



**ILRI**

INTERNATIONAL  
LIVESTOCK RESEARCH  
INSTITUTE

# Workshop outputs

ILRI Design Workshop #1 - POULTRY  
18 March 2019

Facilitated by:



## Our Ambition

What if we Could Increase the Impact of Livestock Innovation  
in Africa & Asia

**100x**

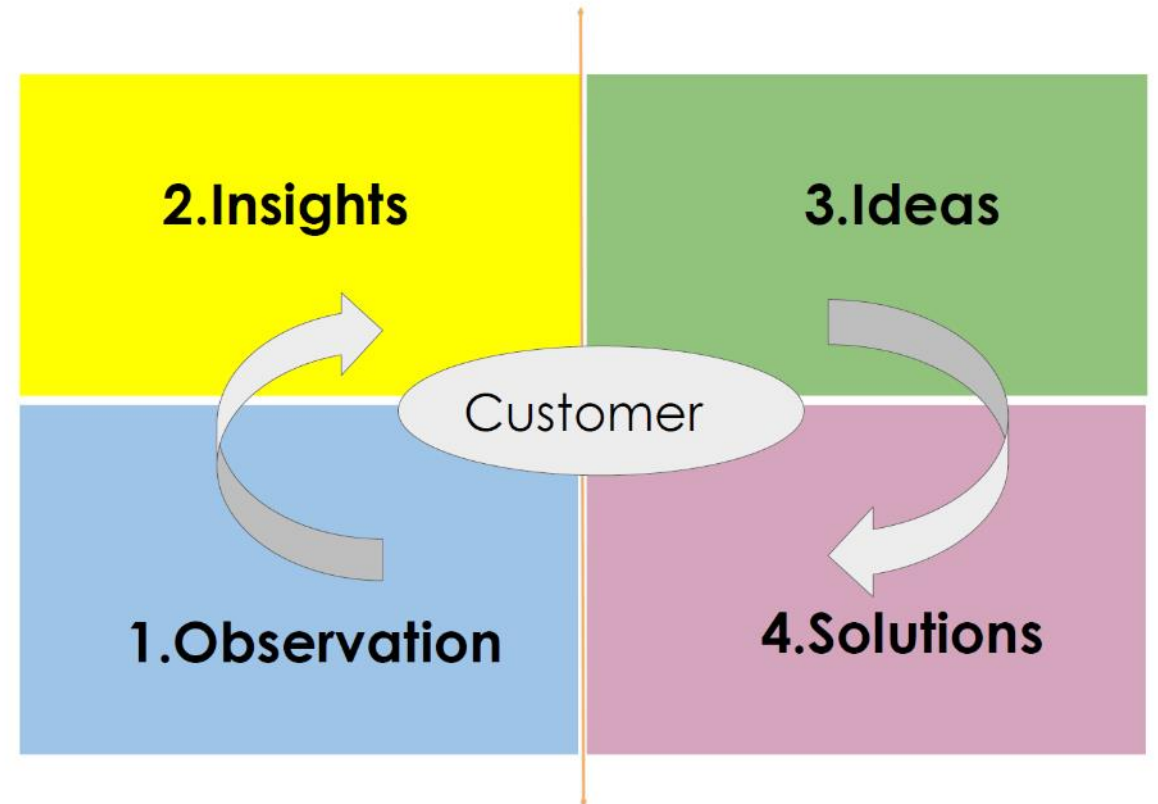
...by Transforming Small-Holder Capability?

## Quote – Jimmy Smith, ILRI Director General

***“The challenge for how the world will feed itself is great, demand for animal sourced foods will increase rapidly.***

***ILRI is in a powerful position to address these challenges... The time is right and the time is now.”***

# Design Thinking – Let's begin!



## Finding the beneficiary – Interview #1

Where do you want to be in 5 years time?

Wants to improve the scale of his business by 5x and also to own and operate his own hatchery to give him greater control over my production.

What is the first step towards that goal?

Right now, he plans to grow his flock and possibly hire a working resource to assist with some of the management tasks of his animals.

What are the barriers or challenges that you face in achieving that goal?

Difficult sourcing quality and reliable parent stock; problem with the uniformity of the chicks he is getting; feed is inconsistent and highly price variable.



Farm based in peri-urban Addis Ababa; began poultry production in 2006, market as part of an 8 member cooperative.

## Finding the beneficiary – Interview #2

Where do you want to be in 5 years time?

They want to grow the scale of their production, and improve the scale and consistency of their buyers – currently sell between 10-250 chicks to (smallholder) buyers, so having more of the larger buyers would be ideal.

What is the first step towards that goal?

They are currently operating sheds at near-capacity, so expanding to another shed would be nice. They then would want to open our their hatchery.

What are the barriers or challenges that you face in achieving that goal?

Mortality of chicks at very early ages, either due to feed or efficacy of vaccines is still high; issues with feed millers manipulating price, often prices don't reflect the (low) quality of the feed they are given



32 and 34 year old business partners running a mother unit operation near Addis Ababa. They currently have ~750 chicks over two different breeds (native and improved) which they brood, vaccinate and grow to 45 days, then sell to local smallholders



# Breakout #1 – Who are the key actors?

## INPUTS:

- Day old chicks (improved or local breeds) from Breeders
- Hatcheries
- Infrastructure (e.g. poultry houses)
- Feed from providers (processors, millers)
- Vaccines, medicine, veterinary products
- Charcoal & litter
- Transport / logistics
- Research, labs

## PEOPLE & ENVIRONMENT:

- Community leaders, religious advisors, VIPs
- Natural resource base
- Extension services
- (Micro)finance, access to credit
- NGO's
- Health care providers and nutrition education
- Cooperatives
- Women's and youth groups
- Veterinary services

## ENABLERS:

- Government policy, regulation
- Extension agents
- Financial institutions
- Donors, aid organisations
- Digital service providers
- Researchers, training institutes
- Media
- Electricity and utility providers
- Community

## DEMAND:

- Abattoirs
- Processors
- Producer consumers
- Aggregators, hawkers, traders
- Local markets
- Supermarkets
- Hospitality (hotels, restaurants, schools)
- Youth groups, women, neighbours
- Export
- Waste management



# Personas – Breeding Company

## More info:

- Urban – need for infrastructure
- Mostly men
- Entrepreneurial spirit

## Strengths:

- Genetics knowledge, access to improved breeds
- Technical expertise, social capital
- Land, equipment, infrastructure

## Needs:

- Adapted germoplasm
- How to reach small customers (- or just focus on large ones?)
- Enabling export environment
- Capital

## Impact of our innovation

### BEFORE

#### What they think:

- Market is constrained, competition is a problem
- Target large industrial producers

#### What they feel:

- Lack of confidence in developing markets, threatened
- Large is their only market
- Scale is a function of size

#### What they do:

- Low investment
- Ignore smallholders and women
- Act risk averse

### AFTER

#### What they think:

- Opportunities have increased
- Competition is healthy
- Expand to engage smallholders

#### What they feel:

- Optimistic and confident
- Thrilled their market has expanded

#### What they do:

- Tailor delivery, marketing, packaging for small scale producers
- Access knowledge networks
- Specialise, expand

# Personas – Feed Company

## More info:

- Located close to inputs or markets
- Mix of large and small sized businesses
- Male dominated

## Strengths:

- Provide essential inputs, growing demand
- Distribution and access to resource capabilities

## Needs:

- Supporting environment (policy for start ups)
- Access to finance
- Reliable infrastructure (water and power)
- Testing and QA facilities for raw material

## Impact of our innovation

### BEFORE

#### What they think:

- How to go forward?

#### What they feel:

- Optimistic

#### What they do:

- Act as required, minimal regulation or standards

### AFTER

#### What they think:

- Diversity, meeting needs, quality, distribution to meet smallholder needs
- Competitive

#### What they feel:

- Confident to invest in their business
- Happy, secure, sense of achievement

#### What they do:

- Invest in themselves, expand business
- Use income for other things
- Explore novel feeds (sustainability)

# Personas – Veterinarian

## More info:

- Male, named “Doc”
- Typically peri-urban office + works mobile
- Generalist, not animal specialist
- Poorly paid often
- Use AgriVet input supplies

## Strengths:

- Trained experts, credibility
- Local understanding, trusted in the community

## Needs:

- More paying customers
- Standardised regional CPD
- Formal training that is regulated and enforced
- Isolation, dependence on transport

## Impact of our innovation

### BEFORE

#### What they think:

- Poorly equipped
- Poorly paid
- Extreme ego

#### What they feel:

- Frustrated
- Skills deteriorating

#### What they do:

- Best they can with the tools they’ve got
- Too much time on the road
- Provide and sell products

### AFTER

#### What they think:

- There is a future: self, industry, country

#### What they feel:

- I am giving strategic advice!
- Empowered
- Female empowerment and equity

#### What they do:

- Digital extension
- Work with paravets and extension
- High quality training
- Work within an empowered network
- Move from a public to private service

# Personas – Farmer: Subsistence to surplus

## More info:

- East African woman, “Mama”
- Both rural and peri-urban
- Low input low output

## Strengths:

- Know-how, land, time
- Support network

## Needs:

- Capital
- Reliable access to quality inputs (e.g. feed) and infrastructure
- Expertise and training
- Financial literacy and market information

## Impact of our innovation

### BEFORE

#### What they think:

- Hopeful, knows the opportunities

#### What they feel:

- Unsupported
- Frustrated
- Distrust of inputs (exploited)

#### What they do:

- Manage for least cost
- Avoid risk
- Know how – scaling up

### AFTER

#### What they think:

- Confident the system works in a business orientated way
- Become entrepreneurs

#### What they feel:

- Empowered
- Knowledgeable
- Growing risk of expansion, bound by labour, time, motivation

#### What they do:

- Manage to optimise
- Diversified farm expansion
- Nutrition improves with scale
- Make market driven decisions

# Personas – Farmer: Expansion

## More info:

- Mostly local households and small distribution
- Peri-urban
- Female (male depending on size)

## Strengths:

- Opportunities
- Growing demand
- Entrepreneurial

## Needs:

- Access to capital
- Reliable access to quality inputs (e.g. feed) and infrastructure
- Land aggregation and distribution
- Knowledge and motivation to expand

## Impact of our innovation

### BEFORE

#### What they think:

- Would be nice...

#### What they feel:

- Desperate

#### What they do:

- Invest more

### AFTER

#### What they think:

- They are providing nice food for all

#### What they feel:

- Empowered
- Knowledgeable
- Growing risk of expansion, bound by labour, time, motivation

#### What they do:

- Contribution to poultry sector
- Increased income and food supply

# Personas – Enterprise Farmer

## More info:

- Entrepreneur
- Close to their customers
- Medium-large enterprise

## Strengths:

- Demand for farmers product
- Accessible labour
- Passion, skills and technical knowledge

## Needs:

- Tech skills
- Research
- Feedback from customers
- Compliance and policy support

## Impact of our innovation

### BEFORE

#### What they think:

- Not enough choices of breeds and hatching, no uniformity of inputs
- Inputs cost too much

#### What they feel:

- Insecure, frustrated
- Financial constraints
- Lack of aspiration

#### What they do:

- Produce own feed, aspire to become hatcheries
- Multitask and lose focus
- Try to fix the whole value chain

### AFTER

#### What they think:

- Great! More markets
- Nice ROI!

#### What they feel:

- Feel they are prioritized
- Empowered
- Knowledgeable
- Sense of fulfilment and social responsibility

#### What they do:

- Start new models of selling their stock and making food)
- Focus on their role as the value chain expands

# Personas – Informal Market Trader

## More info:

- Middle ‘Men’ linking rural and urban,
- Often the wives of this household are traders

## Strengths:

- Linkages
- Household security

## Needs:

- Credit (purchasing power)
- Land and resources especially food
- Information on the market
- Infrastructure

## Impact of our innovation

### BEFORE

#### What they think:

- This is normal

#### What they feel:

- Exploited

#### What they do:

- Become a novel small scale AND traditional

### AFTER

#### What they think:

- Can scale and modernise business

#### What they feel:

- In control and powerful

#### What they do:

- Scale and invest

# Personas – Consumer

## More info:

- Rural and urban households
- Anyone who eats poultry products

## Strengths:

- Buying power
- Choice

## Needs:

- Price sensitive
- Product information, nutrition values stated
- High nutrient products
- Premium market availability
- Fresh products

## Impact of our innovation

### BEFORE

#### What they think:

- Worried (meat)

#### What they feel:

- Lack of confidence

#### What they do:

- Avoid poultry products

### AFTER

#### What they think:

- Can do and informed decision
- Changing consumer trends, focus on animal welfare

#### What they feel:

- Healthier

#### What they do:

- Exercise choice

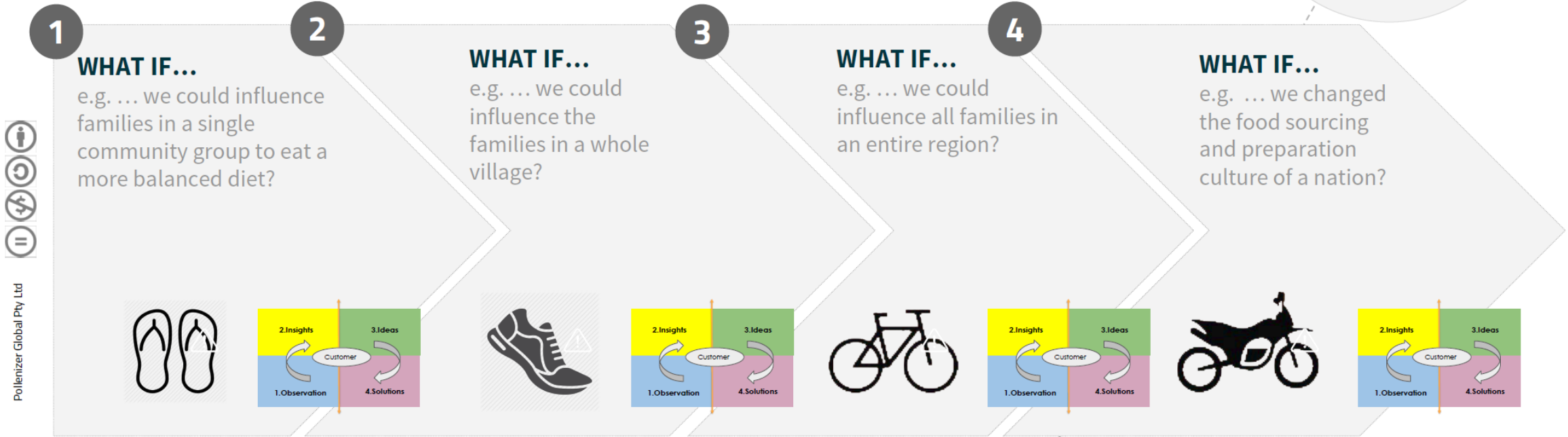


# Strength tree – Assets, capabilities and activities



# DESIGN WORKSHOPS – DESIGN THINKING

## Checking via Design at Each Stage



Pollenizer Global Pty Ltd

Flip Flops - the small innovations we can measure and build upon to create our proof-of-concept and -market.

“The North Star” that is never forgotten. If you can’t imagine how you will get there yet, then you are thinking big enough.



# The #MASSIVES - By 2030 success will mean...

## Human Health

1. We have eliminated malnutrition. All populations have access to sufficient safe and nutritious foods
2. We have eliminated zoonoses infections and vector-borne diseases

## Animal Health

1. No foodborne or zoonotic disease
2. No post harvest loss, no animal movement restriction
3. Address animal health climate consciously (e.g. pasture rotation, reduced methane, better housing, waste management, logistics efficiencies)
4. Genetics are optimised for resistance, growth, production efficiency
5. Animal welfare issues are addressed, enabling strong social licence for livestock production
6. Strong integration of technological and educational skills development

# The #MASSIVES - By 2030 success will mean...

## **Digital Enablement**

1. Governments will pay for digital extension
2. Policies in place to secure farmer data
3. All smallholder farmers have smart phones, free data and 'G++' connectivity
4. All smallholder farmers have access to industrialised real-time data on animal performance, weather and markets
5. All MNO's allow use access of their services for ag related solutions
6. Farmers that meet key 'green metrics' get subsidies
7. All banking and transactions are completed online
8. Farmer data contributes to country SDGs
9. Customers can access full traceability of all animal sourced foods
10. Farmers can manage farming exercises remotely

## **Capacity Building**

1. Move 50% of SHF into commercial production (higher % of food produced comes from commercial SHF)
2. Strong enabling environment for SHF

# The #MASSIVES - By 2030 success will mean...

## **Food Security**

1. 0 hunger
2. 0 stunting, 0 wasting in Africa and Asia for children under 5 years old
3. Diverse diets across all household levels, featuring poultry products as valuable protein source
4. Adequate income for all value chain actors; reducing unemployment, paying for education, etc.
5. Harmony, peace and happiness

## **Animal Productivity**

1. Women's economic empowerment
2. Food security leads to better nutrition and reduced poverty
3. Livestock exports from ILRI-operating countries increases

## **Finance**

1. Farmers will have access to banking and insurance products
2. Distribution of financial services happens in digital, inclusive and local ways – enabling jobs and growth

# The #MASSIVES - By 2030 success will mean...

## **Sustainability**

1. Local available feed supplies and use of novel feeds
2. Diversity conservation of chicken breeds
3. Food safety improved
4. Adapted breeds and continuous breed improvement program
5. Health outcomes are addressed, farmers have continuous market access

## **Gender**

1. Inclusive opportunity, participation and value capture throughout value chain with high quality poultry products increases 100x results in living incomes, balanced nutrition and sustainable stimulation of poultry sector ecosystem
2. Gender equality in poultry boosts country economy

## **Resilience**

1. Move x subsistence farmers permanently out of poverty (from aid to trade)
2. X numbers of subsistence farmers adopt innovative, climate-adaptive technology packages that increase productivity by 300%

## Taking the first step – SANDAL #1

### What if we...

Improve on-farm record keeping

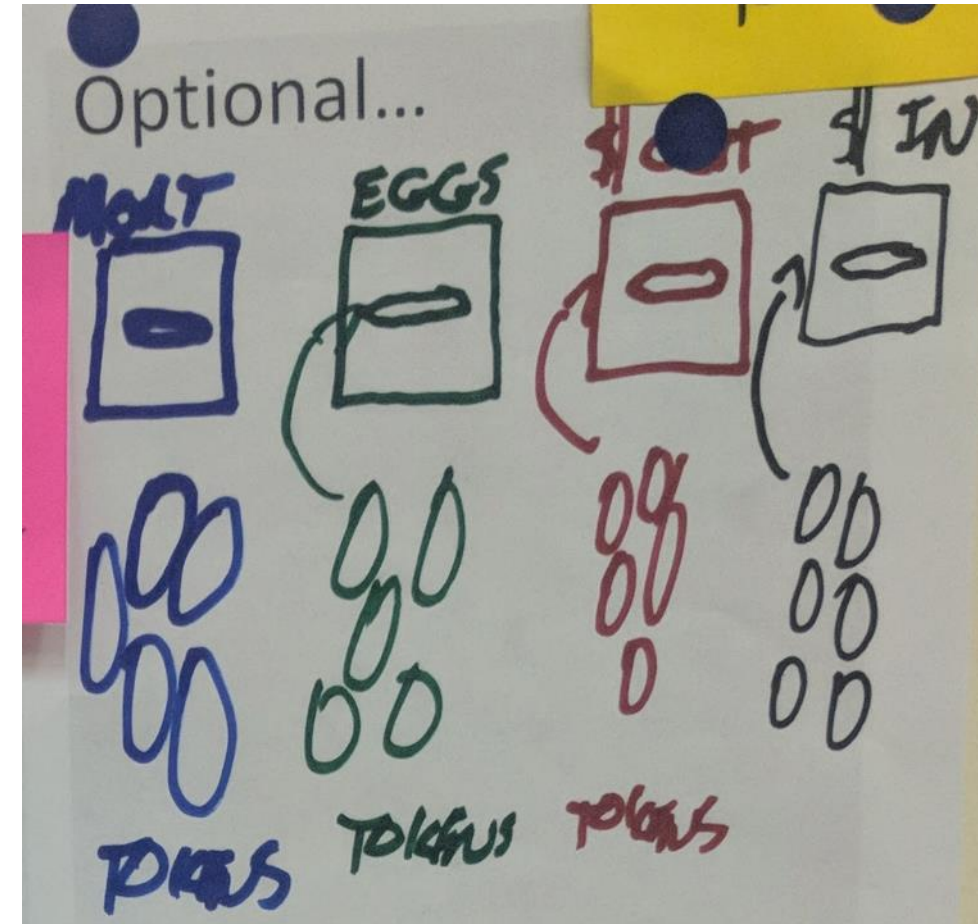
### Using...

Simple tools not requiring high effort or education. E.g. time-guided depositing of coloured tokens into boxes indicating key performance and financial metrics such as eggs laid, chicken mortality, \$ spent, \$ received.

### We could then...

Measure and improve smallholder farm productivity and enterprise financial management.

*Themes: Capacity Building, On farm management*



## Taking the first step – SANDAL #2

### What if we...

Analysed existing poultry multiplication and productivity analysis initiatives as well as market linkages...

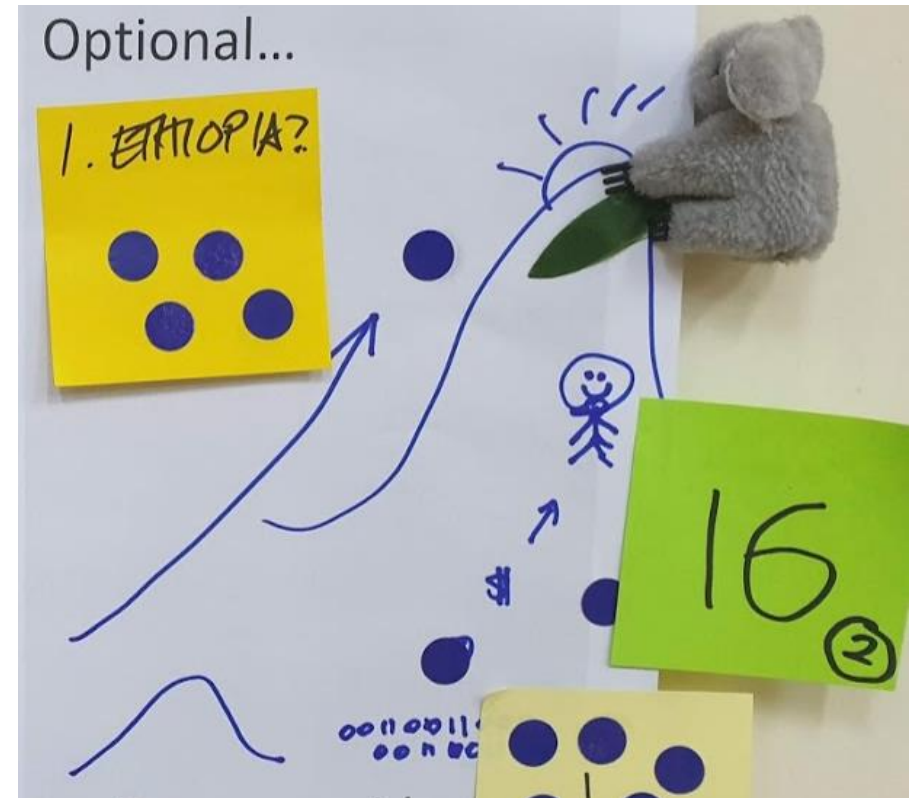
### Using...

Data analytics including risk metrics

### We could then...

Design a scalable banking package pilot for smallholders that grows along with productivity gains.

*Themes: Access to capital, Data and digital*





## Taking the first step – SANDAL #3

### What if we...

Agree that it is not a level playing field for women, and create a pathway for them to better access markets.

### Using...

Gender data analysis to identify and address entry barriers.

### We could then...

Level the playing field and optimize the value of poultry, by opening up more equitable supply and demand market drivers.

*Themes: Women's economic empowerment, Supply chains and markets*



## Taking the first step – SANDAL #4

### What if we...

Set up multiplication and delivery systems in partnership with private and public sectors

### Using...

Available breeds and vaccines

### We could then...

Start delivering the technologies at scale – meaning improved quantities and impact. This could begin by focussing on 3 companies and/or 3 ecologies.

*Themes: Animal health and productivity*

## SANDAL #5

### What if we...

Vaccinate all chicks in Ethiopia for Newcastle disease.

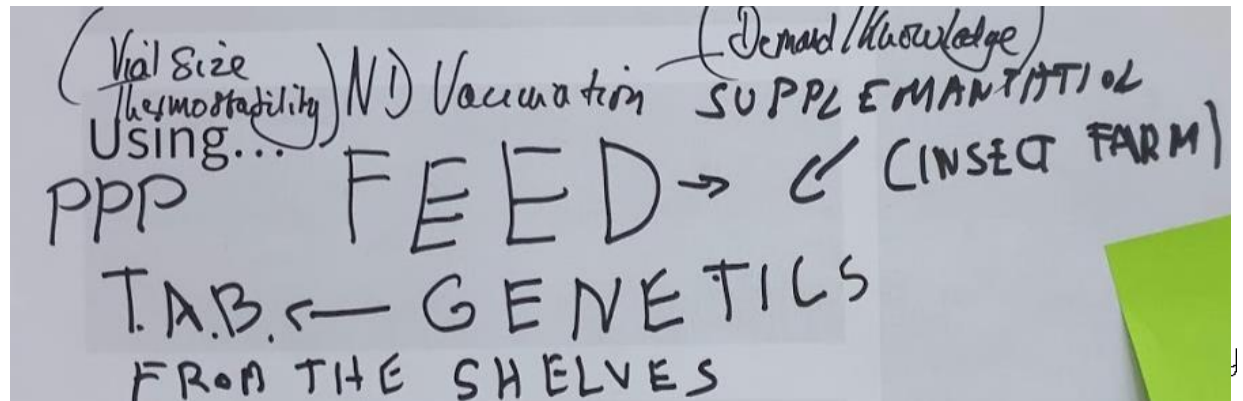
### Using...

Public & private partnerships

### We could then...

Reduce mortality by 50%.

*Themes: Animal health*



## SANDAL #6

**What if we...**

Use innovative delivery for existing developed tropically adapted chickens

**Using...**

New delivery methods such as drones to deliver day old chicks to remote villages

**We could then...**

Scale out new technologies to small-holder farmers across Africa and Asia.

*Themes: Animal health and productivity*

## SANDAL #7

**What if we...**

Get big pharma foundations to invest significantly in small-holder farmers and market their products.

**Using...**

Technical, IT, marketing, financial resources

**We could then...**

Greatly improve animal wealth, level and efficiency of production, and develop sustainable animal health markets. Ruhango district in Rwanda may be a good starting point.

*Themes: Animal health*

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### SANDAL #8

**What if we...**

Identify the key constraints to productivity in animal production ecosystems

**Using...**

Digitally enabled data collection tools

**We could then...**

Improve underperforming systems. Focus could initially be in women's groups in Wakiso and Mukono districts of Uganda.

*Themes: Animal productivity*

### SANDAL #9

**What if we...**

Got protein or livestock product companies to formalize the markets and increase demand in developing countries

**Using...**

Their buying power to change policy, enforce / incentivise food safety, and build offtake markets

**We could then...**

Guarantee safer food, better human health, less stunting.

*Themes: Supply chains and markets, human health*

### SANDAL #10

**What if we...**

Assess farmers' knowledge

**Using...**

A farmers needs assessment (RRA) in partnership with members of poultry livestock value chains.

**We could then...**

Start developing capacity building plans

*Themes: Capacity building*

# Team strength mapping

PARTNERS	STRENGTHS AND CAPABILITIES	WHAT YOU GET	WHAT YOU GIVE
Donor	Money, Strategies, Expertise, Convening power, network (e.g. link to MFI), developing recording system, training	Achievement of targets, social and global goods, strengthen political ties, recognition	\$\$, honest broker, global strategy, technical resources, experience
MFIs	Massive scale, agents on ground, clear operational procedures	New market, lower risk portfolio, market intel, info for decision making,	\$\$, staff, access to opportunities, brand, data, evidence based information
Industry	Farmer distribution, farmer value chain and transaction history, IT capability, knowledge source, marketing and product awareness, training and animal health knowledge, cost effective products, product availability, expertise	Customer acquisition, increases resources and profits, scale across the planet, understanding of baseline, ideas for new products, market intelligence	Products, distribution, create awareness, knowledge, data base, market and finance package, user intelligence, models and data-driven tools,
Research	Piloting different models (research), networks, curiosity, data analysis, social responsibility, networking, local knowledge	\$\$, data, taxonomy, industry insight, new direction, better impact evaluation	Knowledge and reputation, impact assessment, expertise and experience, data/taxonomy, time, research
Government	Regulations, authority, frameworks, budget, services, capacity building, national level data	Policy, a prosperous population, insight for planning, better capacity to lobby for investment	Enabling \$, policy, services, capacity building
Farmers	Information, land, skill and manpower	Products, finance	Data





# Thankyou for a great workshop!

We look forward to working with you further.



If you have any questions about the Food Agility process or would like to know more about us, visit [www.foodagility.com](http://www.foodagility.com) or find @foodagility.