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Bridging the Demand and Supply Gap of Affordable Commercial Feed in Nigeria

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ABSTRACT

- Feeding cost has accounted for 70-85% of production cost in Livestock, Poultry and Aquaculture productions. Hence, it is essential that such feed must be of premium quality (efficient in digestibility, assimilation and utilization) in order to justify its worth. Inadequate supplies or lack of access to such quality feed is a major problem in Nigeria and most Sub-Saharan African countries.
- This presentation looks into the hinderances and challenges and suggested solutions to overcome future occurrences.



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MAJOR HIGHLIGHTS

- Lists of commercial feeds available in the Nigerian market
- Current demands figures from the industry
- Total annual productions from top commercial feed millers
- Identifiable challenges affecting supplies
- Solutions and Recommendations



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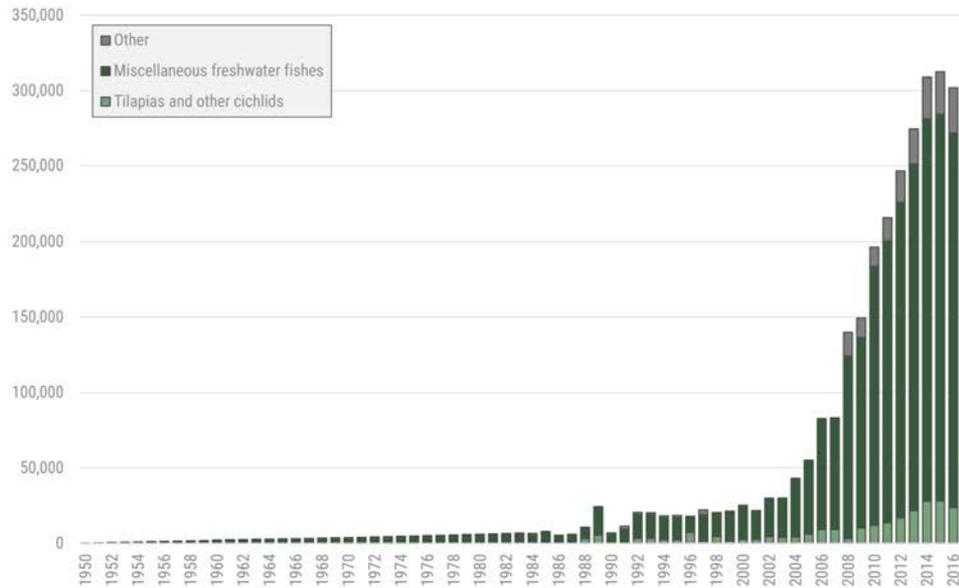
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AQUACULTURE DEVELOPMENT IN NIGERIA

Species farmed development

The market developed quickly from 2004

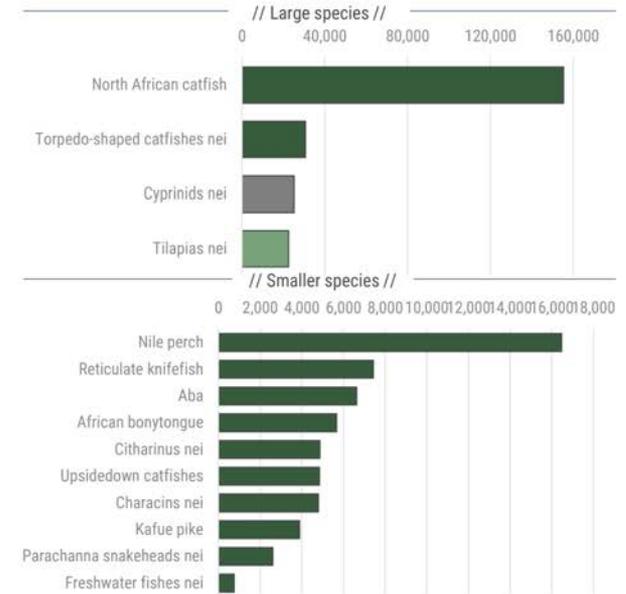
Tonnes of fish farmed per year, main 2 species and others, 1950-2017, FAO



Main groups of species farmed

African catfish is main species farmed

Tonnes of fish farmed per year, main 2 groups and others, 2017, FAO



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FISH DEMAND VERSUS SUPPLY

- The awareness that fish is among the healthiest foods around the globe, coupled with the increase in human population has resulted in an increase in demand for fish and fish oil. 40 percent increase in fish demand has been recorded between 2000 and 2015 while about 35 percent increase in deficit over same period was anticipated (FDF, 2008).
- With the current consumption rate of over 1.5 million tons of fish per annum (CBN 2016) there is still a wide gap between demand and supply which must be filled if Nigeria is to achieved food security. Small and medium scale enterprises (SMEs) when combined with artisanal fisheries contribute about 82 percent of the domestic fish production.
- As catch from the wild is dwindling, aquaculture remains the only alternate source of fish and other aquatic products for human consumption. Globally, the projected fish supply from fish farming stood at 50 percent by 2020. This trend provides an impetus to intensify fish farming in Nigeria strongly supported by a viable aqua feeds industry (EDR, 2014).



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OVERVIEW OF AQUACULTURE PRODUCTION IN NIGERIA

Although aquaculture production in Nigeria has experienced rapid growth in recent years, the industry is still constrained by an inadequate feed supply.

- Poor quality local feeds currently used by the industry sparks mortalities, exacerbates low productivity and consequently result in low rate of return on investment (ROI).
- The prices of imported feeds are skyrocketing, fuelled by the current abrupt rise in exchange rate.

From the foregoing, a viable aqua feed industry is needed for a sustainable aquaculture production in Nigeria



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OVERVIEW OF AQUACULTURE PRODUCTION IN NIGERIA

Table 1. Aquaculture Production in Nigeria since.

| YEA R | Projected (Million) | Population | Projected (Tonnes) | Fish Demand | Projected (Tonnes) | Domestic Fish Supply | Deficit (Tonnes) |
|----------|------------------------|------------|-----------------------|----------------|-----------------------|----------------------------|---------------------|
| 2000 | 114.40 | | 1430.00 | | 467.098 | | 962.902 |
| 2001 | 117.60 | | 1470.00 | | 480.163 | | 984.836 |
| 2002 | 121.00 | | 1412.50 | | 507.928 | | 1004.572 |
| 2003 | 124.40 | | 1555.00 | | 522.628 | | 1063.082 |
| 2004 | 128.00 | | 1600.00 | | 536.917 | | 1063.072 |
| 2005 | 131.50 | | 1643.75 | | 552.433 | | 1091.317 |
| 2006 | 135.30 | | 1691.25 | | 567.948 | | 1123.307 |
| 2007 | 139.10 | | 1732.75 | | 585.872 | | 1154.873 |
| 2008 | 143.00 | | 1782.30 | | 600.612 | | 1186.887 |
| 2009 | 147.10 | | 1838.75 | | 617.353 | | 1221.397 |
| 2010 | 151.20 | | 1810.00 | | 634.500 | | 1255.440 |
| 2011 | 155.50 | | 1943.75 | | 652.606 | | 1291.143 |
| 2012 | 160.00 | | 2000.00 | | 689.958 | | 1328.508 |
| 2013 | 164.00 | | 2113.75 | | 709.683 | | 1365.042 |
| 2014 | 169.10 | | 2175.00 | | 730.248 | | 1404.067 |
| 2015 | 174.00 | | 2055.00 | | 671.493 | | 1444.752 |

Source: (FDF, 2008) (Tonnes × 1000)





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PRESENT STATUS OF AQUA FEEDS INDUSTRY

Nigeria significantly improved in the area of aqua feeds production between 2014 and 2015 and is rated as one of the largest emerging animals feeds producers in the world with a huge potential for commercial production.

In 2015 the Nigeria's animal feed sector has been rated as number 40th in the world; moving 11 steps forward from its previous ranking of number 51 among the 130 leading animal feeds producing countries in the world.

Nigeria is estimated to have produced 3.8 million metric tons (MT) of animal feeds in 2014 and 5.3 million MT of animal feeds in 2015 with aquaculture contributing 12 percent second to poultry production



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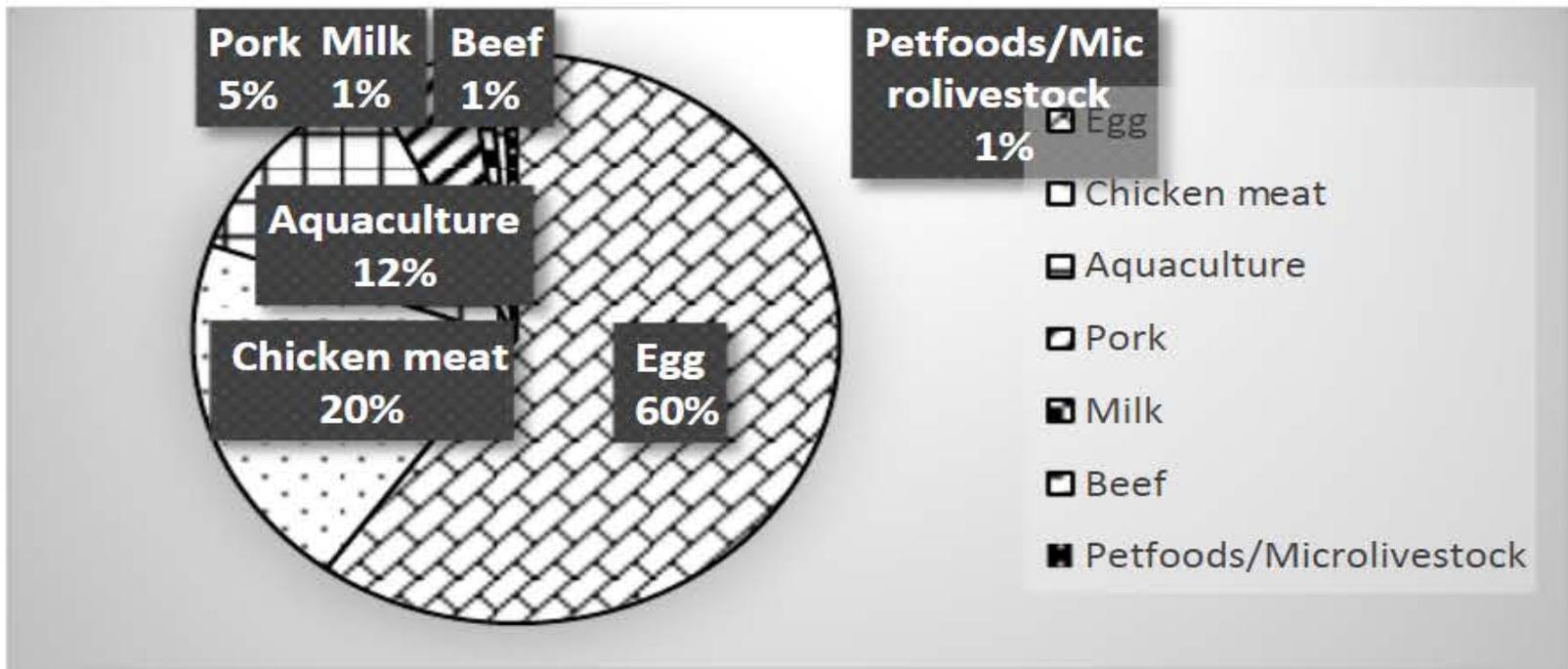
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PRESENT STATUS OF AQUA FEEDS INDUSTRY



Nigeria's animal feed sector as at 2015 (Source: Alltech, 2016)





AQUA FEED SUPPLY ANALYSIS (NIGERIA)

- Nigeria compared to other African countries showed evidence of impressive growth >30 percent in 2016 (Alltech, 2017)
- The Nigerian aqua feed industry is dominated by few large commercial feed industries usually based in Europe, Asia or America who run local franchised companies.
- Few indigenous feeds enterprises using local ingredients are emerging and are the best approach to meeting the increasing demand for fish feeds. They have easier access to local materials and fish farmers.
- With increasing demand and several strategies adopted, such as price policies, input subsidies, production credit and liberalization by governments and individuals to increase the output of these fish feed enterprises performance remains low (EDR, 2014).

Two categories of aquafeeds are used to culture fish in Nigeria (Ibiyo and Olowosegun, 2005):

1. On-farm feed
2. Commercial feed





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COMMERCIAL AQUA FEEDS

Commercially manufactured aqua feeds are feeds that are formulated to meet the nutritional requirements of a distinctive fish species and their different life stage. They may be locally manufactured (Indigenous or franchised companies) or imported.

A- Locally Manufactured Aqua feeds

- Currently, Nigeria is rapidly gaining access to local manufacturing capacity and consequently, many local feed millers are producing some fish feeds,

Franchised Local Manufacturers - Olams Group for Blue Crown and Eco-float, Skretting Nigeria Ltd, CHI

Indigenous Local Manufacturers - Grand Cereals for Vital Feeds, Aqua boom and Aquamax, Premier Feed Mill for Top Feed and Omega (Gabriel et al., 2007).



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COMMERCIAL AQUA FEED

B- Imported Fish Feeds

- Imported feeds are all high-quality floating feeds. Admittedly, small fish need high protein (50% CP) and tiny pellets (0.8-1.5 mm) feeds that jumpstarts their growth. As most local aqua feeds only include the larger size pellets that are mostly lower in crude protein content, fish farmers resort to imported starter feeds throughout the nursery stage (1-2 months) before changing to the lower cost feeds which most of the times are locally produced pellets (USAID, 2010).
- These imported smaller pellets are relatively expensive, but the high crude protein content boosts the growth of the young larvae and fry.
- Generally, 33.3 percent of the fish farmers use both imported and local pelleted feeds, 26.7 percent use locally produced pelleted feeds, merely 20 percent used imported feeds only, while 16.7 percent use other Nigerian feeds, while 3.3 percent used locally manufactured powdered feeds in feeding their fish (Obe and Omojola, 2015).





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MAJOR COMMERCIAL AQUA FEEDS IN NIGERIA

| BRAND | PRODUCERS | PRODUCTION COUNTRY |
|--------------|-------------------|---------------------------|
| Aqualis | Olams Group | Brasil |
| Aller Aqua | Aller Aqua A/S | Denmark |
| Skretting | Skretting Nigeria | France |
| Coppens | Alltech | Holland |
| Blue Crown | Olams Group | Nigeria |
| Vital Feeds | UACN Group | Nigeria |
| Top Feeds | Premier Feedmill | Nigeria |
| Aqua boom | UACN Group | Nigeria |
| EcoFloat | Olams Group | Nigeria |
| Omega Feeds | Premier Feedmill | Nigeria |



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PICTURES OF SELECTED COMMERCIAL AQUA FEEDS IN NIGERIA



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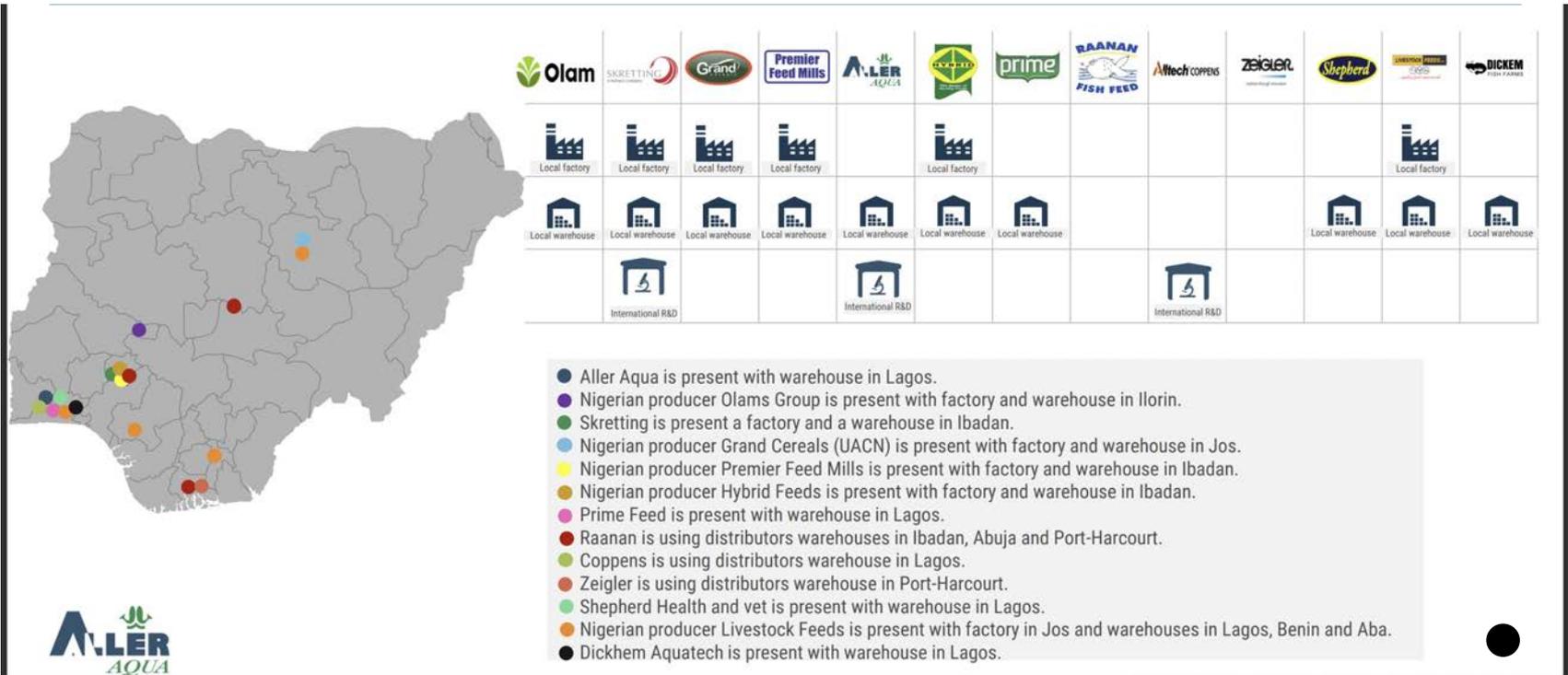
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STATUS AND LOCATIONS OF SOME COMMERCIAL FEED IN NIGERIA



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CHALLENGES FACING THE NIGERIAN AQUA FEEDS INDUSTRY

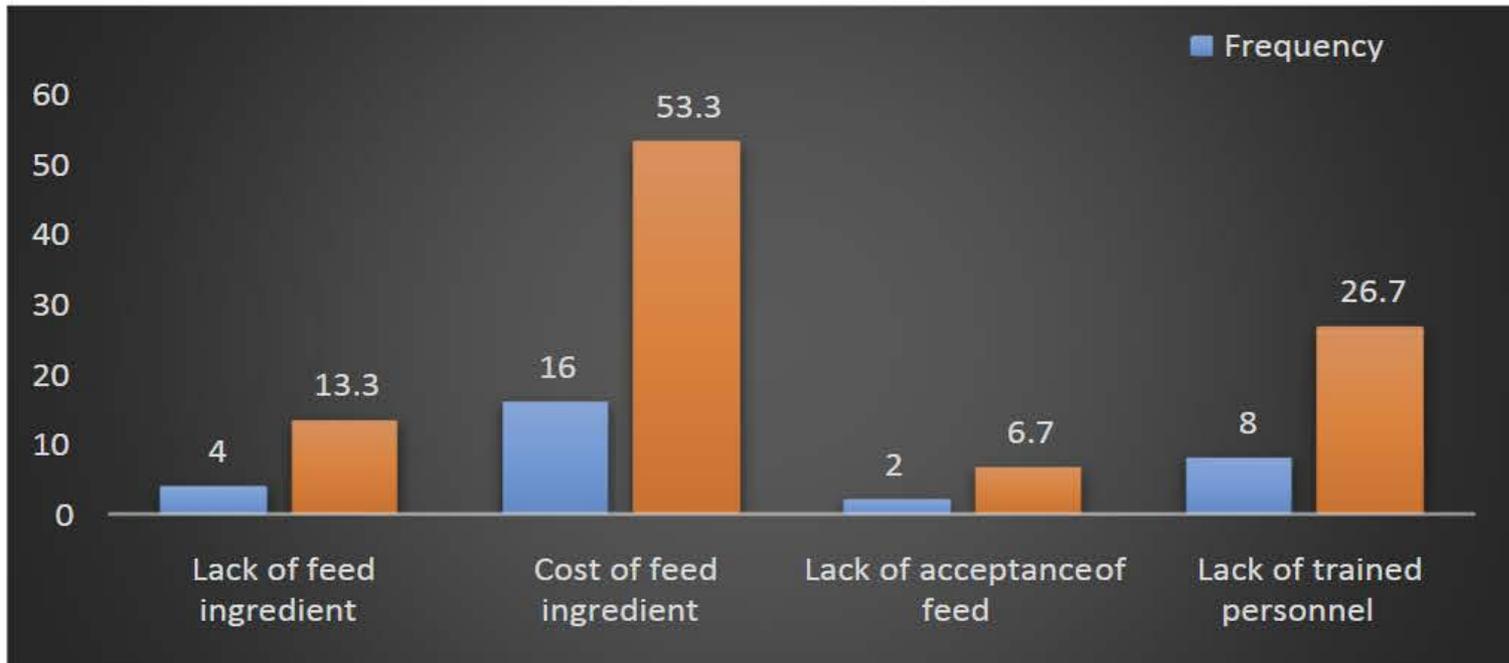


Figure 4. Challenges of the Nigerian Aquafeed Industry

Obe and Omojola, (2015)



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CHALLENGES FACING THE NIGERIAN AQUA FEEDS INDUSTRY (CONT.)

- high cost of feed ingredients which constituting about 60 percent of the total challenges. The major ingredients in aqua feeds are fishmeal, soybeans and maize. Major diets ingredients include cereals, fats and oils, which serve as protein and energy sources in the aqua feeds.
- Indirect devaluation of the naira has also result in hike of raw material prices, particularly fishmeal, maize and soybean.
- Insufficient feed ingredients constitutes about 14 percent of the challenges. The cause of unavailability of feed ingredient are suboptimal production of raw materials, uncertainty in yearly crop yield estimates, animal and human increased competition for energy sources/conventional feed ingredients.
- While current level of conventional raw materials does not meet the needs of both animal and aquafeeds, non-conventional ingredients which could be used as substitutes have limitation in commercial quantity as well as localized availability. Their seasonality also results in inconsistency in availability and quality.





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CHALLENGES FACING THE NIGERIAN AQUA FEEDS INDUSTRY (CONT.)

- Lack of trained personnel in areas of aquaculture nutrition, feed formulation and processing, and machine operators is reported as constituting about 27 percent of the challenges. (Ogugua and Eyo 2007, Obe and Omojola, 2015).
- Bad Road Network to Farm Settlements
- Cost of diesel/Energy costs
- Funding and Access to credit facility

By October 2016, the prices of fish feeds had risen by up to 80 to 100 percent for many brands compared to the year before and many Nigerian fish farmers were compelled to leave the business (Daily Trust Newspaper).



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CAUSES OF GAPS IN DEMAND AND SUPPLIES OF COMMERCIAL FEEDS

DEMAND

- Weakening purchasing power of working capital
- Poor return of investments
- Unregulated Prices of harvested fish
- Perennial flooding and other natural disaster
- Funding and Access to Credits facility
- Proximity to feed producer/supplier
- Insufficient technical supports
- Poor Sensitization and Products awareness

Supply

- Conflicting data on annual Productions
- Foreign exchange
- Cost of Raw Materials
- Availability of Raw Materials
- Poor Road network
- Energy cost
- Haulage Cost
- Insurgency, banditry and other security challenges





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**SOLUTIONS
AND
RECOMMENDATIONS**



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SOLUTIONS

- Education of innovative production practice via training and seminars to optimize profitability and Return on Investment
- Establishment of good and accessible distribution structure
- Deployment of Technical Extension Officers
- Access to foreign exchange
- Access to quality raw materials
- Access to funds and Record keeping
- Adequate Advertisement and Product awareness
- Improve delivery system via subsidizing of haulage cost
- Insurance cover for business



RECOMMENDATIONS

1. Education of innovative production practice via training and seminars to optimize profitability and Return on Investment

- Adequate Record Keeping
- Batch Production
- Usage of premium quality feed and seeds
- Diverse product sales via value chain exploration





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RECOMMENDATIONS (CONT.)

2. Production Planning and Record Keeping

- Adequate Production Planning
- Detail Record keeping
- Detailed cost & return analysis
- Sales Plan (Sales contract, batch harvest, processing)



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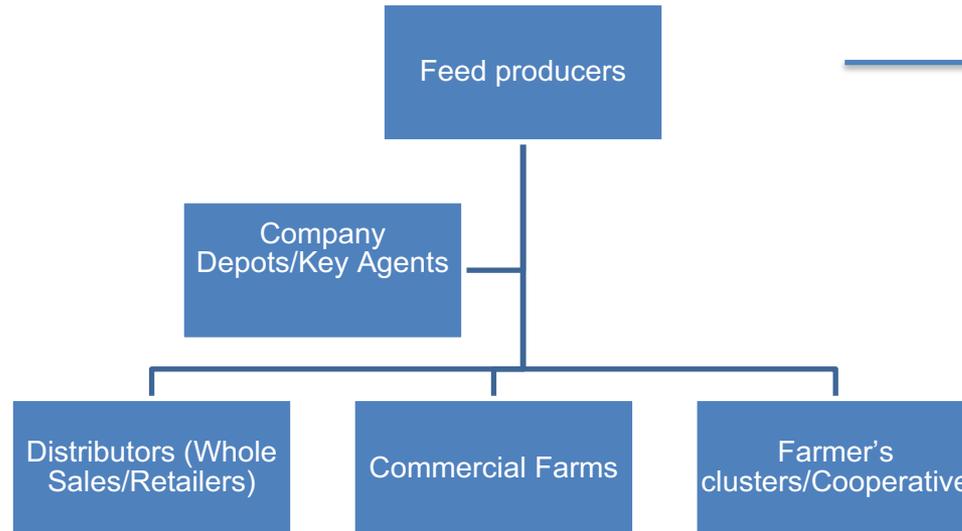
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RECOMMENDATIONS (CONT.)

3. Proximity and Access to Commercial Feeds

- Improve distribution channels via establishment of sub-distributors outlets across farm clusters and settlements
- Deployment of Technical extension officers
- Advertisement and Product Awareness



- Subsidizing haulage cost
- Invest in advertisement
- Support with credit sales



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- [Process Flow Of Inbound And Outbound Logistics | PowerPoint Slide Images | PPT Design Templates | Presentation Visual Aids \(slideteam.net\)](#)



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