

Traditional Poultry Intervention Justification

Background

Demand for chicken meat and eggs in Nigeria is substantial and growing at more than 20% per annum as incomes rise and new marketing outlets appear. The government-imposed ban on poultry imports has raised the price of chicken meat and provides a strong window of opportunity for local production. The market for chickens is dominated by the live bird market, where small farmers in the Niger Delta sell their chickens. The bird population is dominated by traditional poultry which accounts for 94% of chickens in the country.

In the Niger Delta approximately 3 million households keep traditional chickens, with an average flock size of 11 per household. The four core oil producing states (Akwa Ibom, Bayelsa, Delta and Rivers) are estimated to account for 44% of households with chickens, and 50% of the chicken population, in the Niger Delta. Women are an integral part of the traditional poultry value chain and can be found at all levels, including working as producers, collectors, retailers in weekly markets, and retailers in daily markets, as well as in the provision of supporting services.

These birds, though not reared with a specific commercial intent, provide a safety net for rural households, and serve several purposes; they provide a store of wealth and occasional income, add to the household protein consumption, and are used in meeting traditional obligations such as gift-giving during festive seasons. In a typical flock in a rural household, strong males and female chickens are retained for breeding, while the surplus is either sold for income (53%), kept for household consumption (39%), used for ceremonial, ritual, or other purposes (8%).

A key part of the rationale for this intervention is therefore socially purposive, supplying direct supports to poor mothers and children in villages in the Niger Delta as well as being based in its methodology on M4P principles.

Opportunities to catalyse pro-poor growth in the Niger Delta's traditional poultry sector exist in breeding, vaccination, feed, housing, commercialisation, and technical information.

An analysis of the feasibility of different opportunity areas by the MADE team led to the conclusion that vaccination should be the initial area of focus, because that is the area with the largest initial boost to productivity in the sector. Vaccination is crucial because the main constraint on output from local chickens in rural areas is Newcastle's Disease (NCD), which has a high mortality rate of over 30 percent for the Niger Delta's local chicken population. Deaths from NCD are avoidable through vaccination.

Strategic constraints

The assertion that NCD is causing very significant financial losses in the traditional poultry sector is not new. The problem has been known to agricultural policy-makers for years, but thus far mitigation approaches have not been successful, partly because they have been predicated on government patronage through vaccine donations, rather than the establishment of a market-driven approach which can deliver vaccination to low-income households at feasible rates. However, commercialising the rural value chain for vaccination is a challenge that has been difficult to overcome in many countries, and in this case too, certain constraints will have to be overcome:

- Absence of a functioning rural distribution channel for vaccine.
- The need for a change in farmer and villager attitudes and practices. Farmers in rural households do not consider local chickens to be an enterprise, and are generally comfortable with the low-input low-output approach.

- Access to information. Changes in farmer and village level behaviour can only take place if participants and actors they have access to affordable and relevant technical information.
- Vaccine supply constraints. National Veterinary Research Institute (NVRI) is presently limited in the amount of thermo tolerant ND-12 vaccine it can produce. NVRI unable to supply the quantity required by the whole industry. The gap is met by imports from Israel, China, India, Malaysia, and other countries by private companies, who then distribute the vaccine through networks of sales representatives and small-medium sized private distributors in states across Nigeria. Some of the leading companies are: Turner Wright, Animal Care, Talacolo, Global Organics, Global Vet and Agriproject Concepts International.
- Capacity of Private Sector Partners. Even if the business case is accepted by private vaccine distributors, their capacity to move vaccines through their distribution channels, and effectively establish and operate a link to rural areas will have to be carefully evaluated.
- Regulatory constraints. Veterinary regulations impose restrictions on who can administer and apply vaccines.

For poor households in the Niger Delta, the constraints manifest in the system primarily as a loss in income. The MADE model shows that rural households are foregoing an extra NGN 546/month, by letting their flocks remain unvaccinated against NCD. For an average rural household living below the poverty line at NGN 5,000/month (\$1.11/day), this amounts to 11% of monthly income.¹ In addition to this loss, there is also the foregone wealth/income of future years, which would have materialised with a higher flock survival rate. Given the sector's gender dynamics, with women controlling the production and wealth associated with the sale of traditional poultry, this loss has important gender implications for women (and for children's health), and underscores the importance of combating NCD.

For the sector, these systemic constraints manifest as the foregone financial benefits associated with distributing the vaccine by vaccine distribution companies, veterinary services, and the NVRI.

Analysis of Options

MADE identified several growth pro-poor growth opportunities in the traditional poultry sector, including:

Breeding. Occasionally, households will cross-fertilise commercial breeds with their traditional flock to increase output. Such practices are more visible in backyard farms, which keep between 50-500 birds. Cross-breeding has been known to yield positive results, if conducted appropriately, and new methods are being developed at research institutes in Nigeria.

Housing. The vast majority of rural poultry keepers do not invest in housing, which exposes chickens to attacks by predators, in addition to making it difficult to administer feed or vaccine. The lack of housing is regularly brought up as a reason for bird deaths in rural areas.

Feed. Current feeding practices are minimally nutritious, and do not enable local chickens to reach their full growth potential. However, the cost of feed in Nigeria is high. Therefore the use of commercial feed on traditional poultry is not a viable option for rural farmers at present.

Commercialisation. Commercial poultry production is being used as part of poverty alleviation strategies in many African countries. Under a standard model, this involves assisting farmers with asset financing for purchase of a commercial poultry 'system' supporting around 50 laying birds. The average package consists of the chickens, housing, feed, and vaccines. While such interventions have

¹ In addition to NCD, there are also other factors which negatively impact the productivity of rural poultry. These include attacks by predators and theft. While the present production model does not account for these factors, they can be introduced into its future iterations.

the potential to generate significant income for farmers, a quick transition to a commercial model is likely only in the reach of a minority of farmers, but is not likely to enable MADE to quickly scale up its outreach and impact to the substantial level required by the project.

Technical Information. As in many agricultural market systems, improved access to technical information can have a significant positive impact on traditional poultry productivity. As the public extension service system does not currently work in the interest of rural chicken keepers, they are unable to access information on poultry management (including the use of feed, water, vaccination, housing, and sanitation), amongst others. Some simple changes in behaviour, such as rounding up chickens in the evening and keeping them in shelter, are low-cost ways of reducing mortality rates. However, improving the provision of technical services to rural poultry holders will likely be unworkable as a standalone service, but it may be possible to bundle technical assistance with other services.

Interventions in breeding, housing, feed, and technical information are likely to give an initial boost to productivity in the sector, while commercialisation at a later stage is more likely to lead to a long-term sustainable solution.

Vaccination. MADE's enterprise analysis shows clear potential for enabling average households (and particularly the females keeping poultry), to preserve a significant amount of their wealth if losses from NCD can be reduced. Therefore, promoting the NCD vaccination currently emerges as the lead opportunity area to positively impact the incomes of thousands of low-income females in the Niger Delta.

Description of Intervention

In order to improve the supply of and access to NCD vaccinations in the Niger Delta, MADE is considering the following models:

Model 1: One or more local distributors are selected to train community based individuals (ideally pre-existing local entrepreneurs) to become village based vaccinators. The vaccinators then vaccinate poultry in their own and nearby communities and farmers pay a specific amount per bird.

Model 2: The vaccine distribution effort is led by urban distributors whose sales staff access rural areas directly as part of time-bound intensive vaccination campaign.

It is anticipated that with both models, at the time of inoculation, poultry owners will also be provided with a suite of technical information on for example, feed, water, vaccinations, housing, and breeding.

It should also be mentioned that very small scale broiler production is being initiated spontaneously in some Niger Delta locations starting with day old chicks, and with owners providing feed and housing for flocks up to 200 birds. Some women producers have already approached MADE with a view to future cooperation. This methodology would also be of interest later, but with different social and economic dynamics than the traditional poultry model. However the same organizational and communications channels at village level would show up how this new niche market sector is progressing, and opportunities to network women's producer groups through networks (such as the church, retired women army officers and others have already been discussed) and this niche market also has small scale village level employment possibilities.

At this time, MADE is still carrying-out research to establish which of the above models is the most feasible. These approaches are however informed in some detail by precedents established by the PropCom project. The common factor in both approaches, and in any experimentation with small scale broilers, is that we need to find ways to reach village level actors individually or through small local associations, and that simple associational structures or a variety of women's groups may become both a way forward and partly result from the proposed interventions.

Analysis of the Potential Partners

The categories of partners which MADE will seek to work with include:

Lead firms. Lead firms have the capability to supply the vaccines, and have the incentive to increase their market share by expanding their distribution into rural areas and targeting a new business opportunity. MADE has already identified several private sector manufacturers and importers of vaccines, including Animal Care Konsult and CHI Pharmaceuticals.

Public Sector Vaccination Manufacturers. NVRI will likely be the primary choice for partner, as it is the only entity currently producing vaccine inside Nigeria. NVRI is capable of producing the vaccine, however their ability to supply into the Niger Delta, as well as their weak distributor network places a question mark over their ability to lead distribution efforts.

Veterinarians and para-veterinarians. Regulatory and legal requirements are such that only veterinarians and para-veterinarians can handle, store, administer and dispose of NCD vaccinations. Veterinarians and para-veterinarians will be required to conduct the training of any village based distributors.

Village-based entrepreneurs (or social structures). Ideally, village-based vaccinators should also be village-based general stores or village entrepreneurs selling different forms of consumer goods and farm inputs. These village-based vaccinators would be central figures in low level village networks, especially of women's groups, based on localities, churches or other factors.

Theory of Change

The intended outcome of the intervention is the reduced incidence of NCD through increasing awareness of and demand for ND-I2 and improving the distribution of ND-I2 into rural communities in the Niger Delta. The impact of increased supply of ND-I2 coupled with the increased adoption of ND-I2 will lead to increased incomes through increased production and sales and increased savings through the reduction in bird mortality.

Vaccine distributors have the incentive to increase their market share by expanding their distribution into rural areas and targeting new business opportunities. Expanded distribution, particularly when coupled with awareness campaigns, will lead to an increased uptake of vaccination by poultry owners.

The increased uptake in vaccination will increase poultry owners productivity and profitability, thereby increasing the demand for vaccines in the next cycle of vaccinations. Thus, the intervention will create a positive feedback loop in which improved distribution, will lead to increased uptake of the vaccination, which will lead to the improved productivity of both the poultry owners and vaccine distributors.

For pre-existing village-based entrepreneurs, the logic to vaccine distributors is similar. They have an incentive to increase their income by providing a new service and targeting a new business opportunity.

It will make sense if local small entrepreneurs already active in village life and in minor retailing became the focus of vaccination campaigns (which are simple and usually only involve eye drops, not injections). There are many small entrepreneurs of this type at village level usually integrated into very local communities, local churches, or women's groups.

Potential Impact

If MADE can identify a successful distribution model, then, given the number of households with traditional poultry the potential impact is substantial. Table 1 below provides details on the potential impact of the intervention once a feasible model is identified.

	2015	2016	2017	2018	2019	2020	Total
Outreach (number of new farmers, beneficiaries contacted yearly)	2 000	9 000	20 000	32 000	15 000	15 000	93 000
Cumulative numbers of farmers or beneficiaries contacted	2 000	11 000	31 000	63 000	78 000	93 000	93 000
NAIC per household (NGN)	7 480	7 855	8 247	8 660	9 093	9 547	
NAIC per household (GBP)	£ 30	£31	£33	£ 35	£ 36	£ 38	
Aggregate NAIC (GBP)	£ 59 606	£ 327 830	£ 923 885	£1877 574	£2324 615	£2 771 656	£ 8 285 166

Table 1: Potential Impact of Traditional Poultry Intervention

Results Chain

IMPACT

Net attributable Income Change (NAIC)

FARMER PERFORMANCE

Reduced bird mortality, increase production, increased protein intake, increased sales

More farmers will seek advice on vaccine availability and use from distributors and farmers with reduced bird mortality or just copy from the latter

FARMER KAP

Increased adoption of bird vaccination by traditional poultry farmers

SECTOR PERFORMANCE

Increased supply of vaccines and technical advisory services in rural areas

Vaccine distributors in neighbouring communities' supply NCD vaccines and technical info to rural bird farmers

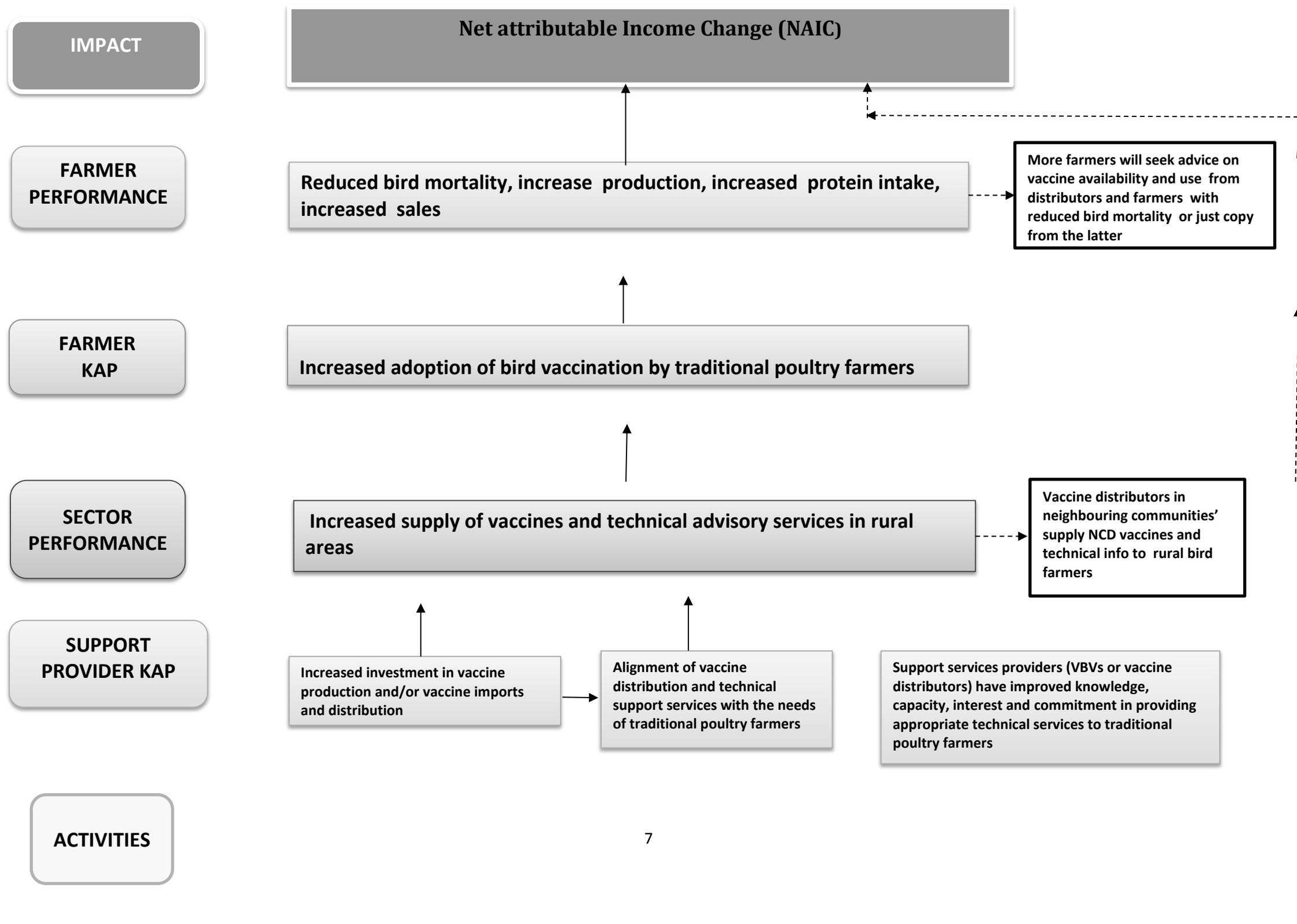
SUPPORT PROVIDER KAP

Increased investment in vaccine production and/or vaccine imports and distribution

Alignment of vaccine distribution and technical support services with the needs of traditional poultry farmers

Support services providers (VBVs or vaccine distributors) have improved knowledge, capacity, interest and commitment in providing appropriate technical services to traditional poultry farmers

ACTIVITIES



Exit Plan

The distribution of the vaccines will be led by village-based vaccinators and/or pre-existing vaccine distributors. Therefore after MADE has facilitated the adoption of the new business model, it is anticipated that the programme will be able to withdraw support, with the village-based vaccinator and/or vaccine distributors taking the lead. The main thrust of the intervention, and of a continuing sustainable market development effort, can probably be focussed on one month vaccination campaigns at the right time of the year, rather than carrying logistical costs throughout the year.

Roles and Responsibilities

S#	Actors	MADE's offer	Roles & Responsibilities
1	NVRI	An opportunity to increase sales through new marketing opportunities.	-provision of vaccines
2	Vaccine Distributors	An opportunity to increase market share by expanding their distribution into rural areas and targeting new business opportunities.	-move vaccines through their distribution network. - train sales staff to administer vaccine. -provide technical service advice to farmers upon inoculation.
3	Village-based retailers	An opportunity to increase sales by diversifying into a new product category.	-administer vaccines -provide technical service advice to farmers upon inoculation. -undertaken training on correct administration.
4	MADE		-facilitate distribution and sales relationships between village-based retailers and distributors. -facilitate training of village-based retailers. -facilitate one or two month-long awareness campaign (linked to annual one-month vaccination campaign

Risk Analysis

- The inability of the programme to generate effective demand for the NCD vaccination represents a real risk. In order to mitigate that risk, MADE will attempt to make rural households aware of the costs and benefits associated with vaccination through month-long awareness drives in participation with private sector actors. [The main mitigation of this risk must be through mobilizing the vaccination distribution system and Value Chain and associated marketing, market development and awareness activities].
- NVRI is presently limited in the amount of thermo tolerant ND 12 vaccine it can produce. For full commercialization of the vaccine and strong uptake by private vaccine companies, an adequate source of supply will have to be found. Either NVRI could boost its capacity, or an import substitute will have to be used (to satisfy at least part of the market). [This risk is only mitigated by good networking with the private sector].
- Vaccine distribution companies will not recognise the market potential of traditional poultry. In order to mitigate this risk. [MADE will have to present a strong business case to private sector actors as to why the traditional poultry market represents a viable opportunity].

Even if the business case is accepted by private vaccine distributors, their capacity to move vaccines through their distributions channels, and effectively establish and operate a link to rural areas may

not be in place. [MADE will have to carefully evaluate the distribution potential of private sector partners and how to set up linkages via NGOs, CSOs or others to strengthen village level linkages].

- Village-based entrepreneurs may not be interested in extending their suite of products to include vaccinations. [This can only be addressed through dialogue with very small local village entrepreneurs and shop-keepers].