



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



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



Leaving no one behind through sustainable, inclusive and resilient agri-food systems

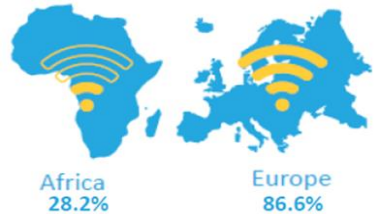




Digitalization of Agriculture

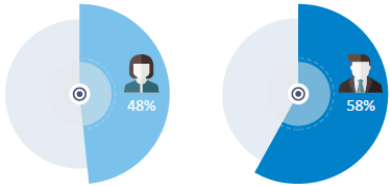
- Digital technologies are revolutionizing agriculture.
- Digital technologies can address **multiple market failures**.
- Connectivity improved dramatically, but a digital gap remains.

Digital realities



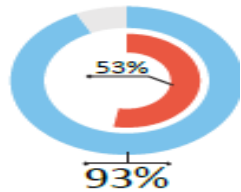
Access to internet:

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.



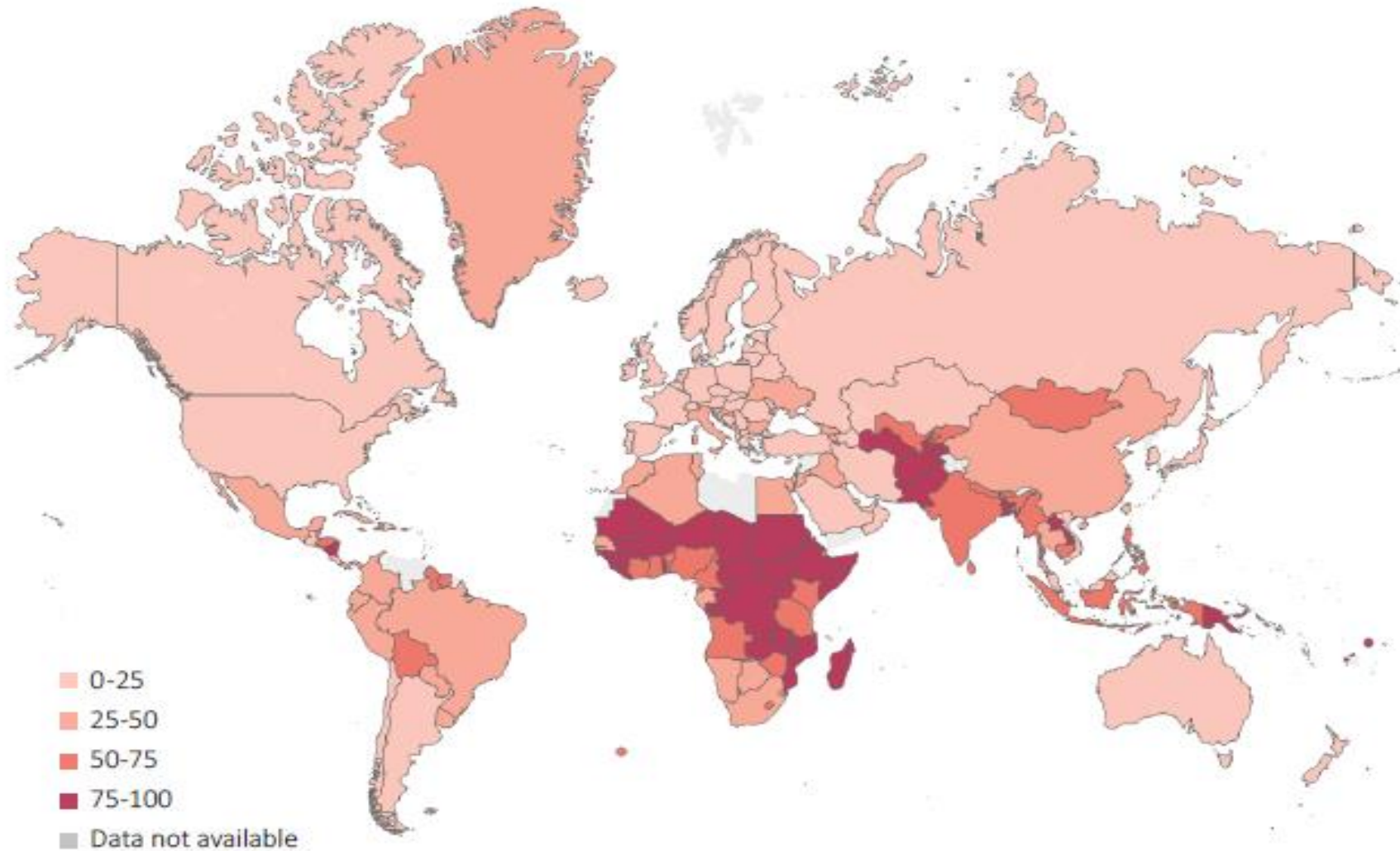
Mobile phone subscription:

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

Percentage of population NOT using the internet, 2019



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

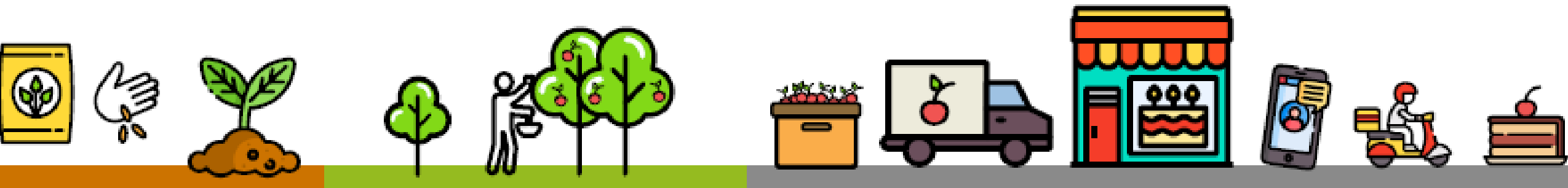
Countries with the highest proportions of people not using the Internet are mostly in Africa and South Asia, although there are inter-regional differences.



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

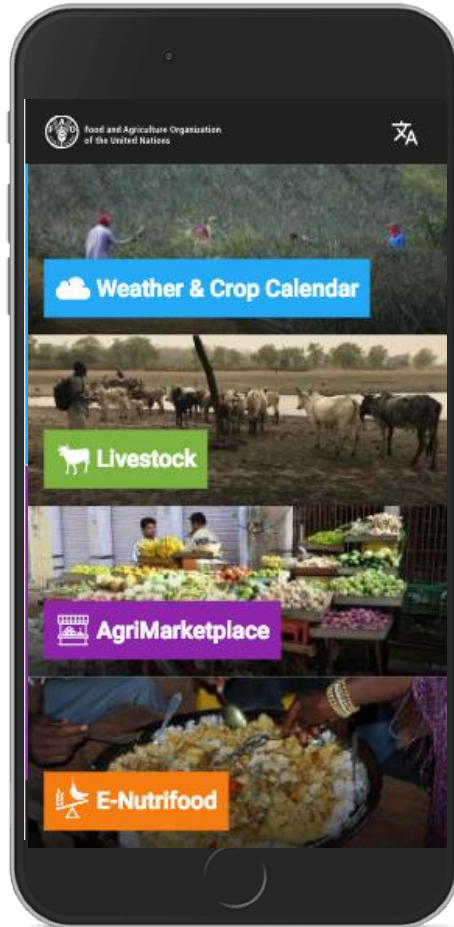
Credit for slide: Maximo Torrero, FAO

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



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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



Pre-piloting DVI in Asia and the Pacific: lessons learned from scoping report



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 Guinea | 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







1000 Digital Villages AFRICA : Examples of proposed activities in pilot countries

Ghana

-  Digital health and education services
-  E-extension services
-  Hybrid models of DV

Kenya

-  M-Pesa and other digital agri-financial services
-  Kenya Integrated
-  Agriculture Management Information System (KIAMIS)
-  E-health and e-education

Pillar 1

Pillar 2

Pillar 3

Cross-cutting



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One Health?





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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**.



Continuous professional training:

- for Preventive health care
- for building sustainable business

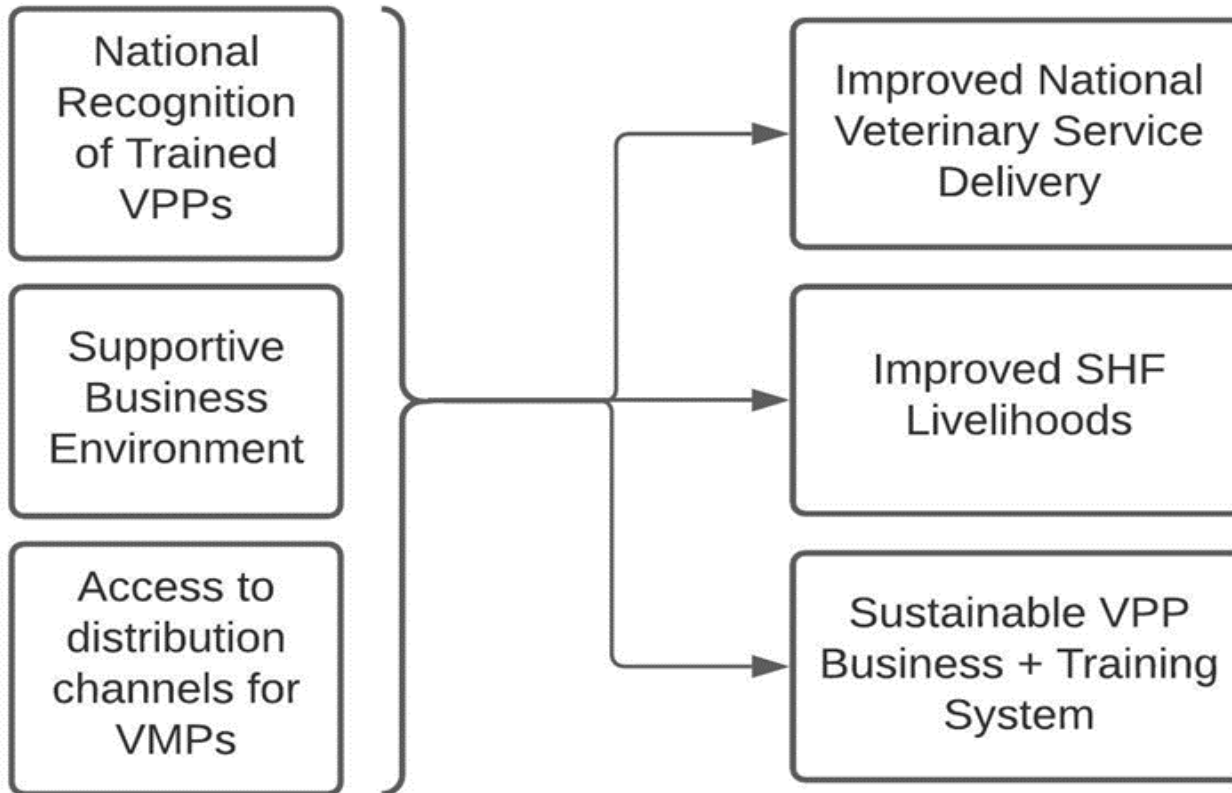
Certification management system

- 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 opportunities

Improved access of SHFs to certified quality veterinary care



- **demand-driven training curriculum**
- **training management system (TOM)** for management of certification
- **digital engagement** to immerse certified VPPs and SHF in the provision and traceability of high-quality services





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

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

OBJECTIVES:

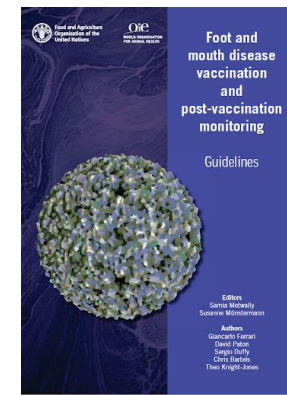
- **To Provide virtual training relevant to priorities** in animal health, aquaculture health, one health – regional scale
- **To Promote and strengthen regional networks** for planning and coordination of regional activities (e.g. training focal points, advisory groups)
- **To Provide support to develop 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:

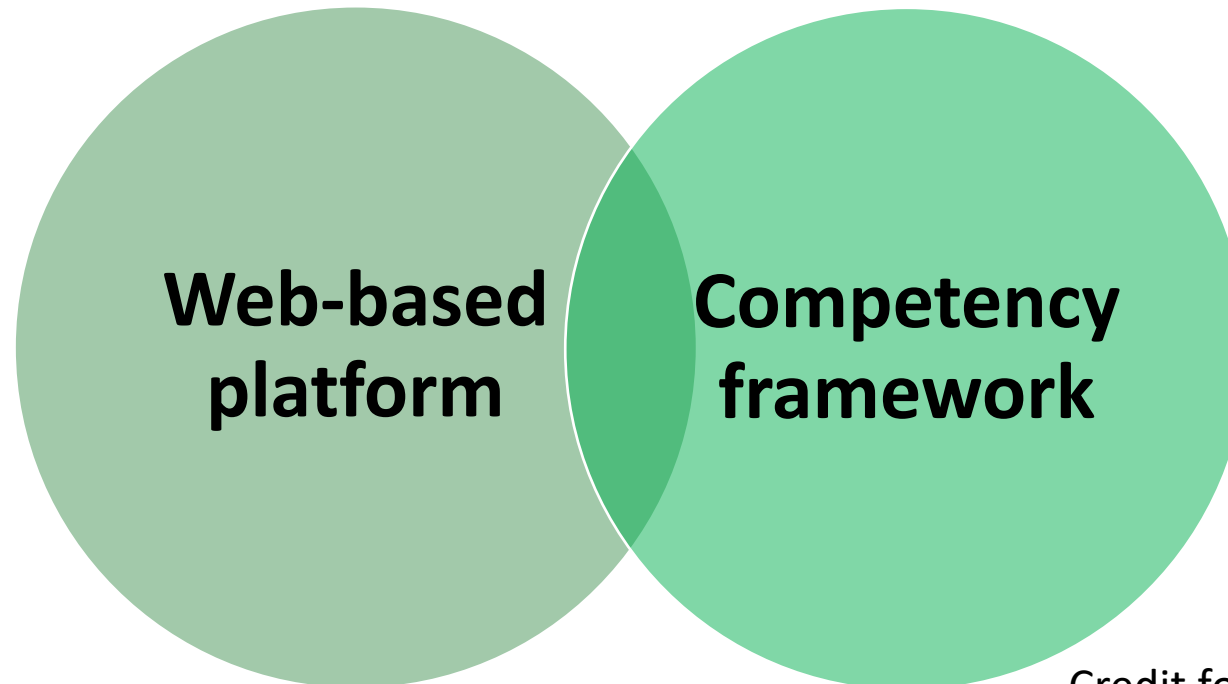
- E-learning induction course on FMD Post Vaccination Monitoring (PVM), *followed by*
- Regional virtual workshops





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)





A pre-qualification procedure for vaccines against FMD and similar TADS

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)

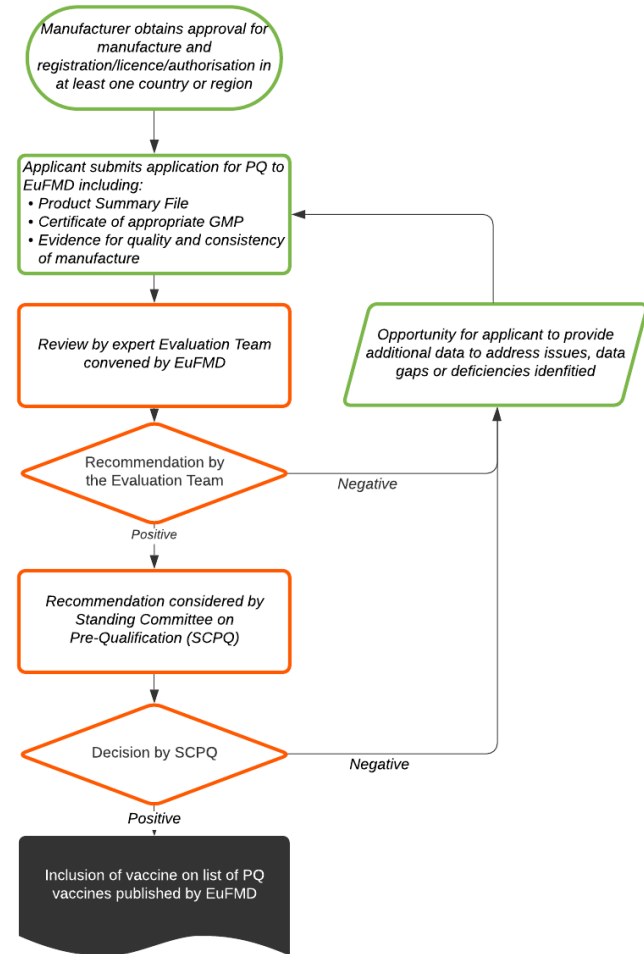
Benefits:

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





The East Africa FMD vaccine challenge

Creating sustainable access to vaccines

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

Creating an enabling environment for innovation in vet medicine access


Veterinary
Medicines
Directorate

BILL & MELINDA
GATES *foundation*



Subsaharan Africa Project (SSA2)

Slides courtesy of the International Team of the UK
Veterinary Medicines Directorate

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



Innovations : the environment for growth matters [Thank you]



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