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# **STABLE SUPPLY OF VACCINES FOR SMALLHOLDER POULTRY FARMERS**

**An Advocacy Brief**

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## Rationale for the Report

One of the major challenges encountered by Smallholder Poultry Farmers (SHF) in poultry production in Nigeria is the incessant case of preventable bird diseases accounting for about 30% mortality rate. Limited access to and availability of inappropriately sized vaccines, preventing smallholder farmers from using the vaccines, are among leading causes of high poultry mortality experienced by SHF. Veterinary Pharmaceutical Companies (VPCs) had marketed their services and products mainly to large scale commercial poultry farmers in urban and semi-urban areas primarily because of poor information and knowledge of the market size of small and medium scale poultry markets in rural communities.

Since 2015, Market Development in the Niger Delta (MADE), has implemented interventions through VPCs to address constraints confronting SHF access to vaccines and good poultry production practices. The interventions included the development of new distribution channels for the supply of appropriately sized and affordable poultry health products – drugs and vaccines – targeting SHF in rural areas.

According to the International Livestock Research Institute (ILRI), NCD accounts for 54.3% of all bird diseases diagnosed in the Niger Delta with a mortality rate of 30%. With such high mortality, it is estimated that Niger Delta loses annually at least NGN 27<sup>1</sup> billion worth of poultry birds to just New Castle disease alone.

The Nigerian Veterinary Research Institute (NVRI), is the only approved and authorized domestic producer of vaccines for the entire country. Nonetheless, the institute is faced with many challenges limiting its ability to meet demand for vaccines. This production level that is unable to provide effective coverage for the control of epidemics such as the Newcastle Disease (ND) leads to preventable bird mortality rates.

This report focuses on the poultry diseases facing SHF, effects of unstable access to vaccines and its impacts on production cost for SHF in Nigeria, constraining factors and suggests action plan to address the constraints. It serves as an important advocacy tool for policy reform measures in the poultry ecosystem to ensure reliable supply of vaccines to smallholder poultry farmers.


## Contextual Background

Since the ban on the importation of poultry products in 2003, Nigeria has gradually developed a significant poultry industry which contributes meaningfully to agricultural production and the nation's economy at large. For instance, the country is second only to South Africa on the African continent in the production of eggs, as well as major production of broilers. Yet, the 2016-2020 Agriculture Promotion Policy document released by the Federal Ministry of Agriculture and Rural Development (FMARD) puts Nigeria's potential annual chicken consumption at 200 million birds and the domestic supply at 140 million birds, indicating a gap of 60 million birds. This gap which is largely a function of challenging operating environment for poultry farmers that has created an uncompetitive poultry production sector and has constantly fueled the smuggling of more competitive frozen chicken through the land borders into markets across the country. This has caused an outflow of foreign exchange and has reduced the employment opportunities for Nigerians. If local production were to meet demand under internationally competitive conditions, it would have a very positive impact on the economy and unemployment.

In 2016, the Central Bank of Nigeria (CBN) published a list of 41 items, including poultry products, as ineligible for forex through the Nigerian interbank market to encourage local production, manage foreign reserves and create the much needed employment. Also, in July 2019, the Nigerian government ordered the closure of its land borders

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<sup>1</sup> NGN 26,834,058,750



which is resulting in reduced volumes of illegally smuggled frozen chicken and turkey. Since then, farmers have experienced significant rise in prices of locally produced chicken within the country as indicated in Table 1 below.

**Table 1: Price Movement of Poultry Products**

<b>Poultry Products</b>	<b>Price Movement (August – November, 2019)</b>	<b>% Rise in Price</b>	<b>Location</b>
1 carton of Nigerian chicken	Currently sells between N12,000 and N12,500 as against N8,000 and N10,000 sold before the border closure	25%	Lagos
1 carton of imported frozen 'Orobo' chicken	Currently sells at N15,000 from N8,500 - N9,000 before the border closure	67%	Abuja
Prices of live broiler (Nigeria)	Currently sells at N3,500 as against N3,000 sold before the border closure	17%	Ondo
Layers (Nigeria)	Currently sells at N2,000 as against N1,700 before the border closure	18%	Jos

Source: Feedback from Poultry Farmers

Government policies on 41 items and closure of land boarder seem to have reduced pressure on foreign exchange reserves and expenditures on informal imports but at the same time, it has increased the price of poultry products for consumers, most especially the poor, in the country. These price increases have also led to a reduction in consumption, which will limit the potential benefits to the economy. In the absence of well-coordinated policy initiatives directed at restoring the competitive position of the Nigerian poultry industry, the current upside effects of land border closure will remain unsustainable. While the large commercial farms are the primary institutional suppliers in Nigeria, SHF contribute the most significant numbers of birds for local consumption in the country and stand to benefit from a more competitive sector provided the underlying production impediments are eliminated.

#### **New Castle Disease Virus responsible for deaths of about one- third of smallholder's flock in Nigeria**

One of the major challenges encountered by SHF in poultry production in Nigeria is the incessant cases of bird diseases leading to high mortality of birds. For instance, FMARD in its 2018 Assessment Report shows that Newcastle disease virus (NDV) is responsible for about 54.3% of all bird diseases, with mortality rate of 30% in smallholder farms. This high mortality reduces profitability and forces many SHF out of operation. According to estimates by MADE, a steady supply of small dose vaccines can save birds valued at N96.95 billion per annum from dying. Limited availability and unaffordability of vaccines by SHF had further impeded their livelihoods and employment potentials of the local communities. Veterinary Pharmaceutical Companies (VPCs) were not catering for this segment primarily because of poor information and knowledge of the market size of small and medium scale poultry markets in rural areas.

Intervention programmes such as MADE and PROPCOM have focused on facilitating access to and availability of vaccines for SHF in Southern and Northern Nigeria. These projects worked through lead firms to develop, test and scale up new distribution models for vaccination services, poultry health drugs and veterinary products through new distribution channels actors comprising village level vaccinators and village level dealers. However, a major constraint to the use of poultry health products by SHFs is the prevalence of large dosed packaging of drugs and vaccines in the market which becomes unaffordable and beyond their reach. To address this, MADE and PROPCOM supported the sales and distribution of small dose (50mg and 200mg doses) vials of New Castle Disease (NCD) vaccines - the lead product being the thermostable vaccines sourced from the Nigerian Veterinary Research Institute (NVRI). These vaccines were developed to stay outside of the cold chain for up to a year if kept in a cool environment and can be used for up to 3 days after opening as against conventional vaccines which can only be

used within 2 hours of opening. It is also packaged in doses of 50mg and 200mg, a boost to farmers with small flock sizes who are discouraged from use of vaccines because vaccines typically come in large doses of 1,000mg and 2,000mg. Availability of small dose vaccines have the advantage of reducing waste and contamination of unused medications.

It is estimated that 35 million poultry birds worth NGN 902 billion naira are at risk of preventable deaths due to the unstable supply of vaccines. Unstable access to vaccines reduces poultry production, which in turn reduces the farmers' income.

### **Constraining Factors**

NVRI is the only approved and authorized domestic producer and supplier of vaccines in the country. NVRI was established in 1924, with an initial mandate to combat the Rinderpest outbreaks that had devastated Nigerian cattle populations in the late 19th and early 20th centuries. Over the years, NVRI grew to become a pioneer institute in the production of veterinary biologicals and therapeutics in West Africa. The current mandate of the NVRI has expanded to encompass a broad range of activities to support animal production and health in Nigeria. The vaccines produced by NVRI includes the Newcastle Disease Virus thermostable small dose of 50mg and 200mg vaccines for the entire country. While NVRI produces 120 – 150 million doses annually, it is not enough to meet existing demand nationwide. Production of vaccines have been impeded because the institute is faced with several constraints such as meagre public funding, poor maintenance of vaccine manufacturing machinery, unreliable access to electricity and water needed for the manufacturing process, inadequate technical personnel, inadequate innovation and diagnostic facilities, and inadequate sources of data/database.

In addition, there are inefficiencies that compound the bureaucratic process of procurement by the NVRI. Fundamentally, there is also the difficulty in the sourcing of the 50mg vial bottles for the vaccines. The bottles are imported, and cost of packaging is same for 50mg and 200mg vaccines. This leads to an extremely limited vaccine production level and disruption in supply that is unable to meet demand for vaccines needed for effective coverage for the control of the Newcastle disease virus with adverse consequence on SHFs across the country. According to many of the stakeholders interviewed, NVRI in its current set-up and structure lacks the requisite capacity to serve the need of livestock operators in Nigeria. Feedback from the industry players widely held that the institute should focus solely on research and innovation while the task of production/ distribution should be left for the private sector and necessary regulation, surveillance and monitoring should be left for the National Agency for Food and Drug Administration and Control (NAFDAC).

### **Alternative Measures to Address NVRI Vaccine Supply Lapses**

To cover the shortfall created by NVRI, poultry input companies are exploring the option of importing vaccines from other countries such as Ethiopia, Uganda, Kenya and Ghana, India, Cameroon and China. One key challenge is the practicality of importation - particularly the challenging importation process and arbitrary enforcement of import regulations. NAFDAC has the primary responsibility for the registration, control of veterinary medicines and biologicals in the country. According to the stakeholders, NAFDAC's import processes and guidelines for vaccine is cumbersome, time consuming and largely inefficient. Added to the challenging import clearing processes, there is lack of necessary infrastructure for maintaining the cold chain of the vaccines from point of origin to the end farmers. These result to scarcity, higher price and quality concerns of the vaccines for local poultry farmers.

### **Suggestions and Action for Policy**

This research outlines the following reform measures to address the observed challenges with suggested actors and outcome timelines.

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<sup>2</sup> NGN 89,446,862,500 worth at NGN 2,500 per bird

Issues	Recommended Action Plan	Responsibility	Outcome Timelines
<p>The Nigerian Veterinary Research Institute (NVRI) which is the only legally approved domestic producer of vaccines for the country is unable to ensure steady supply of appropriately sized and affordable poultry health products especially small dose thermo-tolerant vaccines targeted at small scale poultry farmers in rural areas</p>	<p>Making NVRI more efficient and effective</p> <ol style="list-style-type: none"> <li>a. Improve government funding and upgrade of equipment to NVRI to scale up vaccine production to meet demand for effective coverage and disease control. There is need to increase interventionist fund and timely budgetary allocations to Nigerian Veterinary Research Institute (NVRI) specifically to upgrade its vaccine manufacturing machinery especially freeze drying machines, filling line, and a capping machine, and increased importation of bottles vials. This support is especially important for funding for alternative power required for the manufacturing process.</li> <li>b. There is the need for government to consider the privatization of the vaccine manufacturing unit of NVRI.</li> <li>c. There is also the need to identify and map the poultry health distribution channels across the country and trace the flow of vaccines to ensure that small doses vaccines get to small holder farmers instead of large commercial farmers alone. This is because NVRI's vaccines are the cheapest in the market and are sometimes hijacked by large commercial farmers.</li> <li>d. In addition, the deliberate and continuous streamlining of processes by the institute aimed at reducing internal bottlenecks and bureaucracy is essential coupled with the need for steady communication and enlightenment of farmers on trends/ new developments in the vaccine eco-system.</li> <li>e. Realign and focus the NVRI mandate: The current mandate of the NVRI has expanded to encompass a broad range of activities to support animal production and health in Nigeria and beyond. Therefore, the institute should focus solely on research and innovation while the task of production/ distribution should be left for the private sector while necessary regulation, surveillance and monitoring is left for National Agency for Food and Drug Administration and Control (NAFDAC).</li> </ol>	<p>NVRI, Ministry of Agriculture</p>	<p>Short term</p> <p>Long term</p> <p>Short term</p> <p>Short to long term</p> <p>Long term</p>

<p>Challenging import process of animal drugs, vaccines and biologicals from other countries. This leads to high cost of vaccine and intermittent scarcity.</p>	<p>Ease the practicality of importation of animal drugs, vaccines and biologicals from other countries</p> <ol style="list-style-type: none"> <li>There is need to unbundle the NAFDAC approval process to identify the bottle neck in its process with the approval of the Director General.</li> <li>Resources (both in terms of human and financial resources) dedicated to the veterinary unit of NAFDAC should be increased to address the inherent weak capacity and infrastructural deficiency in order to reduce importation approval time.</li> <li>NAFDAC should have dedicated support and maintenance of infrastructures for cold chain from point of origin to end farmers e.g. shared cold rooms for vaccines and biologicals.</li> </ol>	<p>NAFDA, PEBEC Customs, Trade association s</p>	<p>Short term</p> <p>Short term</p> <p>Short term</p>
<p>Limited private sector investment in the domestic production of vaccines and biologicals leading to high cost &amp; scarcity of vaccines</p>	<p>Increase private sector participation and investments in the domestic production of vaccines.</p> <ol style="list-style-type: none"> <li>While there is no policy limiting the involvement of private sector actors in vaccine production, the dominance of the NVRI crowds out private investors. There is need for a business plan that showcases the investment profile and bankability of domestic vaccines and biologicals production as against importation, disseminated to encourage private sector involvement. Such investment would reduce the pressure on NVRI for vaccine production leaving the institute to focus mainly on research and innovation.</li> <li>There is also need for stimulus funding or single digit long term loans to encourage interested private sector actors' investments in vaccines and biological productions as the heavy financial investment and the long period before return on investment are barriers to entry for most private sector actors.</li> </ol>	<p>Veterinary Pharmaceu tical Companies (VPCs), Bank of Industry (BOI), Central Bank of Nigeria, NVRI and NAFDAC</p>	<p>Medium Term</p> <p>Medium to long term</p>

**Note:** Short term = 6 months, medium term = one year, long term = above one year

## Conclusion

We believe that there is genuine case to increase the budget size of NVRI and reposition its operations to make the institute more efficient in the short term. However, to continue to ensure that the poultry industry and SHF, in particular, can get improved and steady access to vaccines, we advocate that government should consider privatizing the manufacturing and marketing/distribution activities of NVRI and allow the institute to face the core task of vaccine research, innovations and breaking of new grounds in the long term.



**REFERENCE MATERIALS**

1. [https://fscluster.org/sites/default/files/documents/2016-nigeria-agric-sector-policy-roadmap\\_june-15-2016\\_finall.pdf](https://fscluster.org/sites/default/files/documents/2016-nigeria-agric-sector-policy-roadmap_june-15-2016_finall.pdf)
2. <https://punchng.com/poultry-farmers-battle-high-cost-low-margins/>
3. <https://infoguidenigeria.com/problems-prospects-poultry-production-nigeria/>
4. <https://www.researchgate.net/publication/260124814> Problems affecting the efficiency of Animal Disease Reporting System in Oyo State Nigeria
5. Assessment of the Nigerian poultry market chain to improve biosecurity: <http://www.fao.org/3/a-ak778e.pdf>
6. Communique issued at the end of 2 Advocacy Roundtable Sessions in the Poultry and Palm Oil Sectors held on November 7, 2019 in Abuja.
7. Research survey (interview) and roundtable engagement for key players in the Nigerian poultry sub-sector.
8. [https://atpsnet.org/wp-content/uploads/2014/11/Final\\_Technical\\_Report\\_of\\_the\\_Market\\_Scoping\\_Study\\_of\\_Newcastle\\_Disease\\_in\\_Village\\_Poultry\\_in\\_Nigeria\\_and\\_Ghana.pdf](https://atpsnet.org/wp-content/uploads/2014/11/Final_Technical_Report_of_the_Market_Scoping_Study_of_Newcastle_Disease_in_Village_Poultry_in_Nigeria_and_Ghana.pdf)

