perpetuates the concealment of women's participation to policymakers (FAO, 2016b; Funge-Smith and Benett, 2019; FAO 2020)

Nigeria lacks a gender policy specific for fisheries. On the contrary, policies are aimed at women in fisheries and incorporated in broader food and agricultural food production sectors. A classic example is the Women in Agriculture policy which governs extension and advisory services. Interventions for women have focused mainly on post-harvest activities perceived to fulfill their practical needs, thus keeping them in their traditional productive and reproductive roles (Kleiber et al forthcoming). Other interventions have been accessed through more general and multidimensional platforms (Akintola et al., 2017). The National Policy on Gender in Agriculture is concerned with gender gaps in crop production, animal husbandry, fisheries and aquaculture, extension services, commodity value chain development and institutional arrangement. The policy identifies a lack of capacity in gender knowledge and skills among gender desk officers, as well as a general attitude toward gender as a women's issue, as an impediment to effective gender mainstreaming. It aims to promote the use of gender-sensitive data collection and gender statistics for evidence-based planning, policy and program design, implementation, and evaluation. Among other goals, it also seeks to integrate all necessary content from previous gender-based documents into planning, financing, budgeting, and programming. Furthermore, the policy underscores the significance in achieving the Sustainable Development Goals (SDGs) -1,2, 5, 9 and 13 (FMARD, 2016c). Besides these SDGs, SSFs can contribute to SDGs 3, 8, 10, 12, 15 and 16 (Le Blanc et al 2017; FAO 2018). SDG 14.b is synonymous with SSF, does not include a gender component, and has low levels of implementation (Fakoya, 2020). This suggests that there is still a gender gap in access to productive resources, services, and markets. It also suggests that there are unequal gender relations that further marginalize and vulnerable people and hinder the pursuit of the sustainable development agenda.

Path towards gender equality and increasing visibility of women would require enormous overhaul of existing fisheries authorities and institutions (research, academic, professional) to address the underlying negative and prejudiced norms, power relations, institutional structures and practices. To overcome these challenges, the following recommendations are proffered:

- Mapping and gender analysis within value chains to recommend the best ways for women and men to be empowered, including help in decision making and leadership, joining or establishing organizations, networks, and platforms relevant to their needs and their work.
- Understand that gender goes beyond “women’s studies” or a focus of programming on women. SSF attention has been on ‘women’s issues’ rather than gender equality and the power-loaded dynamics of gendered individualities and relations (Lawless et al., 2021). Secondly, avoid blending gender with women in fisheries, a trend which is pervasive in SSF policy instruments (Manghubai and Lawless, 2021).
- Clarity on environmental, economic, technological and social factors that affect fishing communities to avoid misconceptions on power distribution and power relations between men and women. These are tangential to understand who has control over, access to and accrue benefits from the fishery.
- Avoid cursory approaches and extend gender inclusion beyond ‘helping’ women through post-harvest and household activities.

- Avoid one size fits all solution. Practical needs of women must be grouped and treated accordingly to their different identities.
- Prioritize gender development planning in strategic needs particularly accessing education -SDG 4 to improve individual and organizational capacity in communication, negotiations, advocacy and awareness on human and labour rights, and legal changes.
- In the context of SSF, gender-transformative change (where underlying social and gender norms that perpetuate inequalities are challenged and shifted) is largely an ambition (Maghubhai and Lawless, 2021) and rarely implemented unless men are given the opportunity to be part of the solution and become enablers or facilitators instead of constituting barriers.
- Strengthen and leverage on social capital and social networks as entry points for gender mainstreaming.
- Track progress and impacts of gender mainstreaming strategies through a comprehensive monitoring, evaluation and learning framework.

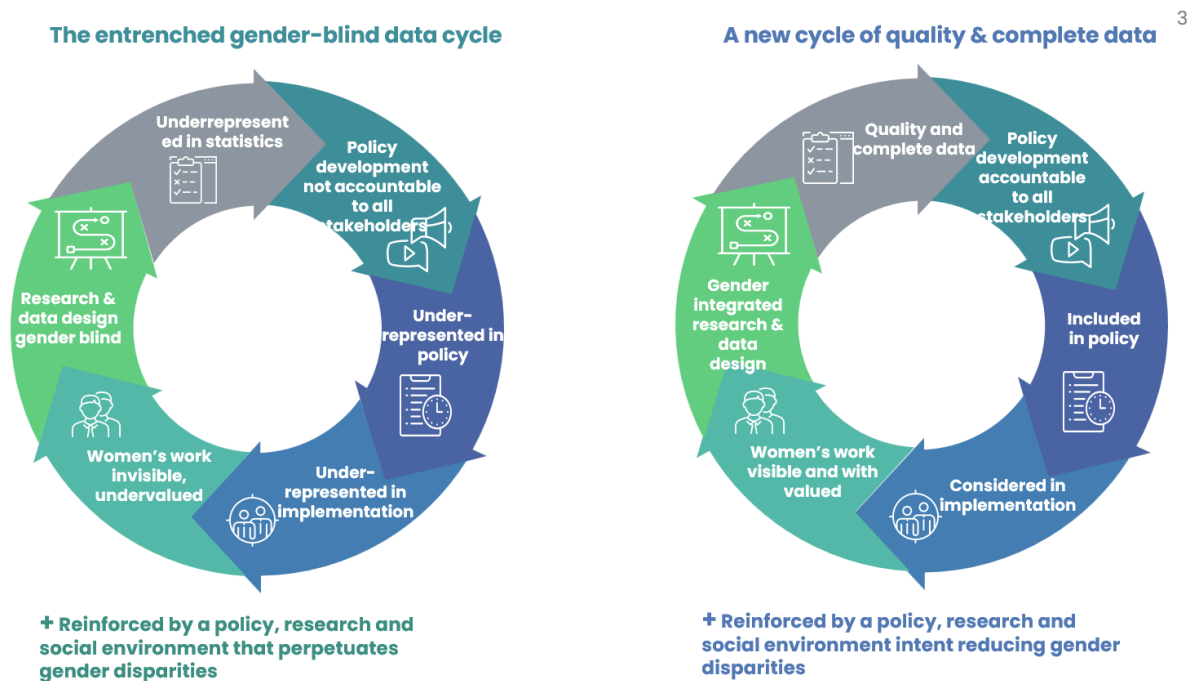


Figure 5 A) The current state of Gender in Nigeria fisheries sectors, and B) the opportunity available to Nigeria to increase visibility of women and gender in gender-disaggregated data and policy.

## 2.5 Capacity Development and Strengthening SSF Organizations

Small-scale fisheries organizations in Nigeria play an important role of intermediaries between the government and fishers. Given this critical and essential roles, there is the need to build their capacities and strengthening their roles in their ability towards stewardship, advocacy, linkages with continental and global fisheries organizations, fund sourcing and transparency, effective communication with State and other non-State stakeholders, organization management, theory of change and fisheries management information on market opportunities. These capacities are required so that the fisheries organizations are positioned as critical sector stakeholder towards building efforts to deliver sustainable and resilient fisheries that can continue to assure job provision, food, and livelihoods for future generations. The fish workers organization could be further empowered with a greater understanding of the SSF Guidelines in the promotion and success of their programmes, objectives and missions and therefore be willing and able partners in the implementation.

The fisheries organizations need to be versed and professionalized to understand challenges and solutions to each node in the range and diversity of the small-scale fisheries subsector along the entire value chain and mindful of the need to deliberately and appropriately ensure their representation through the creation of legitimate, democratic and representative structures. As stipulated in the SSF Guidelines, where appropriate and necessary, separate spaces and mechanisms should be provided to enable women to organize autonomously at various levels on issues of relevance to them.

Fisheries cooperative societies are increasing in number in Nigeria both as a requirement to drive the process of participation in fisheries governance and as bodies through which interventions are channeled. The cooperative societies must be strengthened and their capacity developed in the first instance to move beyond their present roles of mainly serving as mere governing convenience and agenda for intervention to significantly contribute to fisheries management processes by promoting and improving institutional representation at different scales, collective and cooperative management, coproduction of knowledge, information sharing, social learning as well as by fortifying the linkages between governance and ecological scales. Their capacity to provide intervention with regards to the nitty-gritty of evolving co-management as a preferred fisheries governance mechanism as well as building on their own capacity to help deepen the resilience and adaptive capacity of small-scale fishing communities in relation to Disaster Risk Management and Climate Change Adaptation.

The functions and roles of fisheries organizations and fisheries cooperative societies are well entrenched in the sustainable development of sustainable small-scale fisheries in the country. Especially so, given their well spread, strong membership and formidable force in affecting the small-scale fisheries across the country but a lot of capacity building and strengthening of these organizations are imperative. They need to be updated on the modern fulcrum for the management of small-scale fisheries such as issue relating to the implementation of the SSF Guidelines and other related guidelines important to attaining sustainable small-scale fisheries and help reduced poverty in the fisheries as well enhancing the capacity of the fishers to deepen their contributions to the nation's growth and development. Building the capacity of these organizations in understanding the relevance of the tenure rights, co-management and other

important concept in small-scale fisheries development will enhance their abilities to be group of informed changed agents and deliver their roles in the changes required by both the governments and other non-fisheries stakeholders.

### 3. Conclusions

Small-scale fisheries of Nigeria remain very critical and important to the nation's food and nutrition security, livelihoods and national and local economies. Beyond food and income provision Nigeria's small-scale fisheries provide social and cultural values, and opportunities to maintain environmental well-being of the coasts, oceans and inland waters. The new data and statistic presented here illustrate these values – that is lost will be difficult to replace.

Much of the fish caught from SSF in Nigeria directly benefits households in Nigeria; in an analysis of the top 19 fish species produced in SSF in Nigeria, 93% are used for domestic human consumption. Fish production from the inland waters of Kebbi State is the third highest in the country; this state also has the highest burden of stunting in the country with a prevalence of 66% of children under five years old. This provides an opportunity to target the fish distribution toward addressing a high burden of malnutrition. There should be consideration of the local food sheds to addressing malnutrition.

Substantial opportunities exist within and through small-scale fisheries to secure the foundations of the Sustainable Development Goals, and to progress these Goals in their last decade. One of the most immediate opportunities or tools in which to employ in this regard is to implement the already-committed-to SSF guidelines. The SSF Guidelines provide a vehicle through which Nigeria can meet the commitments laid out in the 1999 Constitution of the Federal Republic of Nigeria, and in both Exclusive and Concurrent Legislative List.

Small-scale fisheries must be considered alongside, and as parts of, agricultural development, food systems transformation and rural transformations. With increasing population, rising levels of poverty and unemployment, the fishing industry is a safety net from poverty and as means of livelihood for new and established fishers and, employed youth despite ostensible decrease in official catch statistics and contribution to national GDP which in reality be under-evaluated.

It is a key factor for socialization and defines social capital and networks rooted through kinship, friendship, intermarriages across different ethnic groups and shared community origin. Nigeria's small-scale fisheries play important culture roles and a way of life of the many in the fishing communities.

The SSF Guidelines deals with issues of injustice and can only be ameliorated by Peace, Justice and Strong Institutions (SDG 16) which calls for strong institution. Institutions such as the Political- Parliament, Ministry of Agriculture and Rural Development- Federal Department of Fisheries, Judiciary- Court, among others.

It is important to note that non-State bodies such as fisheries societies, organizations, and cooperatives are very crucial to stewardship of the NSSF. They provide a means by which government interact with the fishers and are set up to ensure that affairs of the fishers receive attention from the policy makers. Small-scale fisheries organizations in Nigeria remain critical and acknowledged playing the role of intermediaries between the government and the fishers. Given this critical and essential roles, there is the need to build their capacities and strengthening their roles in their ability towards stewardship, advocacy, linkages with continental and global fisheries organizations, fund sourcing and transparency, effective communication with State and

other non-State stakeholders, organization management, theory of change and fisheries management information on market opportunities.

Essentially, the SSF Guidelines read together with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security provide the basis to improving governance and stewardship of small-scale fisheries and very instructively in the case of Nigeria. Specifically, it is about secure tenure rights for small-scale fishers.

Expanding access of social protection programmes to SSF might be complex but certainly not impossible. The process requires understanding vulnerabilities affecting SSF and removing barriers or impediments to enable access to existing broader social policies or design and implement in participatory manner, social policies focused on SSF in recognition of the peculiarities of the sector. Suggestions offered include enabling access to schemes such as Nigerian Agricultural Insurance Scheme, National Health Insurance Scheme by facilitating flexible payment options.



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