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Effect of the home-grown school feeding programme on the welfare status of participating fish farmers in Osun state

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Abstract - Despite the increasing emphasis on agricultural value chains in the school feeding programmes, there is limited evidence on how participation affects fish farmers' welfare status. This study addresses the gap by examining the effect of the Home-Grown School Feeding Programme (HGSFP) on the welfare status of participating fish farmers in Osun state, comparing participating and non-participating farmers to assess improvements in welfare. The result obtained from Per Capital Expenditure (PCE), a metric employed in determining welfare status indicated that participating fish farmers had higher PCE values across all the three categories of welfare status that was examined than the non-participating fish farmers. Test of hypothesis with t-test revealed that participating fish farmers had significantly higher welfare status (mean = ₦64,929.17) than non-participating fish farmers (mean= ₦47,066.74, $p<0.001$), highlighting the programme's positive impact on welfare. The study concluded that HGSFP participating fish farmers had higher PCE values when compared to the non-participating fish farmers across all the three welfare categories studied. It is recommended that participating fish farmers should form cooperatives to improve access to credit and resources. Again, Non-Governmental Organizations (NGOs) and relevant private stakeholders should provide training and capacity building initiatives for fish farmers participating under the programme to ensure sustainable improvements in their welfare status.

Keywords: Home Grown School Feeding Programme, Welfare Status, Social Intervention Programme, Agricultural Development, Fish farmers.

INTRODUCTION

School feeding programmes are generally considered to be education interventions aimed at facilitating access to education, increased attendance and retention rates, while improving the nutrition of school children (New Partnership for Africa's Development [NEPAD], 2013), while at the same time stimulating local agriculture and economies through the procurement of food from local, smallscale producers. (Food and Agriculture Organizations [FAO] and World Food Programme [WFP], 2018). Countries are increasingly recognizing that social protection measures, including school feeding, are needed to reduce and/or prevent poverty and hunger, and that connecting programmes to agriculture through institutional procurement can further increase benefits, particularly for family farmers who are the backbone of agriculture in low- and middle income countries but, nevertheless, are often poor and work on a small scale, (Nkang and Ereh, 2021).

According to Okumu and Muhingi (2020), the Home-Grown School Feeding (HGSF) is an approach that was identified by the Millennium Hunger Task Force as a quick win in the fight against poverty and hunger. In Africa, its genesis dates back to 2003, when African governments included locally sourced school feeding programmes in Pillar 3 of the Comprehensive Africa Agriculture Development Programme (CAADP), which is part of the New Partnership for Africa's Development and World Food Programme (WFP, 2018). As opined by WFP (2020), the Home-Grown School Feeding Programmes (HGSFP) can significantly contribute to the achievement of the sustainable Development Goals (SDGs), particularly SDG 2 (on ending hunger, achieving food security and improved nutrition, and promoting sustainable agriculture) and SDG 4 (on quality education).

In Nigeria, the Home Grown School Feeding Programme is a component of the National Social Investment Programme (NSIP) which was launched by the federal government in collaboration with the Imperial College Partnership for Child Development (PCD), the Bill and Melinda Gates Foundation (BMGF), the World Bank Group (WBG), and the Vitol Foundation (VF) to address primary school enrolment and retention issues (National Home Grown School Feeding Programme [NHGSFP], 2016). The Nigerian Government in the year 2004 piloted the implementation of Home-Grown School Feeding beginning with twelve (12) States selected from the six geo-political zone of the country (Ogun State Home Grown School Feeding Programme (OSHGSFP), 2018). The initiative, officially known as Home Grown School Feeding Programme insisted on buying the food stuffs from the local farmers which reduced the rate of malnutrition while it also provided the local farmers the opportunity to sell their produce to participating schools as Masset and Gelli (2013) posited that the Home Grown School Feeding Programme (HGSFP) has the capacity to enhance farmers' livelihoods and incomes. However, despite the good intentions of these commitments, the programme may be chronically under-financed with little known evidence of the inclusion of locally procured fish in

School Feeding Programmes (SFPs), (Ahern *et al*., 2021).

Although, HGSFP has been found to have positive impacts on child nutrition and as well creating new markets for farmers (Di-Prima *et al*., 2022). However, scarcity of empirical evidence still exists regarding its effect on the welfare status of the participating fish farmers, and it remains a subject that has not been sufficiently studied and documented. In light of the foregoing, this study therefore aims to examine the effect of the Home-Grown School Feeding Program on the welfare status of participating fish farmers in Osun State.

Objectives of the study are to:

1. Describe the socioeconomic characteristics of HGSFP participating fish farmers and non-participating fish farmers.
2. Determine the welfare status of HGSFP participating fish farmers and non-participating fish farmers

The study hypothesised that there is no significant difference in the welfare status of HGSFP participating fish farmers and non-participating fish farmers.

METHODOLOGY

The study was carried out in Osun state which is an inland State in south-western Nigeria, having Osogbo as the state capital. The main occupation and economic activities of the people centers around farming, agro allied productions, trading, and artisanship (OSSADEP, 2004) however, fish farming is the most efficient husbandry for animal protein production than all other forms of livestock husbandry in the State (Adelakun *et al*., 2015) because Osun State is landlocked with many perennial rivers, riverlets, streams, springs sources and wetlands that are suitable for fish farming (Fregene and Tejiri, 2008). The population of the study consists of all participating fish farmers under the Home-Grown School Feeding Programme (HGSFP) and the non- participating fish farmers in the study area. A multistage sampling technique was used in selecting the sample size for the participating fish farmers. In the first stage, 40% of the LGAs were randomly selected from the 30 LGAs in Osun state, yielding 12 LGAs from which 70% of the registered fish farmers were randomly selected, totaling 103 respondents. For the non- participating fish farmers, purposive sampling was applied in selecting Ede and Ikirun which are notable fishery zones in the state. Four villages in each of these two zones were purposively selected and lastly, 40% of the fish farmers in each of the selected villages from these zones were randomly selected thus giving a total of 108 respondents. Overall, 211 respondents were sampled for this study. Validated interview schedule was adopted for the study and the data collected were described with percentages, mean and frequency counts while t-test was used in making inference and testing the stated hypothesis. The dependent variable of this study, which is the welfare status of fish farmers participating and non-participating fish farmers was measured using the Per Capita Expenditure (PCE). Welfare status of both groups of fish farmers was categorized into three (3) as categorized by Olajide and Aderolu, (2017); core poor, poor and non-poor. Both participating and non-participating fish farmers whose PCE values fell within the range of ⅓ mean PCE and minimum PCE value were accorded core poor welfare status. Fish farmers whose PCE fell between ⅓ mean PCE to ⅔ mean PCE were accorded poor welfare status while fish farmers whose PCE fell within the range of ⅔ mean PCE to the maximum PCE value were accorded non-poor welfare status.

RESULT AND DISCUSSION

Socioeconomic characteristics

The results of analysis as shown in Table 1 below, revealed that fish farming is predominantly a male-dominated activity as 89.3% of the participating fish farmers and 82.4% of the non-participating fish farmers were males. The low participation of females (10.7%) for participating and 17.6% for non-participating fish farmers may be attributed to the physical demands of fish farming which males were better suited to handle than females. This finding aligns with the reports of Ayodeji (2022), Alawode *et al*., (2016), and Ogunlade (2007) who noted the tedious nature of fish farming as a reason for its male dominance. The age distribution in Table 1 suggests that most fish farmers were in their active years. The mean age was 45 years for participating fish farmers and in contrast 39 years was the mean age for the non-participating farmers. Although majority (66.1%) of the participating fish farmers fell within the age group of 40-49 years and the majority of the non-participating fish farmers (52.7%) were aged 31-39 years. These findings are consistent with Adebayo and Daramola (2013), who reported that most catfish farmers were within the active age range of 31-49 years. Results also revealed that majority of fish farmers in the study area were married as 77.7% of the participating and 81.5% of the non-participating fish farmers fell into this category. This implies more married people were involved in fish farming as family members can serve as source of labour on the fish farm. This finding is corroborated by the report of Idris-Adeniyi *et al.*, (2018) and Omitoyin and Sanda (2010), who all noted that married individuals were more engaged in fish farming. Fish farming is an acceptable farming activity across the various religious groups in the study area as 65% of the participating farmers and 40.7% of the non-participating farmers were

Christians, while Muslims made up 33% and 53%, respectively. Adelakun *et al.,* (2015) noted the lack of religious restrictions in fish farming in Osun State which is in tandem with this result. Moreover, majority of the respondents in the study had household sizes of 1-5 members with 82.6% participating and 80.5% non-participating fish farmers within this range of household size. This aligns with the findings of Idris-Adeniyi *et al*., (2018), who observed that most fish farmers had relatively small households. Also, most of the fish farmers owned 1-5 ponds, with an average of three ponds for participating fish farmers and two ponds for non-participating fish farmers. This result is consistent with the report of Adeosun *et al.,* (2019), who noted a similar distribution in Enugu State while the mean years of experience in fish farming was six for both groups of farmers which suggests that most of the fish farmers entered the profession relatively recently probably as an alternative vocation after school or due to unemployment, as reported by Idris-Adeniyi *et al.,* (2018).

Table 1: Distribution of respondents by socio-economic characteristics of HGSFP participating fish farmers and non- participating fish farmers.

HGSFP variables	Participating fish farmers		Non-participating fish farmers	
Sex	Frequencies	Percent	Frequencies	Percent
Male	92	89.3	89	82.4
Female	11	10.7	19	17.6
Age	45		39	
≤30	6	5.5		
31-39	15	13.0	57	52.7
40-49	68	66.1	30	27.8
50-59	20	19.4	15	11.0
Marital Status				
Single	10	9.7	17	15.7
Married	80	77.7	88	81.5
Divorced	7	6.8	1	0.9
Widowed	6	5.8	2	1.9
Years spent receiving formal education	16		12	
1-6	1	1.0	22	20.4
7-12	4	3.9	21	19.4
12 years and above	98	95.1	65	60.3
Religion				
Christian	67	65.0	44	40.7
Islam	34	33.0	59	53.0
Traditional	2	1.9	5	3.0
Household size	5		4	
1-5	85	82.6	87	80.5
6-10	17	16.5	21	19.4
10 members and above	1	1.0	0	0.0
Number of fish ponds	3		2	
1-5	101	98.1	105	97.2
6-10	1	1.0	3	2.8
10 and above	1	1.0	0	0.0
Years of fish farming experience	6		6	
1-5	66	61.0	70	39.8
6-10	34	33.1	28	41.8
10 years and above	3	2.9	10	18.5

Source: Field Survey, 2024

Welfare status of participating and non-participating fish farmers.

The result of analysis in Table 2 revealed that HGSFP participating fish farmers had higher mean PCE of ₦64,929.2. For this group of farmers, the minimum and maximum values of PCE were ₦22,160.0 and ₦287,500.0 which were all higher than the PCE values of the non-participating fish farmers across all thresholds. Specifically, 0.9% of the participating fish farmers were core poor (₦21,643.1 - ₦22,160.0), and 24.3% were poor, i.e., ₦21,643.1 - ₦43,286.1, while 74.8% of the participating fish farmers were non-poor (₦43,286.1 - ₦287,500.0). This result therefore reveals that participation in the HGSFP is positively related to increased financial stability and better livelihood. The higher PCE thresholds observed among participating fish farmers across all the welfare

categories examined therefore suggest that participation in HGSFP is a key factor in raising the welfare status of fish farmers.

In contrast, the result of analysis in Table 2 revealed that non-participating fish farmers have a lower mean PCE, which is ₦47,066.7, and a PCE value of ₦20,083.3 being the minimum and likewise, ₦142,500.0, which is the maximum PCE. Specifically, 0.9% of the participating fish farmers saw no improvement in their welfare status, while 23.1% (₦15,688.9 - ₦31,377.8) were poor, and 75.9% of the non-participating fish farmers (₦31,377.8 - ₦142,500.0) were analysed to non-poor.

Table 2. Categorisation of participating and non-participating fish farmers according to their welfare status

HGSFP	Participating fish farmers		Non-participating fish farmers	
Welfare status	**PCE Range**	**Percent**	**PCE Range**	**Percent**
Core Poor	₦21,643.1- ₦22,160.0	0.9	₦15,688.9-₦20,083.3	0.9
Poor	₦21,643.1- ₦43,286.1	24.3	₦15,688.9- ₦31,377.8	23.1
Non-Poor	₦43,286.1- ₦287,500.0	74.8	₦31,377.8- ₦142,500.0	75.9
	Participating fish farmers		**Non-participating fish farmers**	
Max. PCE	₦287,500.0		₦142,500.0	
Min. PCE	₦22,160.0		₦20,083.3	
Mean PCE	₦64,929.2		=₦47,066.7	

Source: Field Survey, 2024

Test of difference welfare status between HGSFP participating fish farmers and non-participating fish farmers

The results in Table 3 show the analysis of welfare between participating and non-participating fish farmers. The results obtained showed that the welfare status of participating fish farmers is significantly higher than the welfare status of non-participating fish farmers. The analysis revealed that the mean PCE for participating fish farmers was ₦64,929.17 while the non-participating fish farmers had ₦47,066.74 as the mean PCE. Consequently, the improvement of income generated from the stable market structure offered HGSFP translated into better welfare status for participating fish farmers. Also, the support given within HGSFP could have reduced the stress and the struggles that is associated with fish marketing, thus enabling the participating fish farmers to pay closer attention to enhancing their household conditions and the pursuit of satisfying basic needs and likewise investment in personal and professional development.

In contrast, the non-participating farmers do not have the opportunity to have similar benefits as they are not under HGSFP, hence their capacity to realize similar welfare outcomes is relatively limited. Consequently, the lower and unstable levels of incomes earned by non-participating fish farmers are likely to bring an undesirable impact on their welfare status as they have limited ability in self-support and investment in professional development.

Table 3: Test of difference in welfare status between participating fish farmers and non-participating fish farmers

Group	N	Mean	SD	t-value	df	*p*-value
Participating fish farmers	103	64,929.17	37,298.41	4.196	209	<0.001***
Non-participating fish farmers	108	47,066.74	23,230.90			

Source: Field Survey, 2024
***Significant at 0.001 level (2- tailed)

CONCLUSION AND RECOMMENDATION

The study concluded that there were higher Per Capita Expenditure thresholds across all the three welfare categories among participating fish farmers which therefore indicates improved welfare state in contrast to the PCE values of non-participating fish farmers that was significantly lower. The structured market and income stability the participating fish farmers enjoy from the programme emerged as a strong driver for welfare improvement among the participating fish farmers which overshadowed the influence of individual socioeconomic characteristics. To further enhance welfare improvement, HGSFP participating fish farmers should prioritize forming cooperatives to pool resources for fish farming and access credit facilities with better repayment plans to enhance fish production. Besides, it is imperative to create more awareness about the programme in order to expand the HGSFP's coverage to a greater number of fish farmers in the study area to reduce income disparities and build an economically inclusive path for more fish farmers in the study area. Capacity-building initiatives by Non- Governmental Organizations (NGOs) and private stakeholders is likewise vital and needs to focus on the special needs of participating fish farmers in areas that would enhance productivity, self-reliance and resilience.

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