



Scaling last-mile delivery of vaccines through the Community Animal Health Workers (CAHWs) and the Veterinary Para-Professionals (VPP) model

Intervention Profile

Programme Pillar	Pillar 1 - Scaling up a focused basket of proven climate-smart agriculture (CSA) models and practices for poor and vulnerable smallholder farmers and small-scale entrepreneurs
Portfolio	Animal Health
Focus Intervention	Scaling last-mile delivery of vaccines through the Community Animal Health Workers (CAHWs) and the Veterinary Paraprofessionals (VPP) model
Other interventions in the portfolio	<ul style="list-style-type: none"> • Increasing supply of poultry and livestock vaccines • Piloting solar refrigerators for poultry/livestock vaccine storage • PPP framework on routine vaccination • Strengthening institutional capacity for livestock disease prevention

Problem Summary

Diseases are the biggest threats to livestock productivity, most of which are preventable if rural veterinary distribution and service channels are fully developed and optimized. Most smallholder livestock and poultry farmers are disconnected from animal health services because of the suboptimal state of veterinary product and service delivery systems. Smallholder livestock and poultry are vulnerable to diseases due to limited awareness of the smallholder farmers about the importance of vaccination services, limited supply of suitable vaccines and health products, poor distribution infrastructure and limited-service delivery agents at the last mile. Also, the logistical challenge of reaching widely dispersed smallholdings is unattractive to veterinary companies. Thus, inadequate commercial incentive to expand distribution and service delivery channels into remote rural areas by veterinary companies is a critical constraint.

In Nigeria, a report by the International Livestock Research Institute estimated an annual loss caused by Peste des Petits Ruminants (PPR) to be 4.3 billion naira (GBP 2 million). Several research has established that Newcastle Disease (ND) is a major threat to local chicken production and has been identified to be responsible for high mortality in rural poultry production in Nigeria. The changing climate further exacerbates this situation, with rising temperatures (heat waves) making animals more susceptible to diseases. These diseases are directly and indirectly linked to a drop in egg and milk production, as well as meat quality. The World Organization of Animal Health (OIE) estimates that animal diseases cause the loss of at least 20% of livestock production globally, representing a loss of at least 60 million tonnes of meat and 150 million tonnes of milk. Compounding factors include limited veterinary services and vaccine awareness by smallholder farmers. The scale of these losses underscores the urgent need for action.

Market and Governance Failures/Constraints Targeted by Propcom+ Interventions

- Market Failure: Weak poultry/livestock vaccine distribution systems
There is a limited number of last-mile agents, and the logistics costs of reaching smallholder farmers in rural areas are high. Inadequate availability and access to cold chain systems for rural vaccine distribution and the absence of mobility support limit the reach and return on investment (ROI) of last-mile agents.
- Market Failure: Information/Extension systems
Limited farmer knowledge of the availability and benefits of vaccination; poor data for effective planning; poor access to extension services that promote good animal health practices; latent demand, needing investment in market priming.
- Governance Failure: Business Enabling Environment
Weak state capacity to institutionalise routine poultry/livestock vaccination for disease control; weak infrastructure for cold storage for vaccines; weak implementation of disease control strategies.
- Governance Failure: Institutional capacity
Weak state capacity to run the training of last-mile agents; poor adaptation and implementation of existing models in the states; limited enterprise training in the academic training for veterinary paraprofessionals.

Description of the Intervention/Business Model

The Community Animal Health Workers (CAHWs) and Veterinary Paraprofessionals (VPPs) are micro/rural entrepreneurs who deliver animal health services, including vaccinations, to rural poultry/livestock farmers for a fee. This model was initially developed by the predecessor programme (Propcom Mai-karfi). It started with developing the community vaccinators' network, which then evolved into the CAHW model to strengthen delivery channels of related veterinary products and services. Over 3,000 vaccinators were onboarded, and 300 CAHWs were engaged in providing vaccination services for a fee to smallholders.

Propcom+ is scaling this model by crowding in more veterinary pharmaceutical distributors to engage more CAHWs/VPPs and delivering animal health services and products to more smallholder farmers across rural communities in northern Nigeria. Support function actors like distributors of solar vehicles and refrigerators will be linked to the core actors to improve service delivery effectiveness.

Intervention Strategy

Propcom+ is building on proven models implemented by its predecessor programme, Propcom Maikarfi, to strengthen last-mile access by replicating and scaling the CAHWs and VPP models. The programme is strengthening rural delivery models by retooling and leveraging paravets network using the CAHWs/VPP model. More specifically, the programme is:

- Strengthening rural distribution channels for suitable vaccines by scaling the CAHW/VPP models to reach smallholder farmers and developing the market for CAHWs/VPPs through farmer education on the benefits of routine animal vaccination.
- Supporting retooling and leveraging existing CAHWs and VPPs to deepen reach to the last mile and scale to new locations, incorporating trade promotions and incentives to attract motivated rural entrepreneurs, especially women.
- Facilitating statewide routine vaccination will be an engine for transforming the rural delivery of animal health services and catalysing demand at the household level; therefore, the programme is working with relevant actors to facilitate Public-Private Partnership options that will deepen reach to the last mile.
- Supporting mobility and cold storage as they are major infrastructural requirements for efficiently reaching rural smallholders. Propcom+ is introducing climate-smart technologies (e-bikes, solar refrigerators, etc.) to improve rural cold storage and mobility, strengthening the supply chain and returns on vaccine investment for CAHWs/VPPs, particularly women and other excluded groups.
- Upskilling the existing CAHWs and recruiting new talents, Propcom+ is working with the Veterinary Council of Nigeria (VCN) to review and strengthen the current CAHW training programme and to scale it through relevant state-based institutions. Engage with, and support first movers (aka Propcom+ champions) to scale geographically, leveraging existing CAHWs/VPPs network.

Systemic Change Expected

- Effective and profitable rural poultry/livestock vaccination market systems led by many veterinary pharmaceutical distributors.
- An increased number of micro-entrepreneurs or last-mile agents (CAHWs/VPPs and others) administering vaccines and related animal health products/services profitably to farmers, supported by solar vehicles and storage equipment.
- Increased effective demand for vaccination services by livestock and poultry farmers.
- Routine poultry/livestock vaccination processes institutionalised by the public sector.

Targeted Actors and Incentives

Actors	Roles	Incentives
Veterinary pharmaceutical distributors	Purchase vaccines and other animal health products from pharmaceutical manufacturing companies and supply them to the CAHWs and VPPs.	Expanded channel of distribution through the CAHW/VPPs; increased revenue, income and access to rural markets.
CAHWs/VPPs	Receive regular supplies of vaccines and other animal health products from distributors and deliver them to farmers within the rural communities.	Increased revenue stream; capacity building: training, access to financial services, linkages to reliable sources of quality supply and certification leading to credibility and trust from community members
Poultry/Livestock Farmers	Adopt the use of vaccines and other animal health products and services	Reduced disease incidence, and reduced mortality rates; increased productivity, larger stock size, additional income and savings
Solar vehicles and refrigerator companies	Purchase/produce solar vehicles and refrigerators and supply them to the CAHWs and VPPs to aid last-mile delivery of animal health services.	Expanded channel of distribution; increased revenue, income and access to rural markets
Policy Makers	Budget for routine vaccination; work with veterinary pharmaceutical companies to implement routine vaccination campaigns	Disease control and avoidance of epidemics; improvements in living standards of farmers through improved poultry/livestock productivity and income.

Target Milestones by March 2026

- **15** Vet Pharm Companies (supported and unsupported) scaling up the CAHW/VPP model in different states
- **1500** CAHWs and VPPs (20-30% women) trained and actively providing services to rural farmers
- **7,500,000 doses of vaccines** sold because of P+ support
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- **300,000** Farmers with improved resilience to diseases and more able to deal with economic shocks. (60% women)
- **300,000** Farmers with increased incomes (60% women)