Innovation in Underserved Regions
Opportunities for innovation to improve access to technologies and services – and how FAO helps advance that goal.

Keith Sumption
Chief Veterinary Officer

FAO
Food and Agriculture Organization
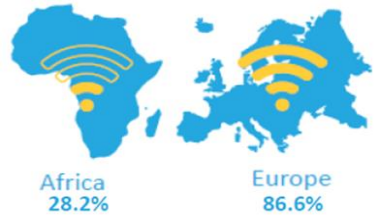**of the United Nations**

Digitalization of Agriculture

- Digital technologies are revolutionizing agriculture.

- Digital technologies can address **multiple market failures.**

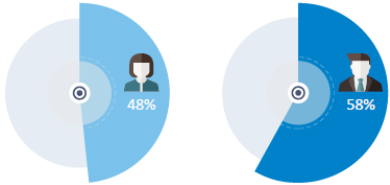- Connectivity improved dramatically, but a digital gap remains.

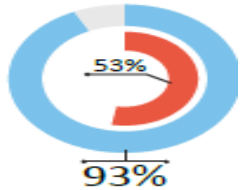Credit for slide: Maximo Torrero, FAO

Digital realities

Access to internet:
87% in developed countries, 47% in developing countries, 19% in LDCs.

Digital gender gap:
Gap is small in developed countries, large in developing countries, especially LDCs.

Network coverage v.s use:
93% of the world's population lives within reach of mobile broadband, just over 53% uses the Internet.
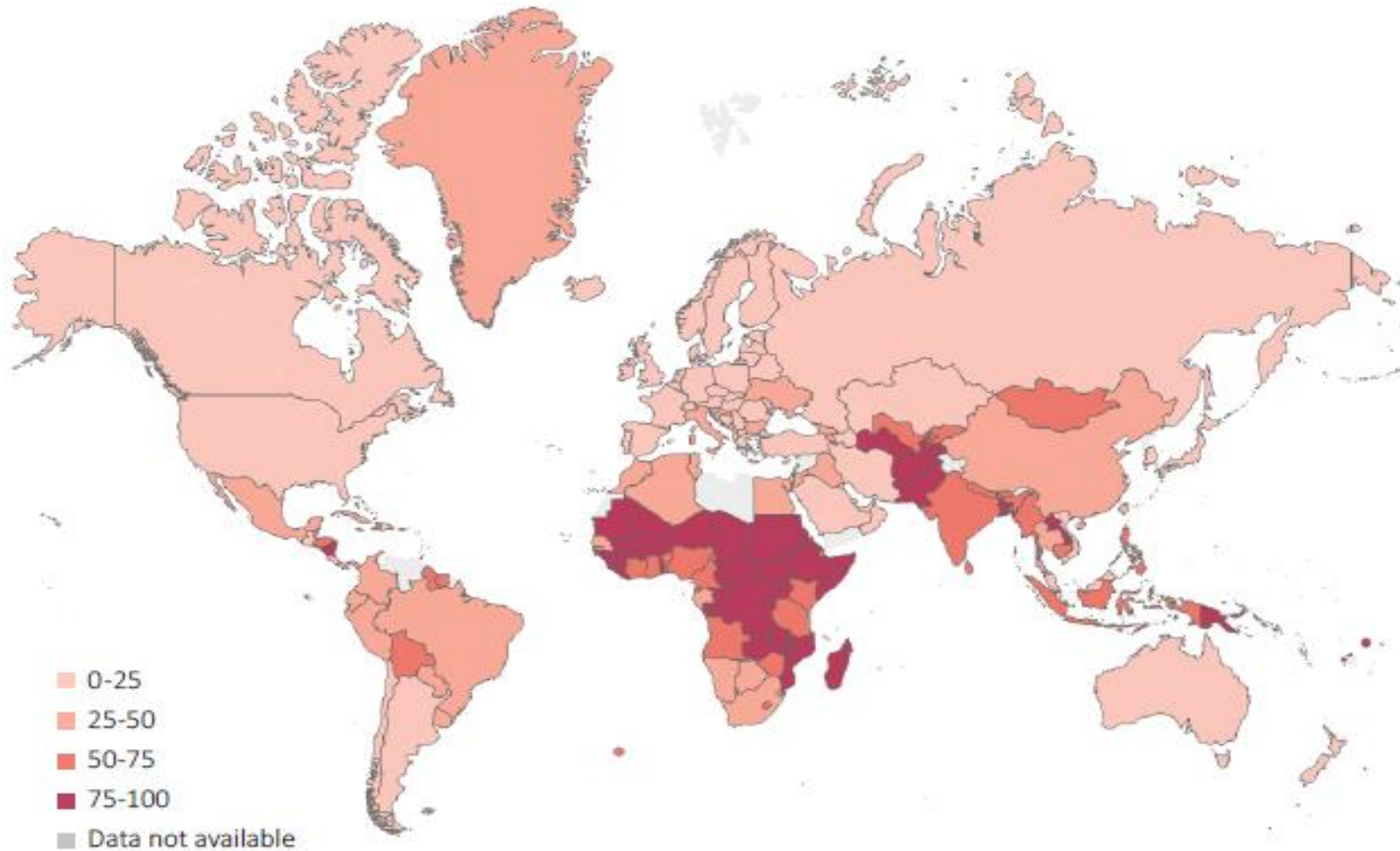
Mobile phone subscription:
67 % of the global population - 5% annual growth rate – highest in Europe and least in Africa

Barriers for digital adoption:

- Lack of **electricity**, especially in rural areas- 15% of the world population without electricity.

- **Literacy**: 13% incapable of basic reading and writing.

- Lack of **ICT skills** as a key barrier

- **Affordability**: high cost of broadband access.

- **Local content**: lack of appealing and relevant content.

- Poor **network coverage** in rural areas: the urban-rural coverage gaps remains large

Source: ITU. 2019. Measuring digital development: Facts and figures.

Source: Lester Henry. 2019. Bridging the urban-rural digital divide and mobilizing technology for poverty eradication: challenges and gaps.

Percentage of population NOT using the internet, 2019

The map of the offline population highlights regional differences in Internet usage.

Countries with the highest proportions of people not using the Internet are mostly in Africa and South Asia, although there are inter-regional differences.

- 0-25
- 25-50
- 50-75
- 75-100
- Data not available

Note: * ITU estimate.   Source: ITU.

Key principles for digital rural transformation

Credit for slide: Maximo Torrero, FAO

- **Capacity** development – at all levels horizontally and vertically is key

- **Content** – (co)creation, customization, adaptation, use - relevance to small scale producers, local appropriation

- **Context** matters – no one size fits all - locally applicable, accessible, & affordable solutions

- **Simple** – keep it simple - more inclusive, scalable and impactful

- **Sustainable** – positive impacts in economic, social, environmental & institutional terms – do no harm

- **Systems** approach – integrated & holistic approach across the disciplines and sectors
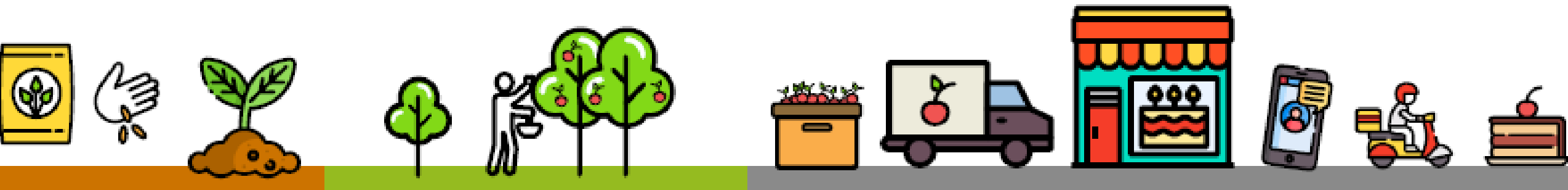
Digital technologies and access to information

Esoko

- Information on market prices by SMS.

- Operates in ten countries in Africa.

- Connects over 1 million farmers to essential services.

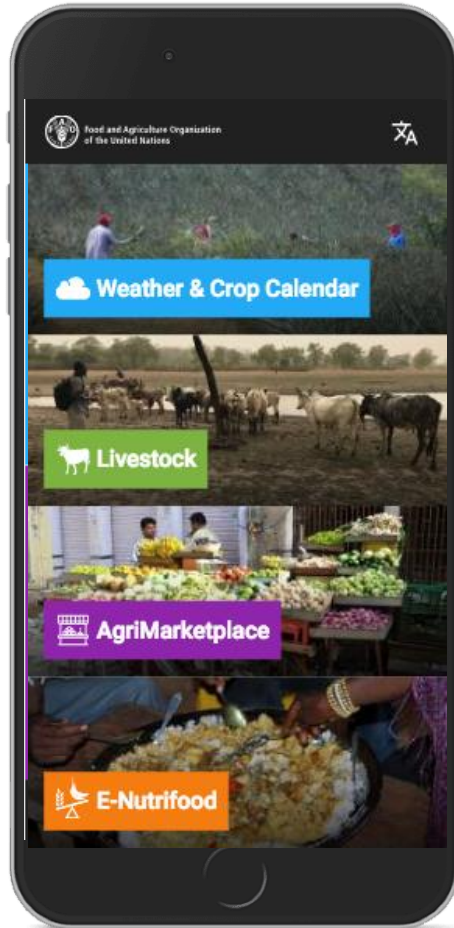- 10-11% rise in farmers' revenues

Credit for slide: Maximo Torrero, FAO

E-choupal

- Kiosks with internet access.

- Information on farming practices, prices, weather and farming advice.

- Soybean prices increased 1-3%.

- 19% increase in soy production.

- 33% rise in farmers' net profits.

FAO Digital Services Portfolio

Credit for slide: Maximo Torrero, FAO

- Offer information & advisory messages to farmers in the field

- Connect directly Governments to Rural Farmers

- A platform working as a SaaS

- Implemented in,
  - Rwanda
  - Senegal
  - Egypt
  - Tanzania

1000 Digital Villages Initiative:

Digital rural transformation to combat hunger, poverty and inequality
Overview and implementation : Asia Pacific

May 6, 2021

Aziz Elbehri, Senior Economist, FAO-RAP

Food and Agriculture Organization of the United Nations

SUSTAINABLE DEVELOPMENT GOALS

Piloting a Digital Village Initiative to accelerate rural transformation against hunger, poverty and inequality in Asia and the Pacific

Embracing digitalization for better agriculture, food systems and livelihoods

COUNTRY				
Bangladesh	E-village (digital app)	DV-Virtual call center	Digital information/E-ext.; FFS	
China	E-extension/cloud technology (Henglu village)	Big data/platform (Deqing Village)	ICT@ village level (Yinong Inf. Services)	
India	Akodara: First Digital Cashless village	Harisal digital village (mountain isolation)	SEWA (village digital services for women)	Women digital catalysts (eDOST)
Indonesia	E-market platforms; fisherfolks (Aruna)	eFishery (digital fish feeding app @village)	E-commerce (Dapur Kia) –(MofVillage/PPP)	
Japan	Smart green village (Yosano-Cho)	ICT Ag/Smart city (Iwamizawa)		
Korea, R.O.	Smart villages (ICT app for rural comm.)			
Malaysia	Smart Village pilot (closed loop ag syst.)			
Nepal	E-connected village in Himalaya (Nangi)			
Pakistan	E-credit for Farmers (Punjab province)			
Papua New Guinee	Traceability livestock pilot-Jikawa province			
SIDS	Fiji-Traceability app platform (agric./fish)	Samoa-"Farm to table" organic certified App	SI – Youth Assoc. (App to connect members)	Fiji- Vodafone digital finance services
Thailand	Smart farm pilots (sensors, drones…)			
Vietnam	Smart communes (e-health, e-trade)- PPP			

DV MODEL TYPES

Farmer/community led DV

Technology-centred DV

Government-led DV services

Private-public DV ecosystem
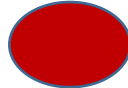
One Health?

Addressing barriers : animal health examples

Sustainable Business in Animal Health Service Provision through Training for Veterinary xx Paraprofessionals

Improving VPP capacity to sustainably deliver essential animal health/public health and related services focusing on **smallholder livestock keepers**.

Health for Animals
global animal medicines association

WVA WORLD VETERINARY ASSOCIATION

Continuous professional traning:
- for Preventive health care
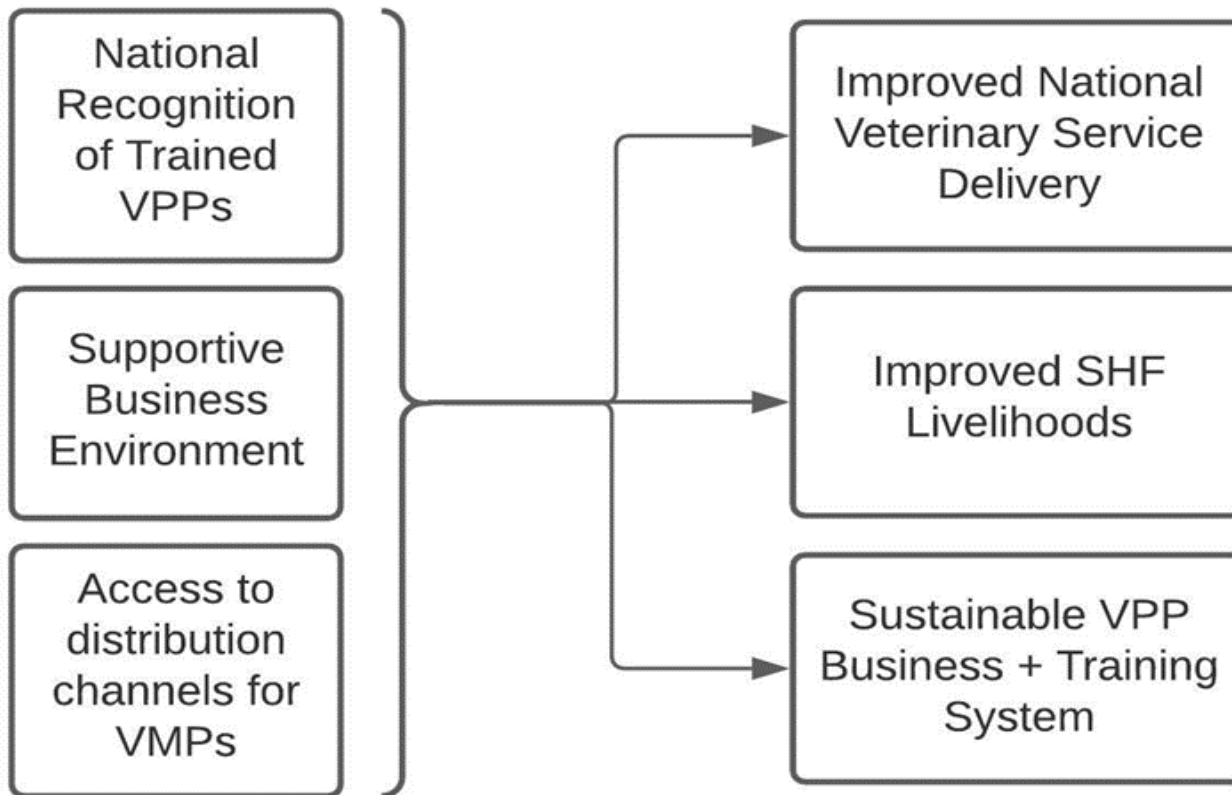- for building sustainable business

Certification management system
-for relevant competencies to be managed by competent national authority

VPP service support system:
-linking smallholders to VPPs
-linking VPPs to veterinarians and employers
-linking VPPs to business opportunties

Credit for slide: Fabrizio Rosso, EuFMD, FAO

Improved access of SHFs to certified quality veterinary care

National Recognition of Trained VPPs		Improved National Veterinary Service Delivery
Supportive Business Environment		Improved SHF Livelihoods
Access to distribution channels for VMPs		Sustainable VPP Business + Training System

- **demand-driven training curriculum**

- **training management system (TOM)** for management of certification

- **digital engagement** to immerse certified VPPs and SHF in the provision and traceablity of high-quality services

Credit for slide: Fabrizio Rosso, EuFMD, FAO

Delivery of CPD - The Virtual Learning Centre (VLC) initiative

VIRTUAL Learning Center for SADC

In 2021 FAO will establish VLCs in 7 subregions (all Continents)
OBJECTIVES:

▪ **To Provide virtual training relevant to priorities** in animal health, aquaculture health, one health – regional scale

▪**To Promote and strengthen regional networks** for planning and coordination of regional activities (e.g. training focal points, advisory groups)

▪To Provide support to develop systems for promoting national **Continuous Professional Development** (CPD) for vets/VPPs and national cascade of training resources

Training modalities: self-directed open access, tutored virtual courses for large audiences, In-depth virtual courses (build advanced skills), Virtual workshops, Blended learning

Example:
- E-learning induction course on
  FMD Post Vaccination Monitoring (PVM),
  followed by
- Regional virtual workshops
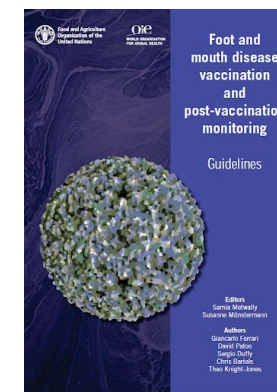
Training Management System (TOM)

- A web-based tool that allows Veterinary Services to track the completion of trainings by veterinarians
- A competency framework that promote recognition of competency
- A system built for national managers – including veterinary statutory bodies (VSBs)
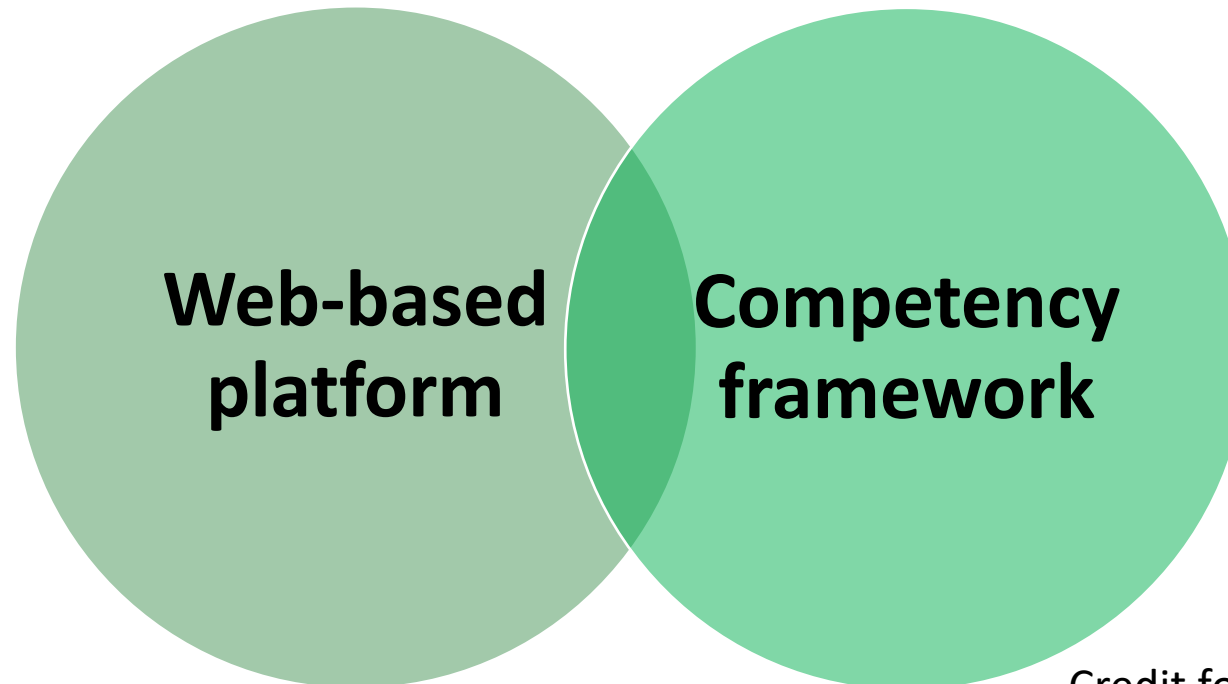
Web-based platform

Competency framework

Credit for slide: Fabrizio Rosso, EuFMD, FAO

Addressing issues of confidence in vaccine quality

Procedure for **independent peer review of** information (separated from registration procedure) on vaccines against FAST diseases to confirm compliance with the **minimum internationally accepted standards** for vaccines, as defined in *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* (OIE Terrestrial Manual)
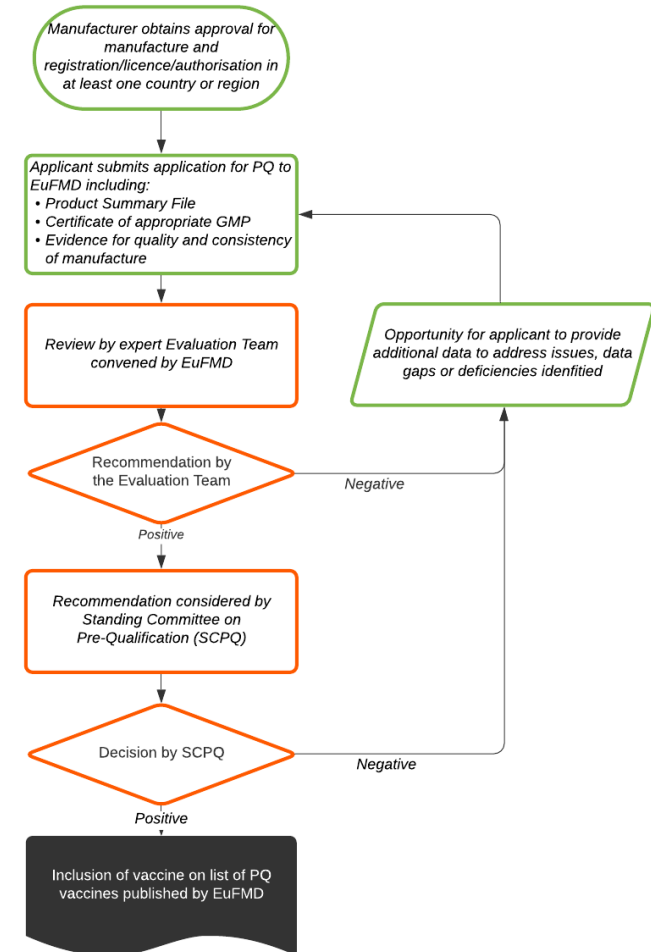
<u>Benefits:</u>
Accelerate procurement of vaccines in emergency situations
Confirm the quality of vaccines **in advance of need**
Form part of a **wider framework for vaccine security** (AESOP)
Promote engagement between all stakeholders involved in producing, evaluating and regulating vaccines against FAST diseases

Credit for slide: Fabrizio Rosso, EuFMD, FAO

The East Africa FMD vaccine challenge

The FMD Vaccine Challenge Project aims to improve animal health and smallholder farmer livelihoods by increasing the use of an FMD vaccine tailored to Eastern Africa.

The Solution Summary

The project aims to achieve 3 objectives:

1. Development of high-quality FMD vaccines, tailored for the Eastern African strains

2. Increased vaccine production and regional purchases to create greater market stability and reduce price

3. Development of a private sector model for buying and distributing FMD vaccines to complement public sector efforts

To achieve these objectives, we propose the development of a comprehensive mechanism:

✓ A **Cost-Share,** designed to include public and private sector buyers

The proposed AgResults solution is a project that includes:

High-Quality Vaccines + **Improved Distribution**

GALVmed
Protecting Livestock – Improving Human Lives

AgResults
INNOVATION IN RESEARCH
AND DELIVERY

SSA2 Project

- Deliverables:
  - A common proficiency/benchmarking tool for regulation of veterinary medicinal products (VMP i.e. drugs and vaccines)
  - Common application form (and data requirements) for marketing authorisation of veterinary medicines
  - Feasibility of an Online submission portal
  - Inventory of initiatives to improve VMP regulation
  - Database of national competent authorities including veterinary regulatory agencies
  - Detailed case studies in East and West Africa

Veterinary Medicines Directorate

Innovations : the environment for growth matters
[Thank you]

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