

The role of home gardens in fighting extreme poverty and hidden hunger in Lagos, Nigeria:

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## **1. Introduction:**

For time immemorial, agriculture has been a life saver for low-income countries like Nigeria, employing about 40% of the labor force. The percentage is higher in developing countries across Sub-Saharan Africa, Asia, and the Pacific where over 60% of their population depends on agriculture. However, these statistics are vastly different in high income countries and Latin America with estimates of 4% and 18% of the workforce in agriculture, respectively (World Bank, 2006). Over the past half century, agriculture has been developed as a means of bridging the gap of hunger and poverty across the developing world (Robinson, 1989; Gardner, 1990)

The opportunity gap between rural areas and urban centers is constantly being closed through food production and consumption. One of the main linkages between urban consumers and rural farmers is food (Rengasamy et al. 2003, 25-34). Over the years, food production has been left in the hands of aging, rural farmers which poses a risk to the continued supply of food to the cities and urban areas in sub-Saharan Africa. It is worthy of note that the rural farming population is shrinking; hence, food production and processing is equally shrinking across rural communities. Beyond food production and alleviating poverty, agriculture has played a major role in understanding environmental sustainability in an agrarian economy, such as in Nigeria, providing the opportunity to improve soil health. However, agriculture in Nigeria has faces several challenges, including: its land tenure system, fragmentation of land, and social, cultural and economic challenges which negatively affect land management for food production to meet the needs of a burgeoning population (World Bank 1993, 38-54; Akinbile, 1997; Chambers and Jiggins, 2000, 61-74; Fakoya et al., 2007).

It is clear that agriculture globally has advanced over the years increasing yields, decreasing the cost of inputs, increase the efficiency of production while improving the previously deleterious effects agriculture had on soils, and producing crops with improved phytochemical content. The increasing world population puts pressure on finite global land and water resources to meet the food demand of the of that growing population. This can be observed by the inability to give enough time for land resource to fallow and high density/frequency cropping in order to increase yield and subsequent returns (Richard, 1991; Aldington, 1997, 43-44).

Food security has continued to be a problem in large cities in the developed and developing world. Nigeria is no exception. Lagos, one of the world's largest cities, is faced with the ugly challenge of food insecurity and her residents are adopting urban farming and home gardening to meet that challenge (Sulaiman A. Yusuf et al 2015, 61-75). Urban farming was defined by Mougeot (2000)

as a farming or non-farming enterprise located within cities, towns, and urban centers, which can be intra-urban or peri-urban (fringe), established for the purpose of producing, processing, transporting, advertising, and/or promoting food and non-food products and leveraging local resources to satisfy (at least in part) local needs including fruits, vegetables, and animal products (Baumgartner and Belebi, 2001; Zezza and Tasciotti, 2010, 265–273). The resources utilized in urban farming may be human and material resources from within the community. Urban farming is categorized as an “informal sector” which service mostly the low-income urban dwellers in Nigeria (Foeken, 2005). However, high-income urban dwellers are also benefiting from urban farming—either to better control their food sources or for ornamentals.. As part of the informal sector, urban farming may decrease unemployment, providing necessary opportunities for a segment of the population that has limited access to opportunities in the formal sector, most especially state owned enterprises (SOE) and the organized private sector (OPS) (Chukuezi, 2010, 131-137; Horn 2010, 23-38; ILO, 2010; Porta and Shleifa, 2008; Meagher 2007, 473-503; Kohnert, 2006). The development of the informal sector is due to several factors, amongst which are poverty, lack of opportunity at formal sector, low/lack of education, lack of prerequisite skills (Horn, 2010, 23-38; Meagher 2007, 473-503; Portes and Hoffman 2003, 41–82). Nigeria has a diversity of economic activities in the informal sector including parts of agriculture, , fishing, trading, crafts and contemporary/alternative medicine (Falola and Genova, 2009). With a population of nearly 200 million people, it grew out of the primary economy, which is agriculture, and import substitution industrialization to overly dependence on crude oil and its derivatives since the 1970s (Chukuezi, 2010, 131-137). The revenue generated from agricultural exports was used to expand the import-substitution industrialization policy leading to the establishment of several derivative industries in Nigeria, such as food processing, textile industries, and plastic and metal wares (Foucard, 2003). Nigerian agriculture’s contribution to its Gross Domestic Product (GDP) fell from 60 percent in the early 1960s to 31 percent in the 1980s due to a boom in crude oil production and a shift in policy priorities in the 1970s to a focus on two arms of development; 1) education, and 2) transport, water supply and urban infrastructure to support rapid industrialization. These and other activities weakened the traditional Nigerian economy based on an agricultural foundation (Olaniyan 2009, 41-54).

In a bid to combat the effects of a weakening economy, due in part to declines in the oil sector, Nigerians are returning to agriculture. With an expanding population, residents of Lagos, currently numbering more than 15 million, are increasingly adopting urban agriculture and home gardening, improving their income and household food security, while inadvertently improving urban land use (Smit and Nasr, 1992, 141–152; Islam and Siwar 2012, 1068–1078; Lynch et al. 2013, 31–39; Zasada 2011, 639–648). Many studies have evaluated the role of urban farming and home gardens in fighting extreme poverty, hidden hunger, nutritional security, and income generation. A report from Nepal showed that home gardens had the ability to produce food round the year for an household while other studies in Africa, Asia and Latin America shows that the gap in food production between seasons could be effectively covered by home gardens / urban agriculture (Oakley 2004, 22–23). Additionally, the loss of indigenous knowledge has contributed to nutrient deficiency in households due to the reduced cultivation and consumption of traditional food crops; this translates directly into food insecurity and nutrient deficiencies across low-income communities (Flyman & Afolayan, 2006, 492–497). A number of factors has contributed to the diminished knowledge of traditional vegetables in Nigeria including, but not limited to: introduction of fast growing hybrid varieties, new crop species, changes in lifestyle and diet of urban dwellers, loss of habitat, and the mentality that anything foreign or new is better than what is locally available (Keller et al. 2005, 400–413).

The importance of food security is highlighted in both the UN's Millennium Development Goals (MDG) and SDGs. This commitment is apparent in the first two SDGs 1) No Poverty with the aim to "end poverty in all its form globally" and 2) Zero Hunger with the aim to "end hunger, [achieve] food security and [improve] nutrition and promote sustainable agriculture" (United Nations, 2016). If "all hands are on deck" these goals are projected to be achieved by 2030. To achieve this, the efforts of grassroot organizations cannot be overemphasized. This paper examines the Farming for Empowerment and Entrepreneurship Development (FEED) project of ProtectOzone Sustainable Livelihood initiative (ProtectOzone). ProtectOzone is a local Non-Governmental Organization (NGO) seated in Ikorodu, a rural community in Lagos, Nigeria, where it addresses the need of indigent residents by training children, youth, women, and farmers in sustainable agricultural practices to fight extreme poverty and hidden hunger to improve their livelihoods while protecting environmental resources.

## **1.2 Study Area:**

The study was carried out at ProtectOzone's demonstration site located at Ikorodu in Lagos, Nigeria (Fig. 1). It is worthy to note that Lagos State comprises one of the largest megacities globally, with a rapidly growing population (Linden 1996, 52–65; Oduwaye 2005, 37–53). Prior to 1986, Lagos was the capitol city of Nigeria, when the seat of power was moved to the Federal Capital Territory in Abuja. Its development made Lagos the commercial and industrial capital of Nigeria, as well, driving a massive daily influx of immigrants, from within Nigeria and from other African countries, in search of greener pastures (Olalekan 2013, 320-330). Lagos covers a land area of only 3,671km<sup>2</sup>, but is home to 9,113,605 people, according to the 2006 census, a density of 2,483/km<sup>2</sup> (National Population Commission, 2007) Population growth projections for 2015, 2020, and 2025 estimated the population at 12,427,000, 14,162,000 and 15,810,000, respectively (Un-Habitat, 2010). This represents an average annual growth rate 2.7%, making Lagos the second-fastest growing state in Nigeria. With the limited land base and persistent immigration, Lagos will see increase in the demand for food, land for developing housing, commercial and industrial space, roads, and jobs to mention but a few growing needs. (Olalekan 2013, 320-330). This growth puts population pressure on areas in the outskirts of Lagos, such as Ikorodu, where there is still a reasonable amount of arable land for food production in the city. Therefore, Ikorodu represents a strategic project location.

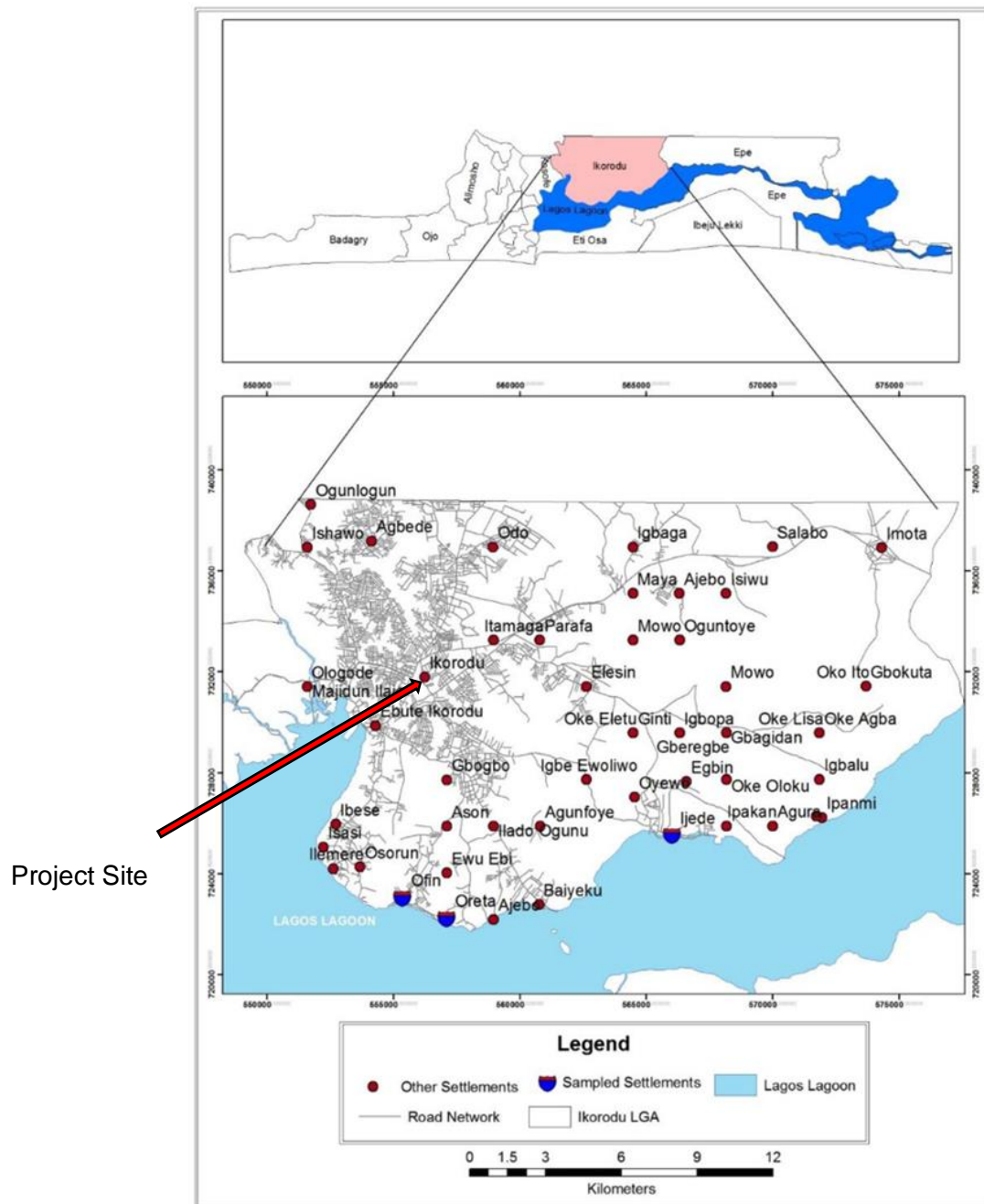


Figure 1: The map of Ikorodu, showing the project site.

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## 2. Methodology:

**2.1 Funding:** The FEED (FEED, FEED I and FEED II) project was funded by the following entities respectively:

- The U.S. Consulate General Lagos, Nigeria (2017) through the Carrington Youth Fellowship Initiative CYFI of her Public Affairs Section PAS.
- The U.S. Consulate General Lagos, Nigeria (2018) through a Notice of Funding Opportunity NOFO programme.
- The Consulate General of the Federal Republic of Germany Lagos, Nigeria (2019) through a Small-Scale Funds programme.

The project was designed and implemented by ProtectOzone Sustainable Livelihood Initiative.

**2.2 Participants:** The three FEED projects executed by ProtectOzone focused on participants from across low-income and hard-to-reach communities within Lagos State in Nigeria. However, the primary site of project implementation was ProtectOzone demonstration site. Secondary implementation sites were located in the participants' communities.

Efforts were made to increase the participation of women on the project and to have diverse participants in terms of religion, sex, disability, social status. Project applicants were 42.5% female and 57.5% male (Fig. 2). Among participants selected for the training, 38.0% were female and 62.0% were male (Fig. 3).

The participants were selected through a free and fair selection process. A sensing exercise was done to ascertain the need for the project in low-income and hard to reach communities in Lagos State, Nigeria which proved affirmative. ProtectOzone announced a public call for application which lasted for one month. Prospective candidates submitted complete applications, which were vetted; qualified candidates were later invited for screening (age, social status, interest and passion) and interviewed before final selection.

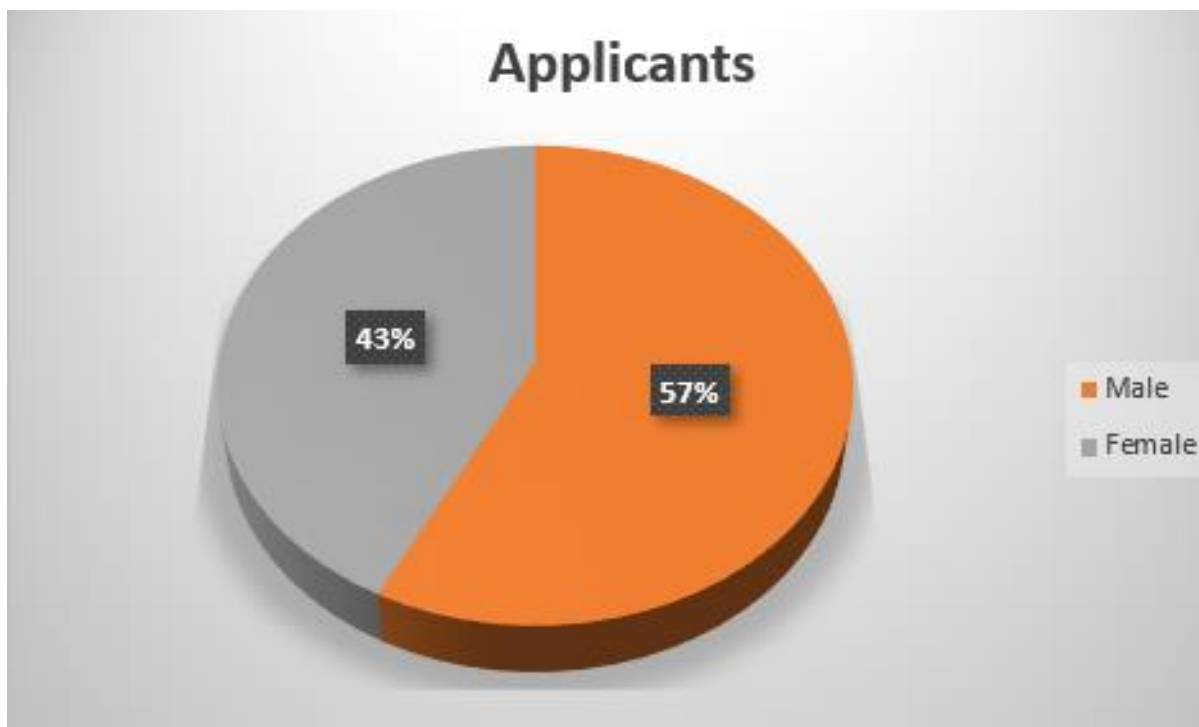


Figure 2: showed percentage applicant

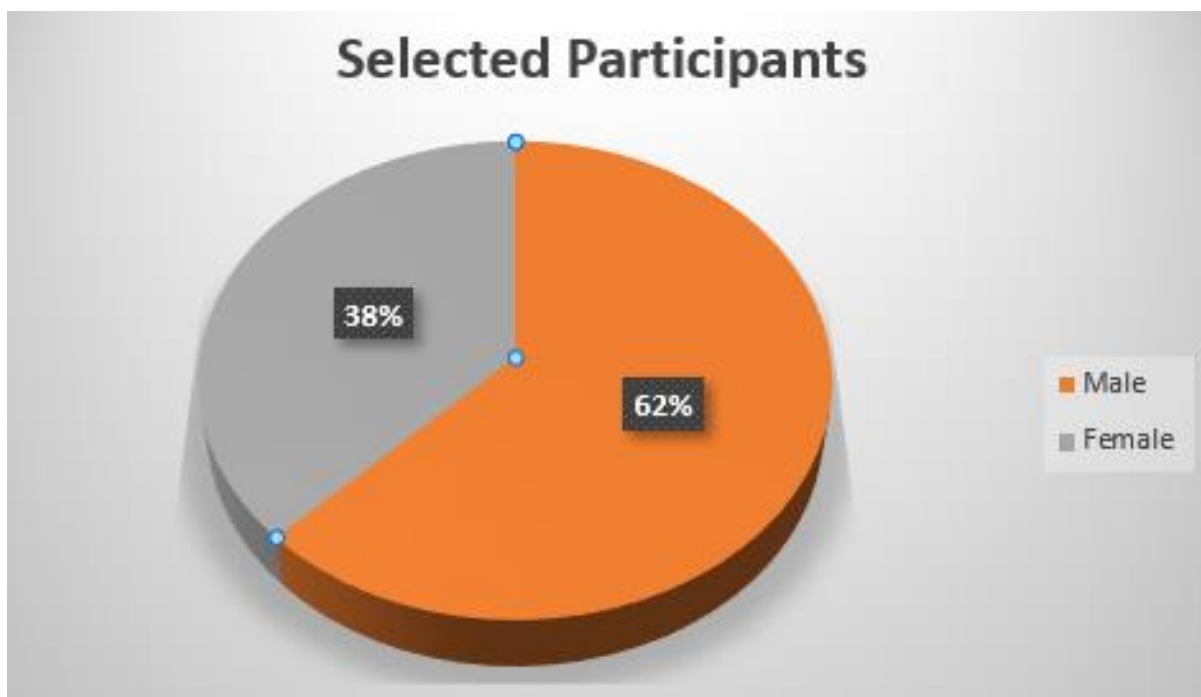


Figure 3: showed percentage participant

### 2.3 The project:

The first FEED project was funded by the U.S. Consulate in Lagos in 2017 as part of the Carrington Youth Fellowship Initiative (CYFI). The project was designed to train 20 youth in Ikorodu on sustainable agricultural practices, focused on vegetables, broiler chickens, and agribusiness training. While the FEED was intended to be a “one-off” project, the impact compelled the U.S. Consulate to double funding to repeat the project in 2018. And in 2019, the Consulate General of the Federal Republic of Germany Lagos Nigeria took over funding. The result of the project was analyzed using Kansas State University Qualtrics and Microsoft Excel.

FEED, FEED I and FEED II trained 20, 35, and 35 (respectively) unemployed and underemployed youth from across Lagos State, ProtectOzone, through these four-month, intensive, hands-on trainings equipped participants with technical skills in agriculture and entrepreneurship which increased their potential to create a sustainable means of income.

The project started with orientation, where the participants were introduced to the project and the ProtectOzone demonstration site followed by a familiarization activity, because participants came from different parts of Lagos. Participants were introduced to the ProtectOzone training facility, training guidelines, and training modules; then participants were assigned to groups. They were put through common leadership curriculum exercise (Figs. 4 & 5), an activity which fostered team spirit and bonding among the participants. Through this process, they shared their expectations from the project, fears, current economic status, and what they hope to achieve and/or want to do after the project. The participants were from diverse backgrounds, as such efforts were made to integrate them to enhance their performance.

These were their thoughts after the exercise:

*Team: 1*

- 1. Team Spirit: We were aware and conscious of the fact that we had to complete the task as a team. We learnt to trust and respect each other and agree or disagree where applicable.*
- 2. Friendliness: The exercise united everyone in different ways; we were relaxed, and receptive towards each other.*
- 3. Team support and bonding: The exercise was physical in nature, we had to form human chain at a point just to make sure all members were standing within the given area.*
- 4. Dedication and Determination: We were committed to the task and were determined to go beyond all odds to complete our tasks.*
- 5. Goal Reviews and Setting: We had the chance to look inward to tell ourselves our present state and also project our future hopes, aspirations and expectations for the future.*

*Team: 2*

- 1. Goal: We all had a goal that we must achieve. Which we fully engaged in as a team to have a good success in turning in and over!*
- 2. Participation: Each participant was fully involved in achieving the success! Making the right move at the right time.*
- 3. Trust and Respect: Trusting and respecting each other's point of view. The point of view of individuals differs, as such, we emphasized open mindedness.*
- 4. Effective communication: Following instructions made us know what is expected to be our result, which was duly achieved! Adherence to instructions makes the outcome to stand out! This kept us informed about our task.*
- 5. Encouragement: Each participant engaged in encouraging each other even when we thought it was an impossible task. We kept on pushing till we achieved our expected result.*
- 6. Contribution of our fair share: Each of us contributed our fair share towards achievement. We understood that we had a responsibility. We also feel a sense of belonging to the team, committed to work and really care about the success of our team!*
- 7. UNITY: Standing United as a team and moving gradually to achieve the aimed result! United we stand divided we fall.*

*(Attributed to life)*

*My view - A single tree cannot make a forest! We all need ourselves to aim at a specific goal in order to achieve great success. Just like our body structure which, one cannot do without the other. Only little success can be achieved individually but great success cannot be achieved in isolation! – Adenike Bello O*





Figure 4: Participants documenting their current state



Figure 5: Facilitator demonstrating the challenge



**2.3.1 Smart City Vegetable Production:** The participants were trained on sustainable vegetable production as it relates to urban agriculture. A notable part of the vegetable production was the construction of a 50%-saving irrigation kit which allows urban growers manage their time by limiting the time spent on irrigating their vegetables. The irrigation kit was constructed using local content initiative/indigenous knowledge. The kits leveraged available resources within the community such as used mosquito nets (Fig. 6), PVC pipes (Fig. 7), local heating systems, and simple tools. The irrigation kits only are viable for small space farming; and, in the case of large-scale production, the kit is effective for growing seedlings of vegetables before transplanting. The training also covered viable seed selection, preservation, transplanting (Fig. 13) and germination. As part of the project, we looked at the possibility of re-using environmental waste materials, which are literally burned contributing to ozone depletion, for home gardening purposes – Climate Smart Agriculture (CSA). Some of the wastes we recycled include the popular pure water sachet in Nigeria—sack bags (Figs. 8 & 9) which constitute a lot of waste. These simple innovations help improve the economic sustainability of young urban dwellers practicing urban agriculture. The vegetable training included the production of organic pesticide and manure composting with locally available herbs, kitchen, and farm waste. Indigenous knowledge was also incorporated in the training to combat the high loss of indigenous knowledge in conventional production of vegetables such as mulching to conserve water and limit weed, organic pesticide from need extract, utilization of marginalized farm produce for organic manure to mention but a few (Flyman & Afolayan, 2006, 492–497; Jansen van Rensburg, Vorster, Van Zijl, & Venter 2007, 1–13; Lwoga et al., 2010; Musinguzi et al 2006, 1–14) which helped the participants to understand the role and uniqueness of indigenous knowledge in vegetable production.



Figure 6: Using mosquito net for irrigation kit



Figure 7: Construction of irrigation kits locally





Figure 8: Participant arranging sacks for production



Figure 9: Output of the sack farm



Figure 10: Preparing bed for production



Figure 11: cutting out water part on beds





Figure 12: Transplanting



Figure 13: Transplanting using locally fabricated tools



Figure 14: Growing seedlings out of waste materials



**2.3.2 Poultry Production:** The poultry training was a six-week, intensive, hands-on, broiler chicken production course starting from day-old chicks (DOC) (Fig. 15) through marketing finished carcasses. The training included brooding young chicks, litter management (Fig. 16), vaccination, medication, low-cost pen construction & orientation, feed pattern, isolation, effective feeding and drinking infrastructure for urban agriculture, and flock density. The training included processing (Fig. 19), packaging (Fig. 20), and marketing. The focus of the production system was on low input of technology (Figure 21), simply leveraging the local content initiative.



Figure 15: Received their DOC at day one



Figure 16: Packing litter to be composted



Figure 17: Settling DOC in after arrival



Figure 18: Ready to be processed chicken at 6 weeks



Figure 19: Evisceration by hand



Figure 20: Packaging finished carcass



Figure 21: Butchering chicken carcasses



Figure 22: Chicken Parts



Figure 23: Participants admiring their finished product

**2.3.3 Agribusiness Training:** The participants were also trained in agribusiness (Fig. 24) and marketing (Fig. 25) with the aim to turn the information presented during the entire project into an economically viable business. The training included capacity building, farm management, and leveraging Information Communication Technology (ICT) for agribusiness development.



Figure 24: Agribusiness training by a Faculty



Figure 25: Marketing training

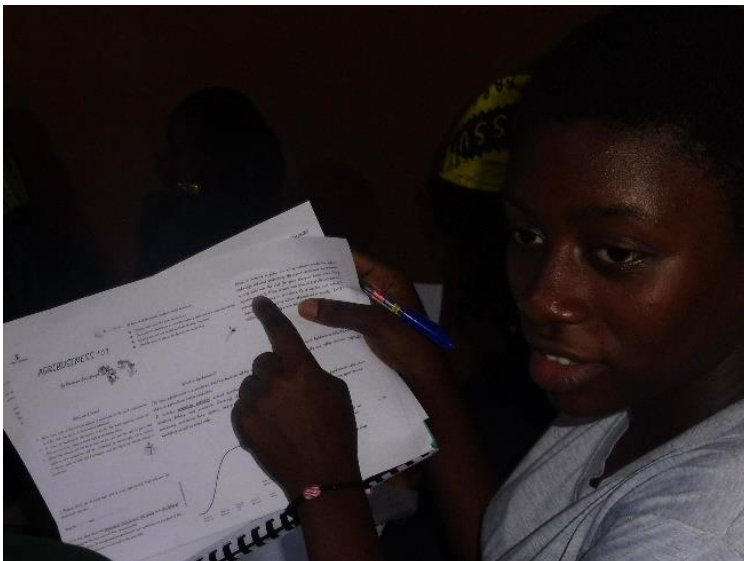


Figure 26: Participant paying wrap attention



### 3. Result and Discussion:

The relative participation of men (62%) and women (38%) in the FEED projects disproportionately favored men, which is in agreement with Yusef et al. (2015) who found that 85.5% of urban farmers are male while 15.5% are female. However, we also found that women primarily make the dietary decisions for their family so are heavily involved in urban farms which directly contributes to the nutrition, and thus, the health and wellbeing of their children. This agrees with Hadebe and Mpofu (2013) which stressed the importance of women in urban agriculture through their influence in making decisions on the crops to be grown. Our work also agreed with the work of (Dercon and Krishnan 1996, 850-875) which reported that at an active working age, youth adopts, relates, and responds to innovations more readily than older individuals, which in turn increases productivity and income, thereby improving their livelihoods. The participation of men in the projects was 61.9% while female was 38.1%. The result agrees and disagrees with the work of (Olasunkanmi et al 2013, 120-130) in the age and gender of the participants simultaneously. Nearly three-quarters (74.17%) of the participants were between the ages of 25 and 39 years, highlighting the interest of younger individuals in urban agriculture. Nearly all FEED participants (95.31%) received education beyond elementary school. This finding is in accord with the work of (Olasunkanmi 2013, 120-130) where 96% of the farmers in that study had received education beyond elementary school.

The importance of water in urban agriculture is not to be ignored, and can be a strong limiting factor in the success of an urban agriculture enterprise (Premanandh 2011, 2707-2714). Additionally, the lack of accurate weather forecasting in developing countries, such as Nigeria, contributes to difficulties in successful field agriculture in urban settings, due to the challenge in monitoring and predicting the fluctuations in near- and long-term climatic conditions (Schlenker et al. 2007, 19-38).



Figure 27: locally constructed irrigation kit

Further, the often seasonal nature of some local, natural bodies of water can frustrate agricultural efforts as well (Cooper et al. 2012, 383-425; Dongus et al. 2009, 189-210). Thus, the 50% water saving irrigation kit, constructed using local content initiative and leveraging basic hydrologic principles, improves the viability of food production in small urban spaces and backyard farms. One of the reasons agriculture is not attractive to the youths in urban centers is the time they spend irrigating their crops. However, with the locally fabricated irrigation kits, they need only fill the kits with 40 L of water, which will provide adequate irrigation for seven to nine days, depending on weather conditions and soil moisture content. This provides the farmer flexibility to pursue other sources of income.

In urban centers, availability of arable land is the greatest limiting factor to food production (De Bon 2010, 21-32). Most home sites in urban centers across developing countries provide little or no space for food production; and, Lagos is no exception. Hence the need to innovate food production in urban environments to produce food for consumption and generate income (Kenneth et al 2014, 29 – 44). To improve land-use efficiency, sack farming was developed in the context of urban agriculture where food (mostly vegetables) are grown in sacks. This system of growing food utilizes materials from within the urban centers, mostly at no cost, to generate food and income thereby combating extreme poverty and hunger simultaneously, while also reducing the impact of these waste materials on environment. The cost of sack farming is not only an attractive means of growing food in the city, it is economical, preserves moisture, reduces weeds by 60% compared to the field plots, is easy to work on, and simplifies movement and isolation of sick/disease plants. Here, crop intensification is achieved, producing more food per unit area. Sack farming is largely practiced by low-income earners who live within urban centers; hence, its sustainability is based on the income potential it provides the farmer (Dossa et al, 2011 197-206). The FEED project focused on training participants to grow indigenous leafy vegetables which are important in alleviating extreme poverty and hidden hunger in Sub-Saharan Africa while preserving traditional diets. Amongst these vegetables are ewedu (*Corchorus olitorius*), efo tete (*Amaranthus hybridus*), efo soko (*Celosia argentea*), tomato (*Solanum lycopersicum*), okra (*Abelmoschus esculentus*), efo igbo (*Solanum aethiopicum*) and ugu leaf (*Telfairia occidentalis*). The ewedu, efo tete, efo soko, tomato, and okra performed better in the sacks than the field but efo igbo and ugu leaf performed better in the field. The field performance of ugu leaf was attributed to its root system. Most participants (84%) found the sack farming innovative and effective for a city such as Lagos. The FEED project confirmed that home gardens in urban centers is an important way to improve food security in developing countries as noted by (Oniang'o 2001, 43–49). Moving beyond food security, urban farming and home gardening are viable methods to meet the nutritional requirements of the household as shown in the work of Marsh (1998), (Chadha & Oluoch 2003, 17–23) and (Keatinge et al. 2012, 51–62), highlighting the nutritional composition of a small, mixed garden contributing significantly toward the recommended dietary allowance for protein (10 to 20%), iron (20%), calcium (20%), vitamin A (80%) and vitamin C (100%) (AVRDC, 1989).

Nuisance odor, among other issues such as high cost of feed, availability of veterinary services, infectious diseases, and consumers being the price takers, on urban and peri-urban poultry farms has been a major issue in urban and backyard agriculture in Africa. The FEED project demonstrated that using climate-smart best practices, such as litter management and appropriate stocking density, limits the odor of urban poultry farms. Careful attention was placed on vaccination and medication of the experimental birds to mitigate disease proactively as (Bukar-kolo et al. 2006, 75-78.) in Gombe state, Ovwigho et al. (2009) in Delta state and (Alabi and Osifo 2004, 177-180) in Edo state, Nigeria, who all identified mortality and infectious diseases as the major challenges to urban poultry farmers in Nigeria. The participant cannot control the price of

feed in the market which accounts for about 70% of the total cost of production. Therefore, attention was paid to the feed regimen of the birds to ensure adequate feed conversion ratio (FCR) of 2:1 to maximize broiler production. We that processing birds from urban agriculture increased profitability due to decrease transportation costs, urban dwellers have better purchasing power, the chicken taste (organoleptic properties) is better than conventionally available poultry, and ease of access. It is worthy of note that 96% of the participants testified to the acceptability and quality of the processed chicken using traditional methods.

After the primary production trainings, participants were trained on agribusiness to acquire skills necessary to turn their farm production into viable and innovative small- and medium-scale businesses to generate sustainable income. Hence, processing, packaging, marketing and agriculture related business training. In the survey, 94% of the participants said the agribusiness was highly impactful. This shows that beyond agricultural production to alleviate hunger, participants are interested in and passionate about agriculture as a business which can reduce domestic poverty.

The waste from poultry production (litter, feathers, and offal) were transported to the demonstration site to be composted for the vegetables to improve production in accord with the work of (Irshad and Javed 2006, 217-223) which showed that fish offal provides a rich array of nutrients and minerals benefiting production on poor soils. The result of their work showed that fish offal gives abundance of phosphorus and organic nitrogen (Irshad and Javed 2006, 217-223). It is worthy to know that little or no work has been identified on the effect of chicken offal. In our project, not only did composted chicken wastes enhance the growth of vegetables, but also reduced the odor and nuisance chicken processing contributes to the success of home gardening/urban farming. Recycling poultry wastes will help reduce the cost of production (decrease the need to purchase chemical fertilizer) to feed the growing population of the urban centers of developing countries. The work of (Alemu & Abera 2013, 274-278) clearly shows that fertilizer made from offal is viable to increase the yield of onions and tomatoes which stays longer in the soil, thereby minimizing impacts on natural bodies of water.

After the project, 3.23% of the participants continued with urban agriculture, 12.90% went into extensive agriculture which is out of urban and peri-urban centers but rural areas, 24.19% moved into agribusiness (off-takers, feed suppliers, vaccination, sales of agri-inputs, etc.), 48.39% moved on to other things, but plan to come back to agriculture, while 11.29% moved on with other things without a plan of coming back into agriculture. Almost half of the participants moved on to other things to come back to urban agriculture not because it is not lucrative, but they don't have the means/resources to establish their agribusinesses and farms. This agrees with the work of Kamiro et al. (2015) where about 50% of the participants moved to other things with the aim of coming back to agriculture due to: lack of the financial capital to start up their enterprise, lack of credit for urban farmers, the land tenure system, high cost of land, and lack of effective competition with other sectors.

#### **4. Conclusion:**

An adage in Yoruba language, one of the three major languages in Nigeria, says, 'Bi onje ba ti kuro ninu ise, abusebuse' which translates to, 'the moment you are able to afford food, then you are at least out of poverty'

In order to build the momentum to achieve the other 15 SDGs, it is expedient to first tackle goals 1 & 2 - No Poverty and Zero Hunger. It takes a well-fed man to think sustainability and it takes a well-fed man to help feed the world innovatively. The food security of any nation is her national security.

In order to achieve the aforementioned, it is expedient to consider home gardening and urban farming to cater for the ever-increasing population of large cities like Lagos. This should be done with innovative approaches that incorporate indigenous knowledge and leverage local content initiatives in order to preserve traditional vegetables which are rich in nutrients. This means, it can help bridge the gap of nutrient deficiency among the urban poor who cannot afford the high cost of food rich in required micronutrients at urban centers. The project showed clearly the effect of value addition, at least first level processing, in increasing the market price of locally grown food amongst other efforts like additional processing, packaging, and marketing.

The project showed that urban agriculture and home gardening are effective in fighting extreme poverty and hidden hunger in Lagos, and that young people will be a major driver of expanding urban food production to cater to urban dwellers while meeting their own livelihoods.

## 5. Recommendation

- We found that about half of the participants delay beginning an agriculture enterprise for lack of resources. Thus, we recommend that credit should be made available for young and beginning farmers to help them venture into their desired agribusinesses – *“Training alone is not enough, we need to be empowered with resources”* as said by a participant.
- There is a need for the Local Council Development Areas in Lagos State, Nigeria to work hand in hand with Lagos State Ministry of Agriculture, Lagos State Ministry of Local Government Affairs and the agriculture desk of local governments across the state to enhance the capacity of urban farmers and households in decent integrated urban agricultural production to halt the menace of odor constituting nuisance to the environment. There should be an urban blender framework, agriculture should be an integral part of the city.
- Indigenous knowledge on local varieties, which can contribute a large amount of nutrients in the diet and enhance food security, should be properly documented, preserved, and disseminated to would-be farmers.
- Local content initiative should be documented well, it will be the basis of indigenous innovation as technologies improves across Africa.
- Premium should be placed on home gardens and urban farm products which are focused on preserving the genetic pool of our traditional vegetables and food.

## **6. Acknowledgement:**

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