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EXTENT OF LOCALLY SOURCED FEED INGREDIENTS AND PERFORMANCE OF FEED MILL ENTREPRISES IN SOUTHWEST, NIGERIA

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ABSTRACT: *Promoting local sourcing of raw materials for firms in Nigeria has become one of the critical areas of government policies. In achieving this, the government introduced a ban on the importation of grains/cereals, which are critical ingredients in feed production for the feed mill industry. Hence, this study examines the extent (share) of locally sourced feed ingredients and its implications on the performance of feed mills in Southwest, Nigeria. Primary data used for this study was analysed using descriptive statistics and fractional probit regression. Firm's age, quantity of feed produced and location of the feed mills significantly determined the share of locally sourced feed ingredients in feed production of feed mills in the region while level of education of feed mill operators, firm's age, quantity of feed produced and proportion of locally sourced feed ingredients had significant effect on the performance (profitability) of feed mill entreprises in the area. It was therefore recommended that policies on improving infrastructure, production of feed ingredients, and addressing insecurity should be prioritised rather than promoting a ban on the importation of critical feed ingredients for the feed mill industry in Nigeria.*

KEYWORDS: Feed mills, Feed ingredients, Local sourcing, Performance, Southwest.

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INTRODUCTION

Raw materials are substances or materials used in the production of goods (Obialor *et al.,* 2022). They are one of the critical inputs of production outside labour and land. Locally sourcing for raw materials is crucial to the development of indigenous firms thereby creating demands for local products or services (Wei *et al.,* 2013). According to Deutsche Investitions or German Development Finance Institution (DEG, 2018)DEG (2018), it (local sourcing) is a key driver of economic development whereby firms contribute to the jobs and income of local suppliers. The availability and access of raw materials in certain areas determine the location of firms in order to at least reduce cost of production (Obialor *et al.,* 2022). The issue of availability or scarcity of raw materials is a critical factor affecting production of feeds (Abayomi *et al.,* 2016). The fluctuation in the availability of certain materials determines the timely availability of feeds and prices of animal feeds.

Poultry and fisheries are essential parts of the prioritised livestock sub-sectors in the Medium-Term National Development Plan (MTNDP) of 2021-2025 in Nigeria. One of the objectives of the MTNDP is to reduce and stabilise the cost of feed in poultry and fisheries industries in Nigeria (Nwuneli, 2021). While the country is still driving towards promoting local sourcing and increasing the national output coming from these sub-sectors, the inconsistency in government policies such as prohibition of grain imports and removal of government subsidy for the sector (agriculture) have resulted into a collapse of farms and increasing unemployment (Nwuneli, 2021; Gbigbi & Chucks-Okonta, 2020).

The feed mill industry and livestock farming are closely linked as the production of feed is important to the existence of the livestock industry. Thus, animal feeds play a key role in the survival and development of livestock farming. Poultry and fish products are essential components of animal protein necessary for human consumption. Nigeria will become the third world's most populous country by 2050 and the demand for animal protein or products is expected to significantly rise over this period (Statista, 2022; United States Department of Agriculture (USDA), 2019). The demand of livestock farming equally determines the survival of the feed mill industry. The products (animal feeds) coming out from feed mills would partly determine the quality of animal products humans consume.

Low consumption of animal protein in Nigeria has been associated with high costs of poultry and fish products (Nwuneli, 2021). According to Nwuneli (2021), 72% of Nigeria's population cannot afford a nutrient-adequate diet. This is partly due to the high cost of raw materials used in producing them. Lack of raw materials such as maize in the feed mill industry has been reported to impede the production processes which has led to unavailability of feeds for livestock farming thereby reducing livestock products, high product prices, and low livestock product consumption (Abayomi *et al.,* 2016).

Poultry industry remains the most commercialised in the livestock subsector in Nigeria and this is attributed to the rapid growing population and growing income (Heise *et al.,* 2015). Fish is an important dietary element in Nigerian households, contributing about 7% of the total consumption of animal protein/capita/day (USDA, 2019). Demand for fish locally is 2.1 million while local supply is around 0.9million while import stands at 1.3 million. The use of locally made materials for production has been said to promote affordability (cost reduction), availability, re-usability, and biodegradable (Alade *et al.,* 2018). Affordability of food comes with what happens to the raw materials used in producing it. This is important in reducing the

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cost of production of feed and it reflects on the prices of livestock products in the economy (Ahmad & Ibrahim, 2016).

The cost of fish feed is a major constraint to fish farming in sub-Saharan Africa. In the aquaculture value chain, feed is a determining factor and accounts for 60-75% of the total cost of fish production in many African countries (Adeyemi *et al.,* 2020). For example, fish feed accounts for 60–75% of the total cost of fish production in many African countries including Nigeria (Sowunmi *et al.,* 2022; Babalola, 2010). Nigeria's animal feed sector remains underdeveloped, largely due to high production costs (USDA, 2019). The high cost of feed is due to the high cost of raw materials in the formulation and production of livestock feeds.

The use of locally available ingredients at low cost is crucial to local production of fish feed, sustainability and development of aquaculture in African countries. This makes feed affordable and attractive to poultry and fish private investors and hence, boosting their productions (Adeyemi *et al.,* 2020). Utilisation of locally available materials for feed production has implications on the cost reduction of feed and livestock production (Agbugui *et al.,* 2021). Thus, the effort of Nigeria's government to diversify the economy partly to the agricultural sector is dependent on how agro-allied firms are using locally available raw materials in their productions (Adegede et al., 2016).

Studies that have empirically examined local sourcing of raw materials of feed mills in Nigeria are still scanty. Adegede *et al.* (2016) examined challenges of climate change and sourcing of raw materials. Obialor *et al.* (2022) examined locational decisions and raw materials of selected foreign manufacturing firms. Abayomi *et al.* (2016) examined the problem of animal feed formulation and productivity of feed mills. Okunlola (2020); Ademuyiwa *et al.* (2014); and Oladejo (2012) examined operations, feedstuff safety, and economic analysis of feed mills.

However, this study focuses on the extent of use of locally sourced raw materials (feed ingredients) in feed production whose empirical evidence is still scanty in Nigeria. Against this backdrop, the following questions are raised: What determines the extent of use of locally sourced materials in feed production? Does local sourcing for raw materials contribute to profitability of feed production? There is a need to investigate the situations of local sourcing of raw materials in the feed mill industry with the keen interest in feed mills producing feeds for poultry and fish farming. Thus, this study provides empirical evidence and policy options thereby contributing more to the body of knowledge frontier in this area of research.

THEORY OF COST-AGILITY TRADE-OFF

This theory was propounded by Byoungho Jin (2004). It states that the issue that immediately emerges when considering the allocation between global and local sourcing, is the trade-off between cost and agility. Global sourcing is usually associated with cost while local sourcing with agility. Thus, it becomes important to understand what we mean by agility. As explained by Byoungho (2004), agility is composed of two components: speed, which is the time required to transfer goods, and flexibility, which is the extent to which a company can modify this time. These two elements are linked and they influence each other in the sense that speed is better realised within a flexible structure and flexibility becomes pointless if the goods are not delivered in due time (timely).

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With that in mind, one can easily understand that, at equal capabilities, a local supplier will necessarily be more agile than a global supplier, given that speed will be greater due to the shorter distance. However, the condition "at equal capabilities" is crucial here: if a global supplier has a higher speed or flexibility due to for instance more resources, better technologies or extended network, then although the local supplier might have an advantage on the speed dimension, it remains unclear on who, between the local and the global supplier, will be more agile in the end. In respect to the cost aspect of the trade-off, global sourcing is commonly associated with reduced costs; this is even why most firms start to engage in international purchasing in the first place. However, a survey conducted by Monczka and Trent (2005) has found that 25% of the unit cost reduction that is obtained, thanks to global sourcing, is actually absorbed by the extra costs incurred by the difficulties associated with handling international contracts. Therefore, although prices might be lower abroad, one should not forget all the extra costs that global sourcing might involve.

This demonstrates that the allocation between global and local sourcing goes way beyond the simple trade-off between cost and agility. Although deep-rooted beliefs suggest that global sourcing is a synonym of reduced costs and local sourcing of agility, it should be noted that this might evolve with time and conditions. Hence, considering the particularities of their context should always be addressed first. Whichever way this is viewed, there are drawbacks and advantages associated with global and local sourcing.

METHODOLOGY

Study Area

This study was conducted in Southwest Nigeria due to the presence and concentration of feed mill enterprises, which produce feeds for fish and poultry farmers. This region is a host to about 75 per cent of total installed and operating feed mills in Nigeria.[1] Although Oyo State in particular has the highest number of feed mills in this region, mostly in Ibadan, Ogun state equally has the second highest number of feed mills in this zone as reported from preliminary findings of literature and feed mill operators (Liverpool-Tasie *et al.*, 2018; Salawu & Rufai, 2017).

Data Source and Type

Primary data was used for this study. A semi-structured questionnaire was developed to collect relevant information such as state of infrastructure (road network), feed mill's characteristics, such as age of firm, year of experience, education of operators, distance to source of supply, location of supply, firm's employment capacity, sales, and type of feed ingredients (raw materials) used in the production of feeds, among others.

Sampling Procedure

[1] https://tribuneonlineng.com/south-west-accounts-for-over-75per-cent-of-about-1000-feed-mills-in-nigeria-%E2%80%95-minister/

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A three-stage sampling procedure was employed in this study. The first stage was the purposive selection of two states in the zone, Oyo and Ogun states, due to high concentration of feed mills in these areas. The second stage was also a purposive selection of two local government areas (LGAs) in each state selected where the feed mills are highly concentrated. These included Egbeda and Ido LGAs in Oyo state and Ogun Waterside and Odogbolu LGAs in Ogun state. The third stage was the random selection of feed mills in the selected LGAs. Feed mill enterprises were used as the unit of analysis.

Table 1: Sample Distribution of Selected Feed Mills

LGAs States	Oyo	Ogun	Proposed	Retrieved
Egbeda	21	-	20	21
Ido	19	-	20	19
Ogun Waterside (Abigi)	-	19	20	19
Odogbolu	-	21	20	21
Total	40	40	80	80

Source: *Field survey, 2023.*

Analytical Techniques

Descriptive Statistics: **Profile the sources of local and foreign raw materials used in feed production**

This was analysed using descriptive statistics such as frequency, percentage, mean, standard deviation, etc. Data here were presented in tables and charts.

Fractional Logit regression: Determinants of extent/share of locally sourced raw materials in feed production

To examine the determinants of extent of locally sourced feed ingredients (raw materials) in feed production, this study employed the use of fractional logit regression model. The fraction of locally sourced materials in feed production is used for the dependent variable. Thus, the values of the dependent variable ranged from 0 to 1. The basic feed ingredients used in the feed production covered energy, crude protein and additives/premix. Following Williams (2019) and Oberhofer and Pfaffermayr (2012), the model is specified thus:

$$Y_i = \partial_0 + \beta_1 x_1 + \beta_2 x_2 +, \dots, +\beta_n x_n + \varepsilon_i \dots\dots\dots \quad 1$$

Where:

$$Y_i = \frac{quantity\ \ of\ locally\ sourced\ feed\ ingredients}{overall\ sourced\ feed\ ingredients(i.e.import + local)}$$

Hence, the values range from 0 to 1. That is, $0 \leq y_i \leq 1$.

$$x_i = Operator's\ age\ (years)$$

$$x_2 = \ Gender\ (male = 1; female = 0)$$

$$x_3 = Educational\ level\ (years)$$

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$$x_4 = Firm's\ age\ (years)$$

$$x_5 = Year\ of\ experience\ in\ feed\ milling (years)$$

$$x_6 = Distance\ to\ source\ of\ feed\ ingredients (km)$$

$$x_7 = Quantity\ of\ feed\ produced\ per\ month\ (kg)$$

$$x_8 = Location\ of\ feed\ mills\ (Oyo = 1; otherwise = 0)$$

$$\partial_0 = Constant\ term$$

$$\beta = Parameter\ to\ be\ estimated$$

$$\varepsilon_i = Error\ term$$

Ordinary Least Squares (OLS) regression: **Assess the effect of extent of locally sourced materials on performance of feed mills**

An Ordinary Least Squares (OLS) regression was used to analyse the effect of extent of locally sourced materials on performance of feed mills. Gross margin (GM) is used as a proxy for a firm's profitability (performance) in feed production. Following Salawu and Rufai (2017) who worked on the profitability of feed mills in Oyo state, GM was estimated as:

$$GM = Total\ revenue\ (TR) - Total\ variable\ cost\ (TVC)$$

$$TR = Unit\ price * Quantity\ of\ feed\ sold$$

$TVC = \sum p_i x_i$

$p_i = unit\ cost\ of\ variable\ input\ ith\ used$

$$x_i = quantity\ of\ variable\ input\ ith\ used$$

Some of the variable inputs considered include cost of energy (diesel or petrol and electricity), cost of feed ingredients, cost of transportation for feed ingredient, bagging/packaging, labour cost, etc. The proportion of locally sourced materials among other factors (independent variables) in feed production was used to assess its effect on the gross margin (performance) of feed mills. Following Salisu (2016); Salawu and Rufai (2017), it is expressed thus:

$$G_i = \partial(\theta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n + \omega_i) \ldots \quad 2$$

Dependent variable

$$G_i = Gross\ margin\ (naira)$$

Independent variables (X_i)

$$A = Producer\ characteristics$$

$$x_i = Operator/Owner's\ age\ (years)$$

$$x_2 = Gender\ (male = 1; female = 0)$$

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$$x_3 = Educational\ level\ (years)$$

$$B = Firm\ characteristics$$

$$x_4 = Firm's\ age\ (years)$$

$$x_5 = Year\ of\ experience\ in\ feed\ milling\ (years)$$

$$x_6 = Quantity\ of\ feed\ produced/month\ (kg)$$

$$x_7 = Location\ of\ feed\ mill\ entreprises\ (Oyo = 1; otherwise = 0)$$

$$C = Share\ of\ locally\ sourced\ materials\ in\ feed\ production$$

$$x_8 = Proportion\ of\ locally\ sourced\ feed\ ingredients$$

$$\theta_0 = Constant$$

$$\beta_i = Parameters\ to\ be\ estimated$$

$$\omega_i = Error\ term$$

RESULTS AND DISCUSSION

Feed Mill Entreprise Characteristics

Results in Table 2 showed that three-quarters (75%) of the existing feed mill enterprises were established in the last decade in this region. Only about 1% of these enterprises have existed for about three decades. This is in line with a study conducted in Lagos state, Nigeria on small-scale and business enterprises (SBEs) which revealed that the time to fail of these enterprises was about 10 years (Saibu & Bello, 2020). The average employment of the feed mill enterprises is about 14 persons. This comprises male and female full-time and part-time workers handling different skilled and unskilled activities. It is further revealed that more than half (55%) of buyers of feed produced by feed mills were poultry farmers. This shows that poultry farmers patronise products of feed mills more than fish farmers in Southwest, Nigeria. This suggests there could be more poultry farmers than fish farmers in this area.

The time taken locally for an order of different feed ingredients to arrive at the feed mills is almost the same. As shown, for energy feed ingredients, it takes an average of about 4 days while it takes an average of about 5 days for the orders of crude protein and premix to arrive at the feed production sites (feed mills). This implies that sourcing energy feed ingredients locally is slightly faster than that of crude protein and premix feed ingredients in this region. Expectedly, however, it takes a longer time for an order of feed ingredients to arrive from abroad to the production sites. It takes an average of about 128 days (4 months+) for an order of energy feed ingredients to arrive at the production sites. Whereas, it takes an average of 125 days for both crude protein and premix ingredients to arrive from abroad at the production sites.

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Table 2: Characteristics of Feed Mill Entreprises

Characteristics	Frequency	Percentage
Year of establishment/operation		
1990-1999	1	1.25
2000-2009	19	23.75
2010-2019	60	75.00
Total	80	100.0
Year of experience in feed milling		
1-10	57	71.25
11-20	20	25.00
21-30	3	3.75
Total	80	100.0
Mean=9.7; Std=5.8		
Workforce		
1-10	22	27.50
11-20	54	67.50
21-30	4	5.00
Total	80	100.0
Mean=13.5; Std=4.8		
Customers of feeds		
Poultry farmers	44	55.00
Fish farmers	36	45.00
Total	80	100.0
Time taken for order to arrive locally (days)		
Energy: Mean=4.4; Std=1.2		
Crude protein: Mean=4.6; Std=0.8		
Premix: Mean=4.5; Std=1.3		
Time taken for order to arrive from abroad (days)		
Energy: Mean=127.9; Std=62.5		
Crude protein: Mean=125.0; Std=61.5		
Premix: Mean=124.9; Std=61.9		

Source: *Field survey, 2023*

Local Sourcing for Feed Ingredients (raw materials)

Information in Figure 2(a) revealed that feed mill enterprises in Oyo and Ogun states mostly sourced their energy feed ingredients locally from Kano and Kebbi states in Northwest, Nigeria. They are equally sourced within the state (Oyo state, for instance) where they are located. In respect to crude protein as shown in Figure 2(b), a similar pattern was found as most of these feed ingredients were sourced from the Northern states (Kano, Kebbi, and Niger) with less being sourced from within the study region. However, in Figure 2(c), local sourcing for premix feed ingredients came mostly from the region (Southwest-Lagos and Oyo states) and Kano state.

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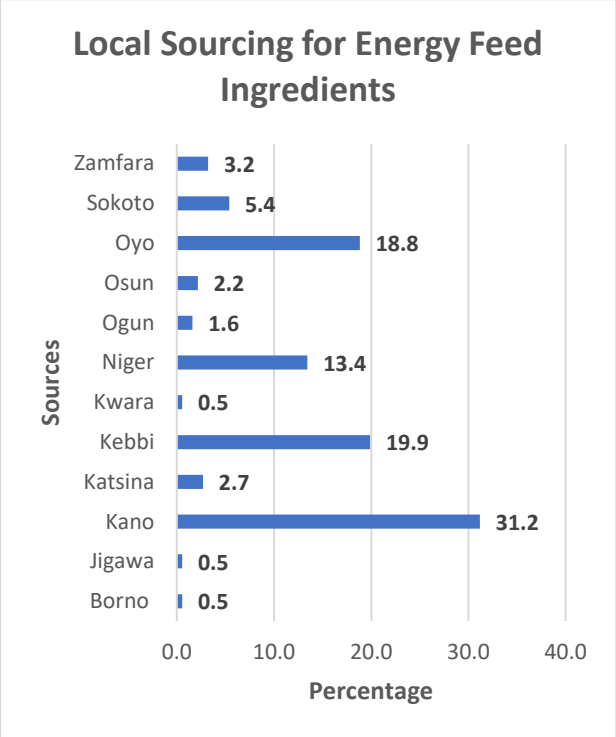

Fig 2(a): Local sourcing for energy

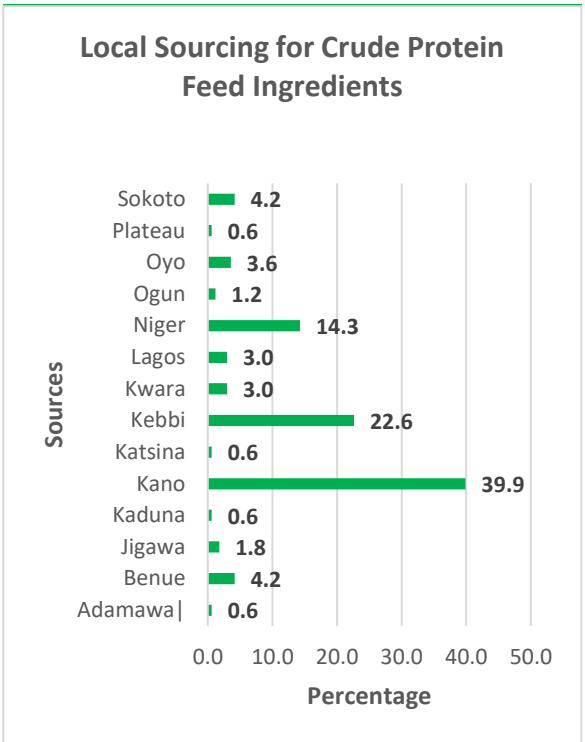

Fig 2(b): Local sourcing for crude protein

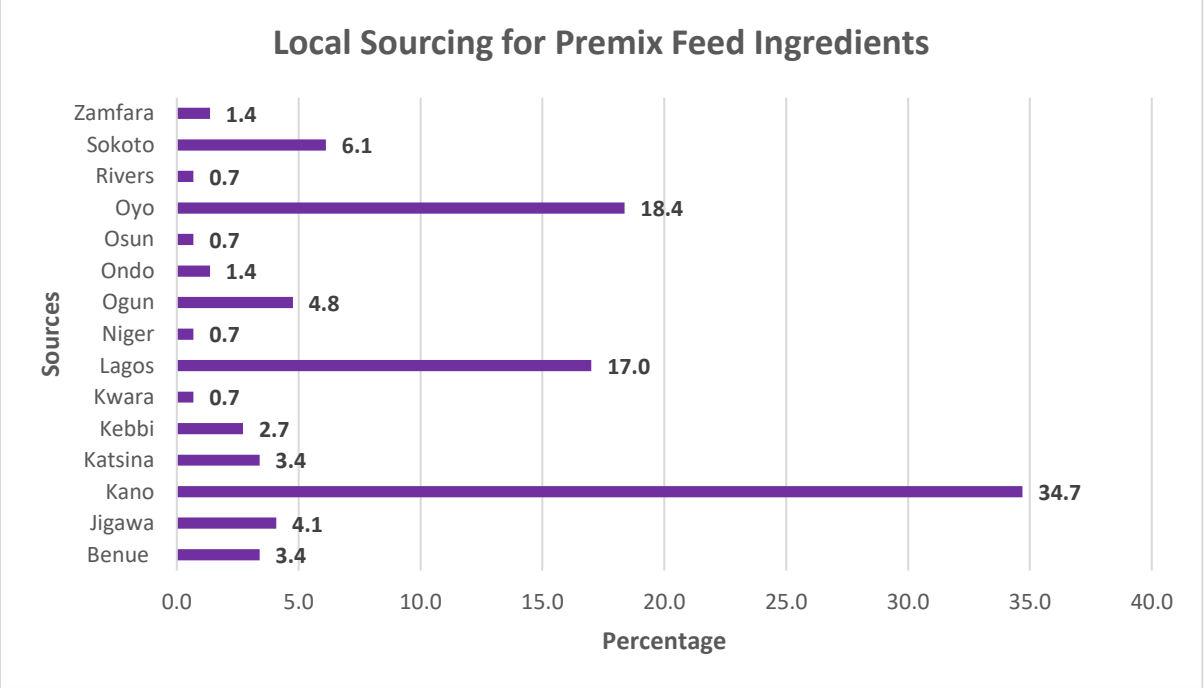

Fig 2(c): Local sourcing for premix/additive

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Foreign Sourcing for Feed Ingredients (raw materials)

In Figure 3(a), information on foreign sourcing for energy feed ingredients revealed India, Ivory Coast, and Thailand are the top three countries where the feed millers source their energy feed ingredients. In respect to foreign sourcing for crude protein and premix feed ingredients (see Figure 3b & 3c), South Africa, Netherland, and India top the list of countries where the feed millers source their crude protein and premix feed ingredients.

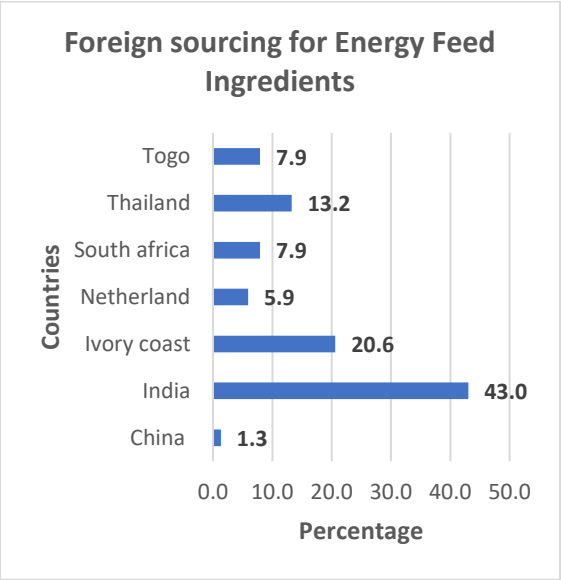

Figure 3(a): Foreign sourcing for energy

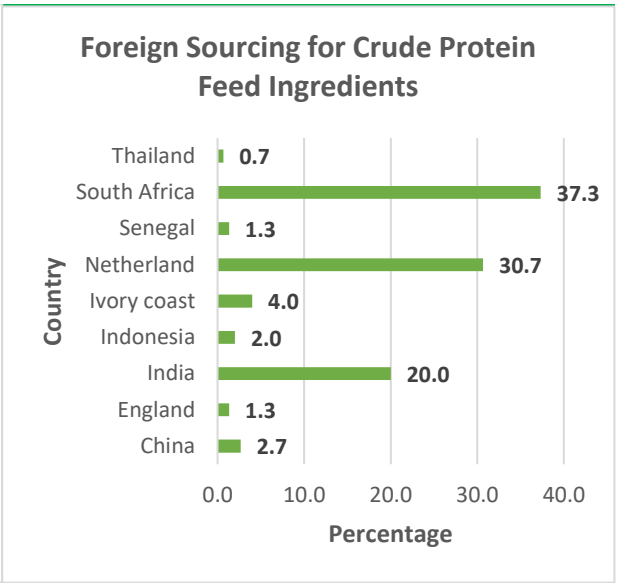

Figure 3(b): Foreign sourcing for crude protein

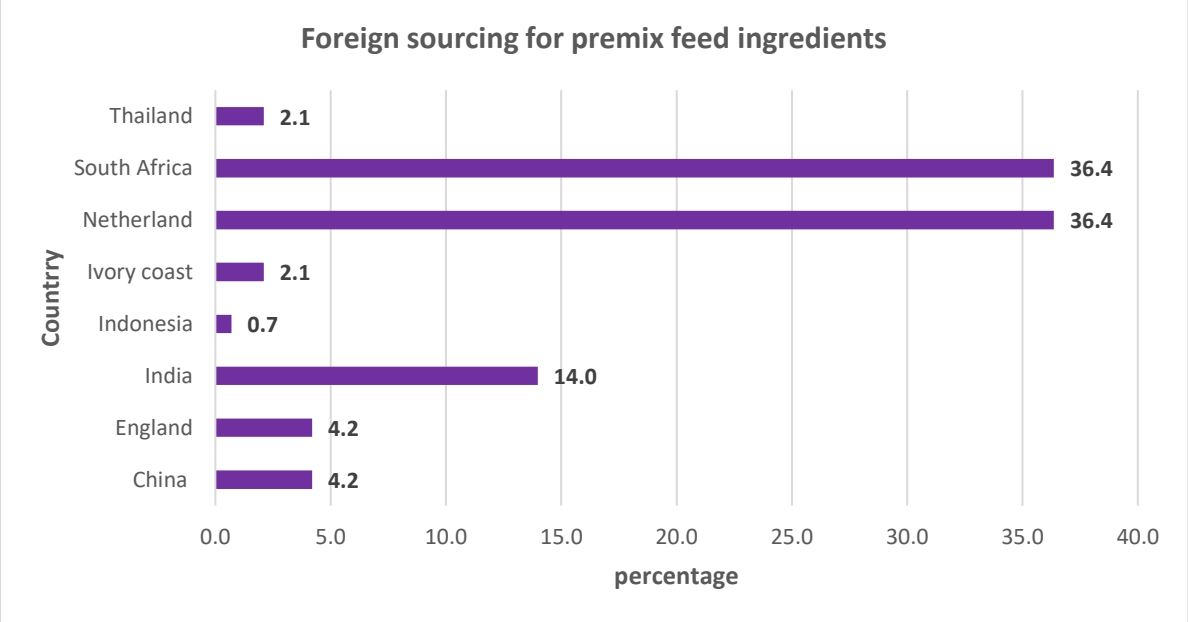

Figure 3(c): Foreign sourcing for premix/additive

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Determinants of Extent of Locally Sourced Feed Ingredients

Results in Table 3 were obtained from the quasi-maximum likelihood estimates of fractional logit regression. The Wald chi2 test is significant at 1%; indicating that the overall model is a good fit. The coefficient values are not interpretable but give right directions of relationships between response and independent variables. Eight (8) explanatory variables were included in the model but three (3) of them (firm's age, quantity of feed produced, and location of firm), were statistically significant at various levels of significance.

Firm's age of establishment for feed operations was negatively related to the share (extent) of locally sourcing feed ingredients in feed production. This implies that as feed mill enterprises age (get older), the likelihood of increasing the proportion of locally sourced feed ingredients in feed production reduces. This could be because such firms must have expanded their level of feed production that requires a bigger size of feed ingredients that could not be met locally. In respect to quantity of feed produced, a unit increase in the quantity of feed produced by feed mills would lead to about 0.8% reduction in the share of locally sourced feed ingredients (raw materials). This implies that the higher the quantity of feed produced by feed mill enterprises, the lower the share of locally sourced feed ingredients for feed production. This could be because the quantity of feed ingredients available locally might not be readily available or sufficient for their level of feed production. Hence, the need to seek more of the raw materials abroad in order to meet their level of feed production.

The chances of feed mill enterprises in Ogun state to locally source their feed ingredients reduce by 9.3%. In other words, the influence of location of feed mill entreprises in different states (Oyo and Ogun) on the share of locally sourced feed ingredients (raw materials) reveals that feed mills located in Oyo state have higher likelihood of locally sourcing their feed ingredients than those ones located in Ogun state. This suggests that feed mills in Oyo state are more positioned to source their feed ingredients locally than their counterparts in Ogun state possibly because Oyo state is a central point (bedrock) where products (including raw materials for feed mill) are offloaded from the Northern part of Nigeria.

Table 3: Fractional Logit Regression for Extent of Locally Sourcing of Feed Ingredients

Share of locally sourced feed ingredients	Coefficient	Standard Error	Marginal effect
Age of owners (years)	-0.007	0.011	-0.035
Gender	0.163	0.286	0.020
Level of education (years)	-0.037	0.028	-0.070
Firm's age (years)	-0.024**	0.012	-6.365
Years of experience in feed milling	-0.005	0.014	-0.006
Distance to source of feed ingredients	-0.002	0.004	-0.007
Quantity of feed produced/month (kg)	-0.000*	0.000	-0.009
Location of feed mill (reference=Ogun state)	-0.455***	0.109	-0.093
Constant	52.478**	23.440	
Log pseudolikelihood= -33.615033			
No of obs=79			
Wald chi2(8) =33.07			
Prob>chi2=0.0001			

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Source: Author's computation, 2023. NB: *, **, and *** represent 10%, 5%, and 1% levels of statistical significance.

Effect of Local Sourcing of Feed Ingredients on the Performance of Feed Mills Southwest, Nigeria

Table 4 revealed the effect of locally sourcing of feed ingredients on the performance of feed mill enterprises. The results from the Ordinary Least Squares (OLS) regression showed that the model is a good fit for the analysis as the F-statistics was significant at 1%. The R-squared value which is the coefficient of determination indicates that about 50% of the variation in the profitability (performance) of the feed mill enterprises is explained by the independent variables included in the model. Eight (8) explanatory variables were included in the model out of which four (4): level of education, firm's age, quantity of feed produced, and proportion of locally sourced feed ingredients, were statistically significant at 5% and 1% levels.

Unexpectedly, the level of education of the managers/owners was negatively related to the performance of feed mill enterprises. This implies that an additional increase in the level of education of managers/owners reduces the profitability of feed mill enterprises. Those who are less educated enjoy more profit in feed mill operation. This could come with informal training and experience which enhance better management of available resources. More so, such managers/owners could have recruited experts to better manage their feed mills. Similarly, feed mill enterprises with longer years of operations (establishment) are less profitable than the ones which are recently established. This could be associated with better technical know-how or new ideas or the use of modern technologies in the operations of feed production by the recent feed millers.

Expectedly, an increase in the kilogram of feed produced monthly significantly increases the profitability of feed mill enterprises by about ₦108. This implies that increasing the quantity of various feeds produced monthly has a positive effect on the profitability (performance) of feed mill enterprises. This could be associated with taking advantage of economies of scale of operations, which is at a reduced cost. Increasing the proportion of locally sourced feed ingredients (raw materials) reduces the profitability (performance) of feed mill enterprises. This could be associated with high costs of feed ingredients (due to scarcity or unavailability) and transportation. Hence, promoting local sourcing of raw materials might not be the real deal, rather, improving the infrastructural development (road and electricity-energy) could be the magic needed to enhance the performance (profitability) of feed mill enterprises in Southwest, Nigeria. On the other hand, feed mill enterprises which increase sourcing of feed ingredients abroad (foreign) are more likely to have higher performance of their feed mills. This could be associated with cheaper cost of feeds and a large capital base to buy feed ingredients in large quantities.

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Table 4: OLS Regression for the Effect of Share of Local Sourcing of Feed Ingredients on Profitability

Profitability (Performance)	Coefficient	Standard Error
Age of owners (years)	21481.74	61351.41
Gender of owners	612042.10	1587517.00
Level of education (years)	-460635.50**	204266.60
Firm's age (years)	-204396.30**	83295.05
Years of experience in feed milling	-106342.10	85261.11
Quantity of feed produced/month (kg)	107.58***	16.43
Location of feed mill (i.state) (Ogun)	-779691.20	719053
Proportion of feed ingredients sourced locally	-1.21e07**	5660367
Constant	4.29e08**	23.449
No of obs=79		
F (8,70) =8.73		
Prob>F=0.0000		
R-squared=0.4993		
Adjusted R-squared=0.4421		

Source: Author's computation, 2023. NB: ** and *** represent 5%, and 1% levels of statistical significance.

CONCLUSION AND POLICY RECOMMENDATION

Older feed mill enterprises are more likely to source their required feed ingredients from abroad and firms operating on a larger scale are less likely to depend on locally available feed ingredients. Location of firms significantly influence sourcing of feed ingredients locally; with those more in the hinterland more likely to source locally. In addition, profitability (performance) of feed mills is significantly influenced by level of education of managers/operators, age of firm, volume of feed produced, and locations of sourcing for feed ingredients. It is therefore recommended that although the government is promoting local sourcing of raw materials (in this case, feed ingredients) through various means such as ban on imported cereals, infrastructural development or investments such as in road construction or rehabilitation and stable power supply should rather be prioritised as this is impacting the movement and cost of transporting feed ingredients. Doing this would improve the extent of locally sourced feed ingredients for feed production. Insecurity in the country which is affecting the production and movement of feed ingredients produced locally should be urgently addressed as it has become a disincentive to local sourcing of raw materials.

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