

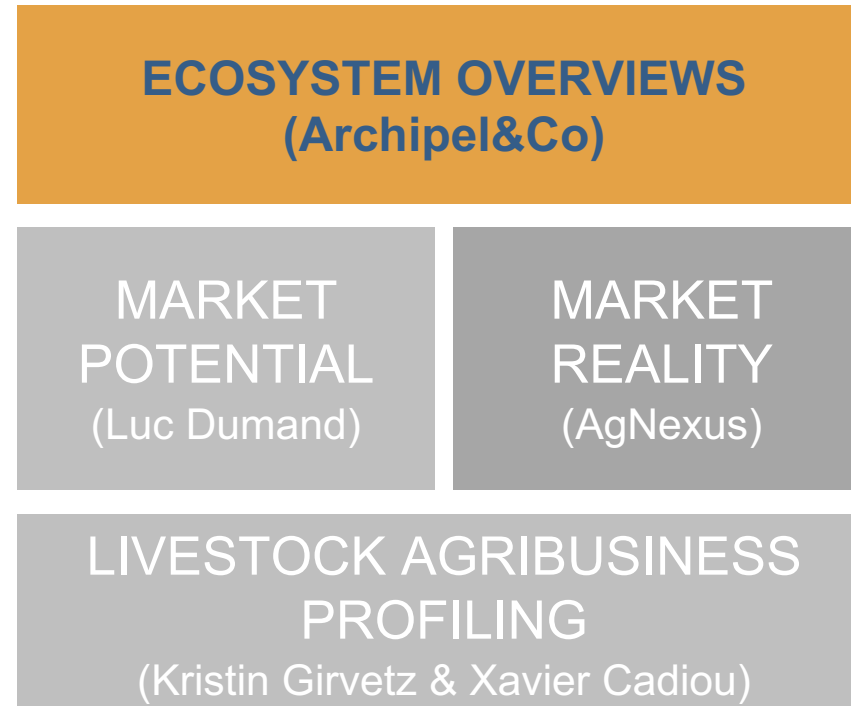
Animal Health Ecosystem study **Kenya**

January 2021



Context: This report is an actionable overview of the AH Ecosystem to accelerate entrance and innovation

- This Animal Health (AH) Ecosystem Studies is part of the Bill & Melinda Gates Foundation's African AH systems and data investments.
- The objective of this constellation of investments is to foster more and better data to inspire, inform and improve investment in the AH sector across Africa.



- This report is intended to give new entrants and market actors an actionable overview of the AH Ecosystem to accelerate entrance and innovation.
- Other studies are quantifying AH market potential, quantifying market reality/size and profiling livestock agribusiness

Objective & Methodology

- The primary objective of this ecosystem study is to help potential new entrants and innovators quickly understand the animal health market opportunities in Kenya.
- The study outlines:
 - the flow of three main product categories: biologicals, pharmaceuticals, vitamins & supplements
 - the role of key actors
 - the challenges and opportunities
- This report has been informed by hundreds who generously contributed their time and knowledge, thank you!



72 reports and articles reviewed



23 virtual interviews



2 weeks of field visits and **20+** in-person interviews in Kenya and Ethiopia



9 COVID-19 PCR tests

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Acronyms

AH	Animal Health	ECF	East Coast Fever	KMT	Kenyan Markets Trust
AHITI	Animal Health and Industry Training Institute	FAO	Food and Agricultural Organization of the United Nations	KVA	Kenyan Veterinary Association
AHTTAK	Animal Health Technicians and Technologists Association of Kenya	FMD	Foot and Mouth Disease	KVB	Kenyan Veterinary Board
AMR	Antimicrobial Resistance	HH	Household	LTR	Local Technical Representative
ASALs	Arid and Semi- Arid Lands	GALVmed	The Global Alliance for Livestock Veterinary Medicines	NGO	Non-Governmental Organization
BMGF	Bill and Melinda Gates Foundation	GMP	Good Manufacturing Practices	PPB	Pharmacy and Poisons Board
CAHW	Community Animal Health Worker	GoK	Government of Kenya	RVF	Rift Valley Fever
CBO	Community Based Organization	IGAD	Intergovernmental Authority on Development	SSP	Small Scale Producer
CBPP	Contagious Bovine Pleuropneumonia	ILRI	International Livestock Research Institute	USAID	United States Aid for International Development
DVS	Directorate of Veterinary Services	KES	Kenyan Shilling	VISAK	Veterinary Input Suppliers Association of Kenya
EAC	East African Community	KEVEVAPI	Kenya Veterinary Vaccines Production Institute	VMD	Veterinary Medicine Directorate

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Executive summary (1/3)

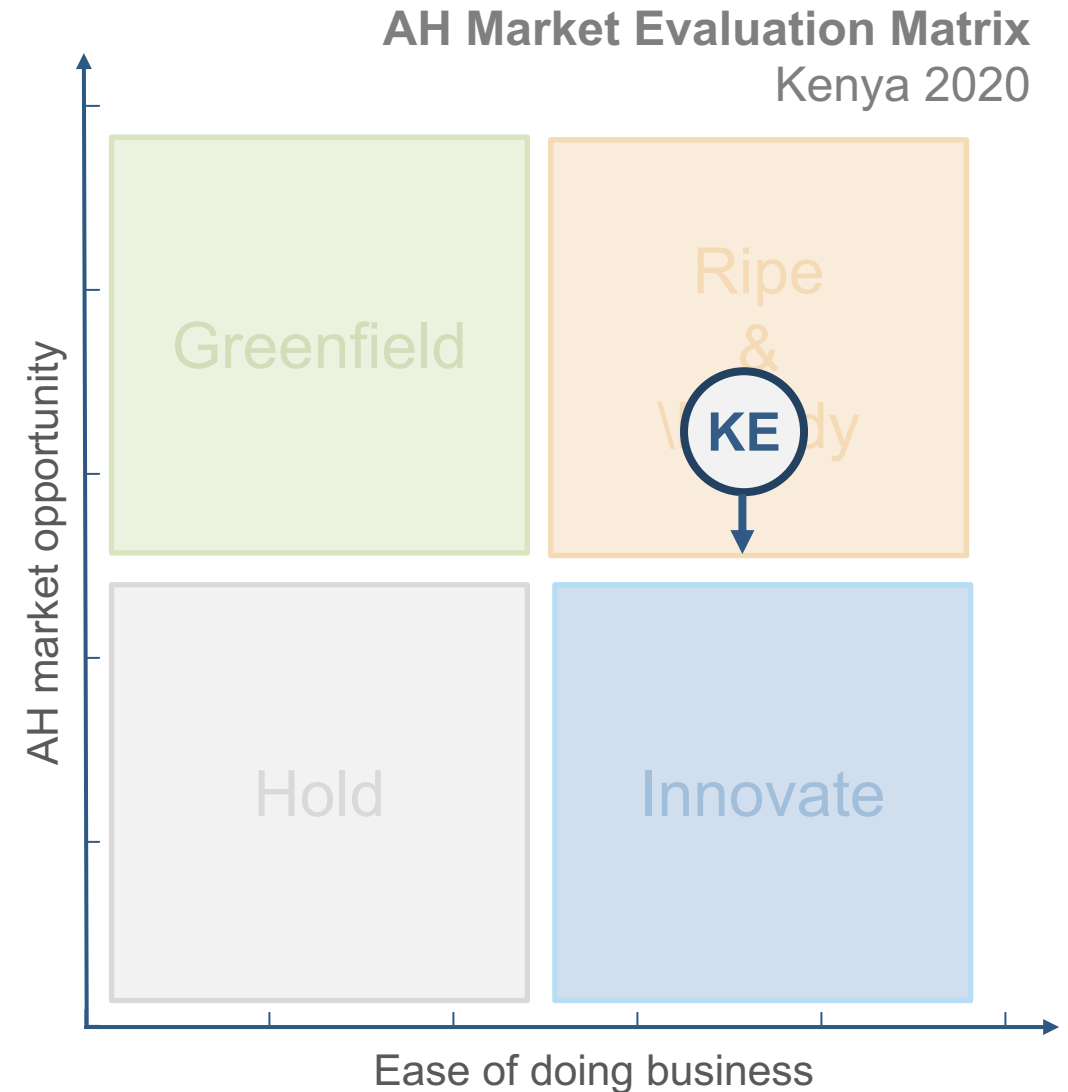
- **AH actors have an opportunity to leverage Kenya's stable and open market, as the country continues the livestock sector's transformation from subsistence to commercial undertaking.**

Challenges

- Low AH awareness among SSPs
- Infrastructure (challenges reaching the ASALs)
- Low vaccination coverage
- Low quality of some products in the market leading to AMR
- Relatively low number of qualified AH professionals
- Climate change vulnerability

Opportunities

- Ease of doing business and favourable trade conditions
- Unmet demand, especially among SSPs and pastoralists
- Strong institutional/regulatory frameworks
- Small but growing companion segment
- High digitization rate (e.g. wide adoption of mobile money)



Note: refer to [Appendix](#) for methodology and indicators

Executive summary (2/3)

- **Kenya's stable economy and liberalised trade system make it one of the easiest countries in SSA to do business**
 - Annual GDP growth averaged 5.6% between 2009-2019.
 - Ranked 3rd in SSA in the Doing Business Index (and 59th worldwide).
- **One of the largest livestock population in Africa (60% of households keep livestock), Kenya's growing livestock market holds a huge growth potential for the years to come**
 - Livestock represents 40% of agricultural GDP, 12% of total GDP and employs 74% of the workforce.
 - Value of livestock and livestock products raised from \$833M USD in 2012 to \$1,394M USD in 2019.
 - Projected increase in consumption of animal products (e.g. demand for beef expected to increase by over 170% between 2010 and 2050)
 - Small companion animals' segment, growing rapidly with urbanization

- **Compared to other countries in the region, Kenya has a mature AH sector, governed by established institutions**
 - Ranked 1st in SSA by the Sustaining Livestock indicator, measuring the quality of manufactured feeds and veterinary products in the country.
 - The creation of the Veterinary Medicine Directorate (VMD) in 2017 helped consolidate main AH regulatory activities in a single dedicated entity.
 - Cost and timescales of product registrations can be significant.
 - An advanced agri-tech ecosystems, nearly 30% of all agri-tech start-ups in SSA operate in Kenya, with 18% also headquartered there.

Executive summary (3/3)

- **Kenya's AH sector's main potential lies in the shift from a treatment to a preventative approach and improving AH awareness**
 - Vaccination coverage is low at 10% (2014) versus the 2030 target of 80%
 - Urbanisation (50% of people expected to live in urban areas by 2050, vs 27% in 2019), leading to increases in infectious and zoonotic diseases.
 - Improper use and poor quality or counterfeit products are eroding SSP trust and leading to high levels of AMR, impacting both animals and humans
 - Large commercial farms typically have good prevention practices and diagnostic capabilities.
 - SSPs and pastoralists (72% of livestock holders) are underserved and represent significant AH opportunities.
- **AH product distribution is dominated by the private sector, with an increasing presence of national actors playing multiple roles across the value chain**
 - Direct exporting is the main market entry strategy for international manufacturers, giving importers significant influence.
 - The growth of national private manufacturers is changing the ecosystem.
 - Counties have a small role in the AH product flow, except for vaccines.
 - Agrodealers (over 10K across the country) play a key role as main suppliers to SSPs, and large product volumes flow through them.
 - Kenya's significant dairy sector drives high supplements volumes, with growth driven by the need for productivity to meet demand.
 - Pharmaceuticals are the main product category sold informally

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Stability as the key to Kenya's sustained economic growth, social development and AH opportunities



Over the past decade, Kenya has made significant political, structural and economic reforms that have driven sustained economic growth and social development. Key development challenges include poverty, inequality, climate change, and continued weak private sector investment.



DEMOGRAPHICS

- Population: 54.9M (2020), 67M projected in 2030¹
- >40% under **15yo**, median age **20 yo**³
- Est. **31.1% urban** population in 2019, versus 7% in 1960²
- Population is heavily **concentrated** in the **West** (Lake Victoria)³



GEOGRAPHY

- **48th largest** country in the world
- **89%** land area occupied by arid and semi-arid lands (ASALs)
- Land rises gradually westward from a narrow coastal plain in a series of plateaus, culminating in a highland area bisected by the Great Rift Valley



ECONOMY

- GDP per capita: **\$1 817 USD** (2019)⁶
- Population living under the poverty line (\$1,90 USD per day in 2011 PPP) has declined from 43.6% in 2005/06 to **35.6%** in 2015/16⁴
- Market-based economy with a liberalised external trade system and a few state enterprises



POLITICS

- **Politically stable** since independence in 1963, despite changes in its political system and crises in neighbouring countries.
- In accordance with the 2010 constitution, Kenya is a **presidential representative democratic republic**
- The 2010 constitution also brought **decentralization** by devolving power and responsibilities from the national government to the **47** elected **county governments**



CULTURE

- **Family and community-oriented** culture, influenced by African traditions and the colonial period, most notably **Catholicism**
- Identity for Kenyans is multi-faceted with religion, **tribe or ethnic group**, pro sports clubs and national patriotism all significant
- Kenyans see themselves as the region's leading and most **modern market**, eg: the world's leader in mobile money

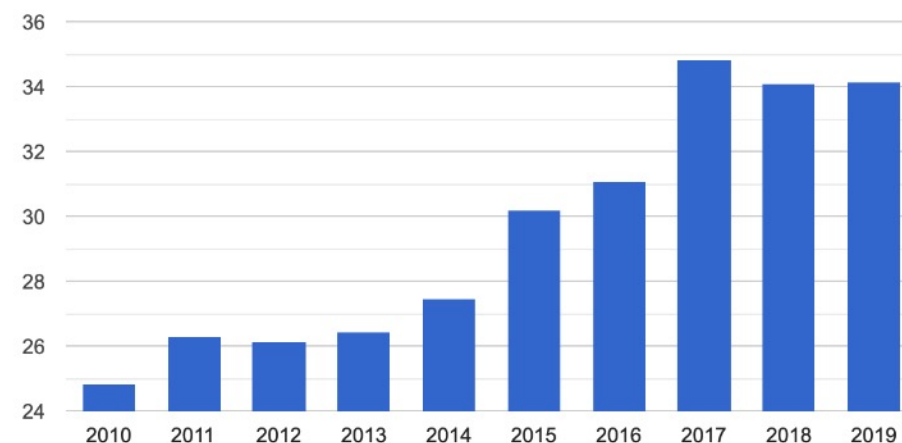
Agriculture continues to be main driver of economic growth



ROLE OF AGRICULTURE IN ECONOMY

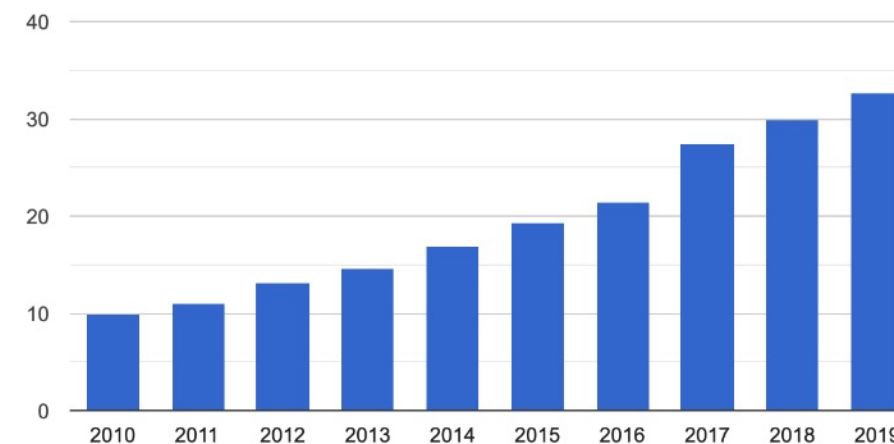
- Major contributor to the economy, contributing about **34.15% to GDP** (2019) and **53.81% to employment** (2020)
- Sector accounts for **50-65% to export value**. Vegetable product exports totalled **\$3.01BN USD** in 2018 (**48.5% tea**, 20.4% cut flowers)
- Net importer of animal products with imports totalling **\$150M USD** (23% sheep and goat meat) in 2019
- Ag sector performance **decelerated** from **6.1%** growth in 2018 to **3.6%** in 2019, mainly due to extreme weather phenomenon (suppressed long rains)
- County governments' **expenditure** in agriculture grew by **300%** between FY15/16 and FY19/20
- Farm size and productivity are highly **heterogeneous**
- **SSPs** dominate the agricultural landscape, mainly cultivating maize, beans, potatoes, and keep cattle, small ruminants and poultry

GDP share of agriculture (%)



Source: theglobaleconomy.com

Agriculture value added (\$BN USD)



Source: theglobaleconomy.com

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Kenya has one of the strongest livestock sectors in Africa, aided by solid public institutions and business-mindset

SUMMARY

- **5th largest holder of cattle in Africa** behind, Kenya is one of the dominant players of the sector.¹
- **Liberal policies** pursued by successive governments have opened up the sector to trade and benefited the **private sector**.
- More **mature** than in other SSA countries, with more established institutions and a business-oriented sector.
- The **Veterinary Medicine Directorate (VMD)** (2017), and the new **National Livestock Policy** will support the sector's evolution from subsistence to commercial undertaking.
- Deep sector **transformation** expected in the next decades in response to increased demand for animal products driven by demographic and socio-economic growth.
- **Urban and peri-urban** livestock farming and value chain to become a key component in the future of the sector.
- Sector growth and transformation is **challenged** by a lack of **financing, infrastructure** development, access to **market** and **AH** products and services.
- **Natural resources** depletion and **climate** change are becoming increasingly challenging for livestock keepers.



Image source: A&Co

Facts & Figures of the Kenyan Livestock Sector



- Livestock sector accounts for **14,2% of agricultural GDP** and **4,4% of the total national GDP** according to FAO 2019¹ and for **40% of agricultural GDP** and **12% of the total national GDP** according to Kenya Market Trust 2019⁹
- Kenya's livestock production index is of **111.67** in 2018, ranking **5th in Africa** and **22nd in the World**⁸
- Sector employs **50%** of the **agricultural labour force**¹, compared to less than 3% in the food secure developed countries.^{2,3}



- Kenya is a **meat deficit** country, despite being a leading exporter of processed meats and chilled carcasses
- Import of live animals is much greater than exports. On the first semester of 2019, the import value of live animals was around **7 times higher** than the value of exports (mainly from neighbouring countries).^{4,5}

PRIMARY SPECIES (2019)



Cattle:
21M⁷



Goats:
35M⁷



Sheep:
27M⁷



Poultry:
44.6M⁶



Pigs :
600K⁷



Donkeys:
1.2M⁶



Camels:
4.7M⁷



Pets:
unknown

Africa's 4th largest holder of camels and 5th largest holder of cattle and goats⁷

Facts & Figures of the Kenyan Livestock Sector

Livestock keeping households per species (2017)

Total number of households: 11.63 million	Number of HHs keeping animal	% of total number of households	% of livestock keeping households
Livestock keeping households	6 985 359	60%	
<i>Cattle</i>	3 610 839	31%	52%
<i>Goats</i>	2 776 171	24%	40%
<i>Sheep</i>	1 659 964	14%	24%
<i>Equine</i>	826 572	7%	12%
<i>Chicken</i>	5 511 901	47%	79%

Source: [FAO](#)

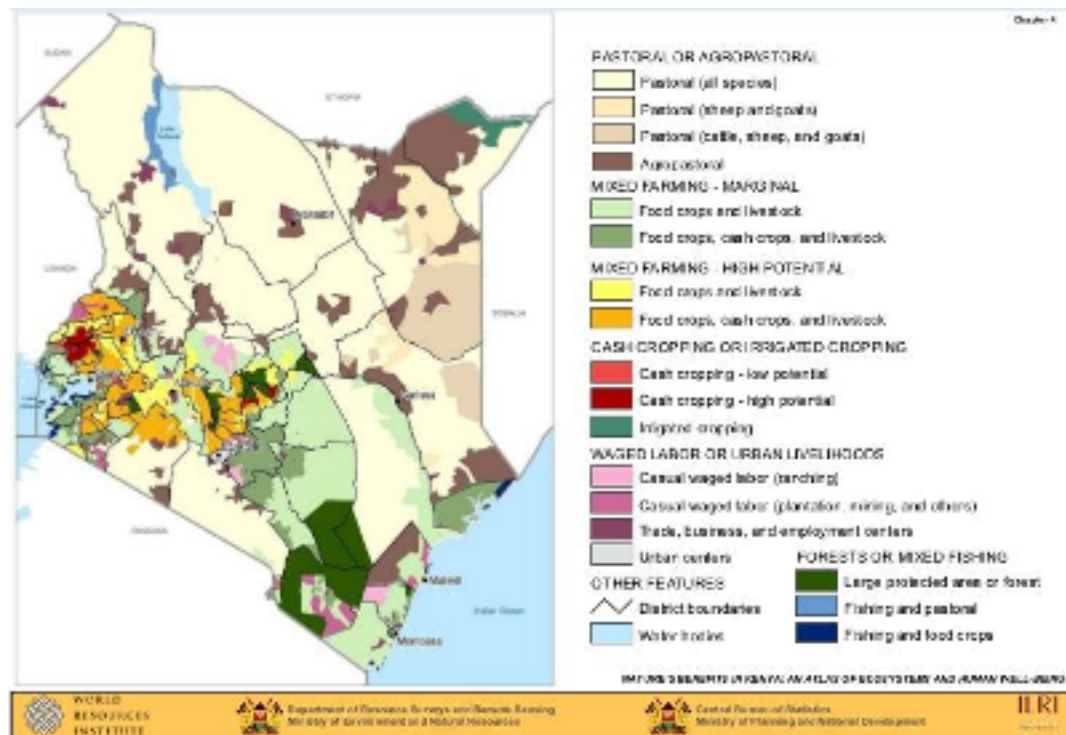


- As population and urbanization grows, **consumption of milk, beef, chicken, pork, and eggs** is expected to increase by **175%, 173%, 174%, 268% and 503%**, respectively, between 2010 and 2050.¹
- Value of livestock and livestock products increased from **\$833M USD in 2012 to \$1,394M USD in 2019**. Cattle and calves production value is the highest.^{2,3}

Three differentiated **livestock production systems** pursued by households across the country

Kenyan livestock production systems vary according to geography. Pastoralism in the North and the dominant ASALs and, in central and western Kenya, small scale mixed farming with a diminishing (since independence in 1963) number of large-scale livestock producers. However, compared to neighbouring countries, high potential farming is more frequent, particularly in and around central Kenya.

Predominant Livelihood Strategies Pursued by Households



Source: ILRI, Central Bureau of Statistics – Ministry of Planning and National Development of Kenya

- 60% of total **households** keep livestock (7M HHs)
- 75% of livestock keepers are **rural** and among the poorest in the population (2015)²
- Livestock provides **livelihood for 10M Kenyans** (21% of total population)³

Main livestock production systems:

1. **High potential farming** situated in tropical and temperate areas, in peri-urban Nairobi and surrounding regions
 - Most AH service providers, manufacturers and distribution actors are concentrated in this area
2. 60 to 70% of the National Livestock Herd is in the **ASALs**, they are principally occupied by **pastoralists and agro-pastoralists**^{1,2}
3. **Marginal mixed farming** is situated in Eastern and Western steppe or tropical regions.
 - Less productive due to poor dairy genetic resources and lack of market access⁴

Pastoralism, principal livestock livelihood strategy pursued by households across the country

Pastoralists' livelihoods depend entirely on livestock production

- **Low-input low-output** subsistence production system dominate the ASALs
- Pastoralists, primarily low-income earners, predominantly see livestock as **assets to be maintained and expanded**, only selling when necessary, rather than when they could get the best price
- **Agro-pastoralists** also practice some cropping. Animals graze and are fed with crop residues and by-products and provide manure and draft power to increase crop productivity
- Pastoralism accounts for **60 to 65%** of Kenya's **meat supply** and **80 to 90%** of the **red meat consumed** in Kenya²
- Historically overlooked by national policies; during pre-independence, these areas received little attention, leading to **little educational development, civil service administration, or infrastructure**
- **Lack of information** across the supply chain undermines pastoralists' access to and benefit from formal markets
- Highly vulnerable to **climate change**, Kenya's pastoralists have been affected by consecutive draughts in recent years



Image source: Kandukuru Nagarjun

Focus on cattle

The prominence of cattle in Kenyan livelihoods

- ~18.8M cattle, of which 76% are **beef** cattle and 24% are **cows**
- 3,6M HHs own at least **one cattle**, contributing from **40 to 73%** to total household income
- While beef animals are kept by small, medium and large farmers, **95% of dairy** farmers keep an average of just **3 cows**
- Trends indicate there is an increased number of **peri-urban and urban** farms
- The dairy sector contributes **14% to agricultural GDP** and **3.5% of total national GDP³**

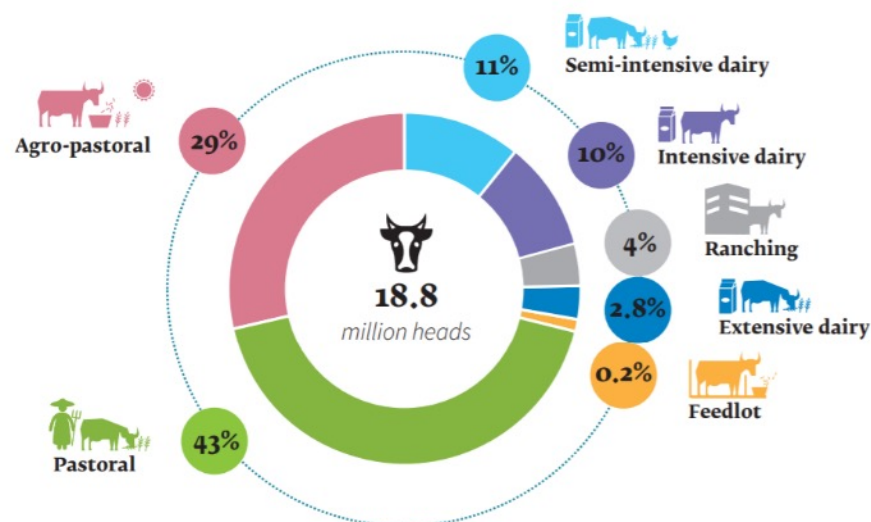


Image source: [FAO](#)

Cattle as an illustration of Kenyan farming systems

Mixed farming or semi-intensive

- Average of **3-20 cows** that are part of a larger, mixed herd of animals, including also small ruminants and chickens.
- Dairy cows graze at daytime and are provided with some feed supplements.

Pastoralists

- Keep **indigenous breeds**, herds varying from **20 to several hundred heads** that rely entirely on communal grazing areas and water sources.
- **Milk and beef** are the main products.

Commercial

- More **widespread** compared to other countries of the region, representing **17%** of the heads.
- Divided in: **ranching** (average of **1,000** heads, highly commercial large-scale), **feedlots** (capital-intensive system), **intensive dairy** (average of **5-15** cows stall-fed on high quality feed) and **extensive dairy** (**20-200** heads and pasture based production).

Focus on poultry

The prominence of poultry in Kenyan livelihoods

- Est. **43.8M chicken** contributing **5.1%** of total livestock value added (2017)
- Sector produces more than **35,000 tonnes of meat** and **1.6BN eggs** (2019)
- ~ **5.5M HHs** keep poultry and **75%** of HHs in **rural** areas, contributing between **36-63% of income** (depending on production system)
- Source of **nourishment** (meat and eggs) and immediate **cash** (sale of birds)

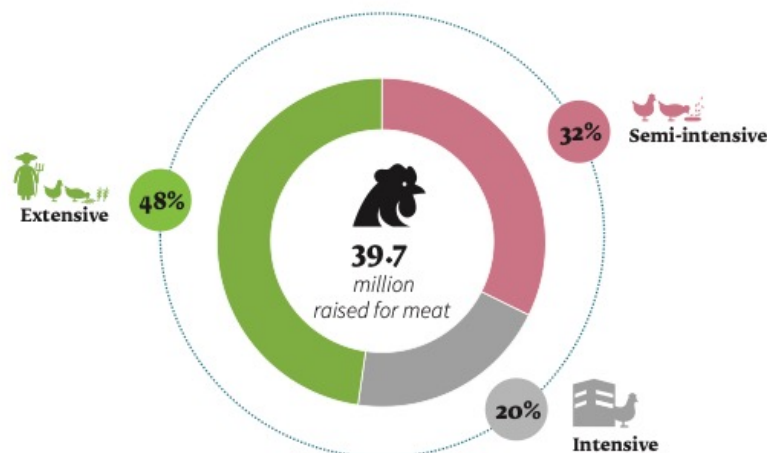


Image source: [FAO](#)

Three major chicken (meat) production systems

Intensive

- **Market-oriented**, practiced in **urban and peri-urban** areas
- Exotic chicken (largely exotic hybrids) raised in confined structures, properly fed and vaccinated. Broilers are sold within **5–8 weeks**

Semi-intensive

- Practiced **throughout the country**, improved chicken kept in confined simple structures; birds scavenge during the day and are provided with some feed supplements
- **Common vaccination** against major diseases but limited bio-security practices
- Most birds sold after growing them for between **4 and 6 months**, though some are self-consumed

Extensive (free ranging)

- Low- input low-output system where indigenous birds are left to **freely roam for feed**
- Farmers **rarely vaccinate** the birds or treat them when sick
- **Women and children** are responsible for the birds, mainly kept for egg production though also sold opportunistically in informal markets
- Popular **throughout the country**, more common in western regions, some parts of lower eastern, North Rift areas and in coastal areas

Livestock in Kenyan culture



Eating habits

- 86% of HHs across all the income groups consume **fresh milk**, and 45,8% of Kenyans consume **beef and veal**.¹
- **Food taboos** depending on ethnic groups. For example, some ethnic groups in Western Kenya have traditionally prohibited pregnant women from eating eggs even where there is an abundant supply.²



Companion animals

- Although still relatively small, Kenya's pet sector is **rapidly growing**.
- Pet ownership linked to **higher income levels** in **urban areas** and seen as a status symbol.
- Pet **food imports** grew at an annual avg. 27% between 2006-2010⁵



Gender dynamics³

- Dominant role by women farmers in **milking, watering, cleaning** out the pens, and **feeding** the animals.
- Livestock is an **important asset for women**, more easily owned than other productive assets, such as land.
- In **pastoral** societies, women frequently **own fewer animals** than men; however, livestock is more equitably distributed than are other assets
- In Kenya, as well as in Uganda and Nigeria, **most urban cattle farmers are women**, who own local cattle, which is less productive than exotic cattle.

- >70 distinct **ethnic groups** in Kenya
- The **Kikuyu** is the largest ethnic group, 20% of total population. Other large groups are: Luo, Luhya, Kamba and Kalenjin
- **97.58%** of Kenya's citizens are affiliated with its **32 major ethnic groups**⁴
- Each group lives predominantly in one area of the country, strong link between groups and main agricultural value chains. For example, the **Kalenjin** are mainly **pastoralists** but also produce **honey**

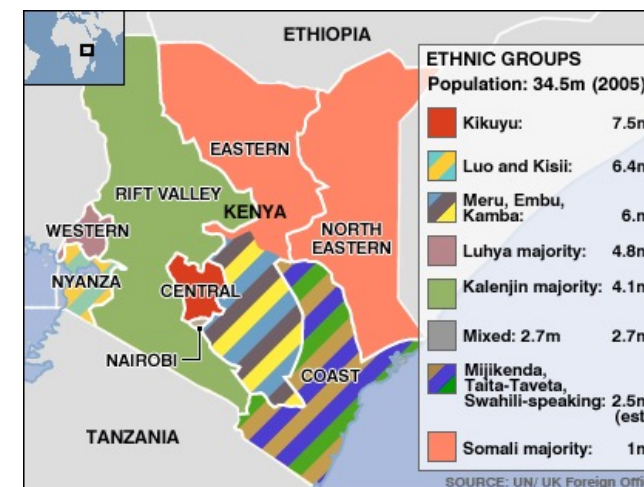


Image source: BBC

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Growing importance of a strong AH sector to address increasing zoonotic disease outbreaks and AMR

SUMMARY

- Rising levels of urbanisation and human and animal population density are leading to **increased outbreaks** and spread of emerging and re-emerging **infectious and zoonotic diseases**.
- Main **challenges** for the control of animal diseases include inadequate capacity for sustained **disease surveillance and control** programs, and **poor enforcement** of existing laws governing disease control.
- AMR is a public health priority: many infectious diseases are becoming difficult to treat with commonly available antimicrobials as pathogens have developed **resistance to antibiotics** (in both humans and animals).
- AMR causes include **improper use** of antimicrobials in animals, **counterfeit or poor quality** AH products and a **lack of AH knowledge**.
- Kenya's AH market is **more mature** than other countries in the region, but access to products & services varies among livestock keepers depending on their location and production system.
- SSPs, especially **pastoralists**, face biggest challenges. >75% of livestock are in the ASALs, but served by <10% of livestock service staff³.
- Sector is considered **underfunded** and **lacking technical personnel**. Livestock sector public funding declined from 10% of national budget in the 1980s to about 4% (2019)¹.

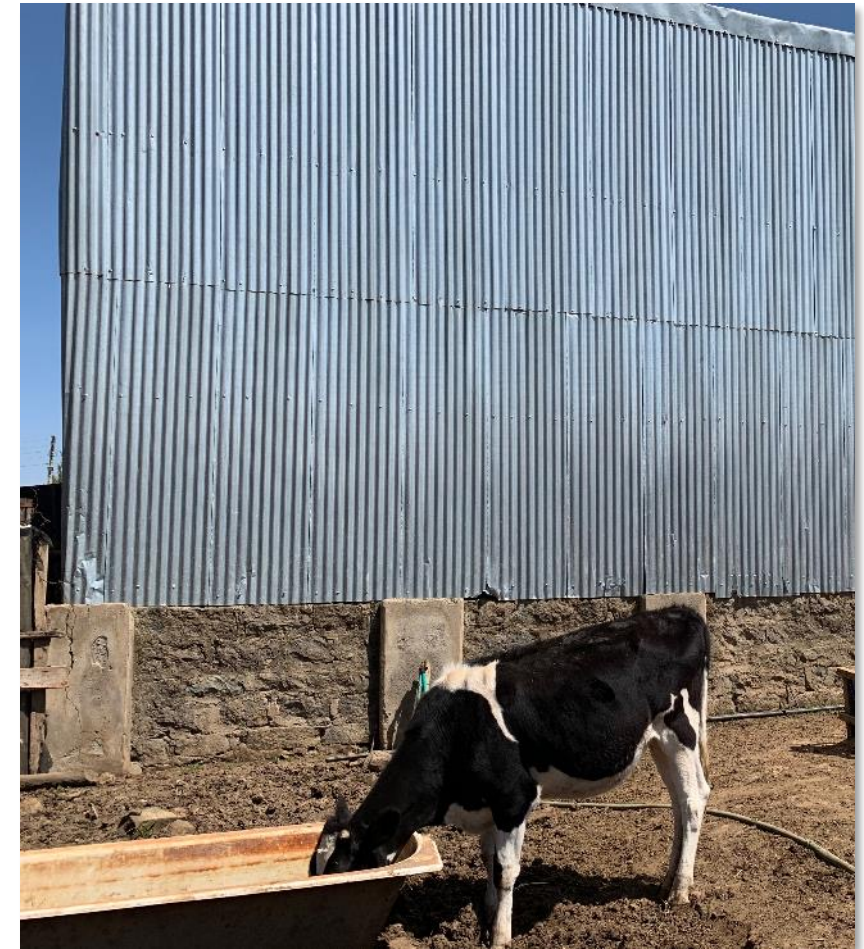


Image source: A&Co

Source: 1. [Livestock Policy 2019](#) 2 Kenya market trust 2019, 3. Young et al. (2005). Animal healthcare in Kenya: the road to community-based animal health service delivery.

Overview of the Animal Health situation in Kenya (1/2)



Livestock diseases and pests are among the most serious limiting factors of Kenyan livestock productivity. Increased animal and human densities and the inappropriate use of antibiotics are driving rates of infectious disease, a major cause of death in Kenya before COVID-19.

\$ \$4.8BN USD: combined cost of **brucellosis** and **bovine tuberculosis** on the livestock sector and human health amounts to **14% of the cattle value added**¹

\$ Cost of salmonellosis, a foodborne zoonotic disease, is about **17%** of the total **value of poultry production**. Its impact on public health is around **0.4%** of the Kenyan **GDP**.¹

⚙️ The 2006/07 outbreak of Rift Valley Fever caused over **120 human deaths** and **411 reported cases** and led to the death of over **900 000 heads of livestock**²

- With the current densities of 85 people/km² and 30 cattle/km², a recent RFV outbreak has spread rapidly throughout the country with a case fatality in humans of 23%.¹

Vaccination coverage in the country is low (2007)³



11%



1,2%



4,8%



5,9%

Priority diseases include

FMD

RVF

CBPP

PPR

Mastitis

Avian
Influenza

The **weak enforcement of rules** and regulations results in:

- negative impacts of livestock on the **environment**
- high prevalence of **foodborne diseases**
- use of **counterfeit or low quality** veterinary drugs
- **livestock-driven AMR** due to **inappropriate use** of antibiotics by farmers

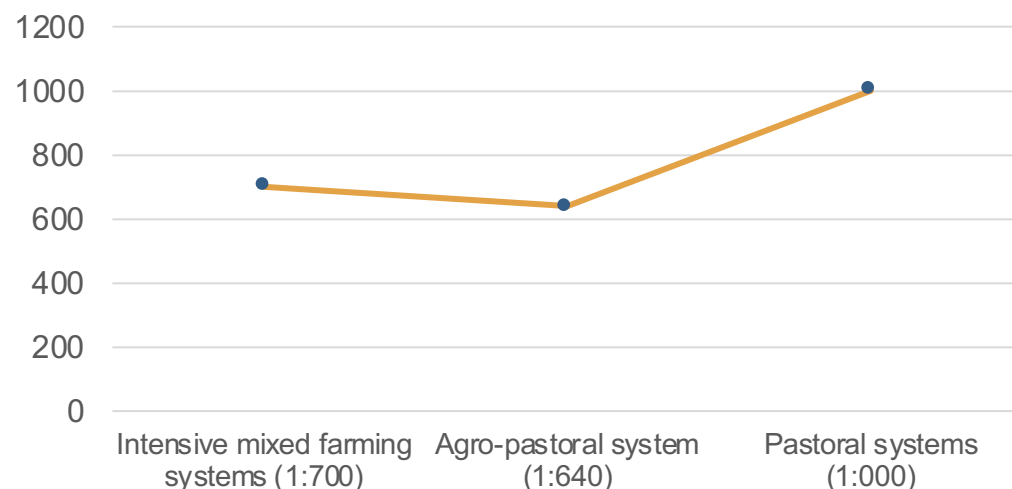
Overview of the Animal Health situation in Kenya (2/2)



The animal population reached by veterinary health services varies according to production systems, but is generally lower than the demand. ICTs are seen a solution to deliver AH services, however there is a need to develop, regulate and monitor them to ensure the quality and adequacy of the information shared.

➔ The FAO recommends there should be **one extension worker for every 400 farmers**

➔ Kenya's current technical-staff to farmer ratio ⁴ is of:



➔ **Other extension service providers** include agro-veterinary pharmaceutical companies, animal feed manufacturers, milk processors, NGOs and CBOs.



Leveraging the **widespread uptake of mobile telephones** throughout Kenya, ILRI has launched an **electronic disease surveillance system using smartphones called "iCow"**²

- More than 100,000 HHs and 170,000 cattle have been registered on the platform and more than 6.2 million educational, informative messages have been sent.



Veterinary professional registers available from KVB website³

- | | |
|--|---------|
| » 2020 Register for Veterinary Surgeons | ➔ #1013 |
| » 2020 Register for Veterinary Paraprofessionals Degree | ➔ #101 |
| » 2020 Register for Veterinary Paraprofessionals Diploma | ➔ #414 |
| » 2020 Register for Veterinary Paraprofessionals Certificate | ➔ #2010 |

Livestock production is highly susceptible to **climate change** and increasing weather variability



Kenya is the African country with most weather-related disasters over the last 20 years. Around 70% of national natural disasters are weather-related. Issues related to overgrazing, land degradation and increased greenhouse gas emissions from poorly productive animals are being exacerbated by climate change.

Approx. 75% of livestock deaths in the Horn of Africa are caused by severe drought¹

- Major impact on Kenyan livestock production due to climate variability, especially affecting **pastoralists**:
 - 75% of pastoral cattle lost during the 2009-2010 drought, leading to acute vulnerability of pastoral livelihoods.³
 - 30% of the landmass in pastoral systems is subject to severe degradation.⁷
- The country scored 4 out of 5 in its ability to cope with climate change.⁷

Climate change affects the **distribution, timing and intensity of livestock diseases** (e.g., vector-borne diseases are especially sensitive to climate change)⁸

Better access to AH products is expected to lead to **improved livestock productivity**, reducing livestock GHG emissions and making more efficient use of resources (e.g., water)

- The livestock sector contributes 90% of the emission from the agriculture sector mainly from enteric fermentation⁵
- GHG emissions from cattle is equivalent to 27.8M tonnes CO₂eq. and also contribute to land degradation through overgrazing, mainly in the ASALs.⁷
- Emissions vary by farming system, with pastoralists and agro-pastoralists cattle emitting 19.3M CO₂eq.

Countries with the most weather-related disasters over the last 20 years

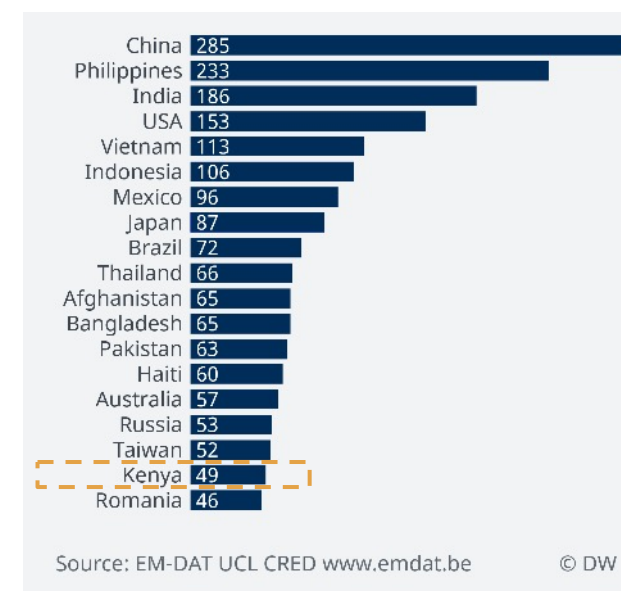


Image source: DW.com

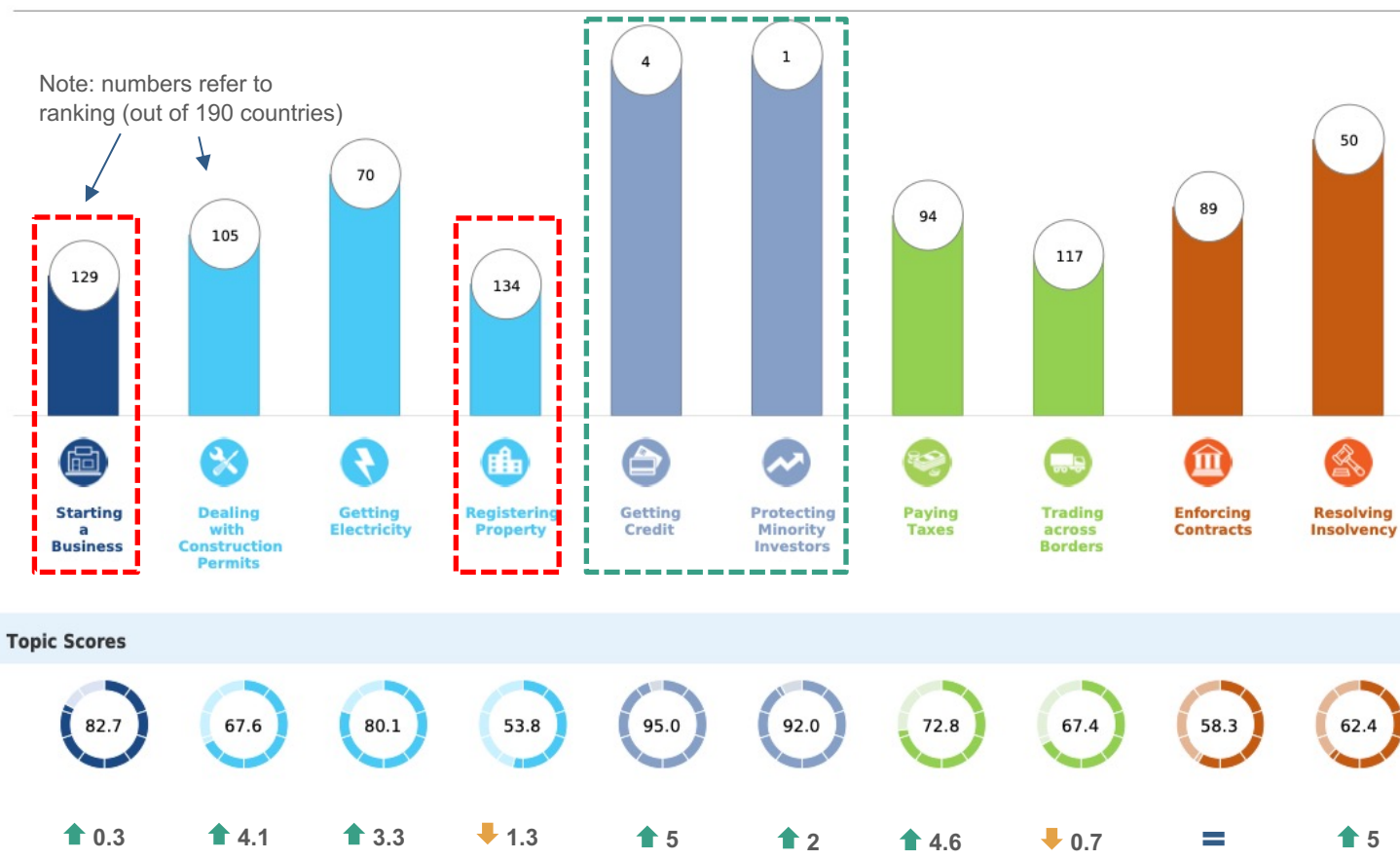
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Kenya presents itself as **apt for business**, ranking 3rd in SSA in the **Doing Business** index, but 25th for launching a new business

- The **World Bank Doing Business (DB) index** measures the regulations applying to small and medium-size companies in the country
- Improved ranking from 129th position in 2014 to **56th in 2020** worldwide (out of 190 countries)
- Kenya ranks **3rd in SSA** (out of 48 countries), after Mauritius (13th globally) and Rwanda (38th globally) and before South Africa (84th globally)
- Score has gradually improved from **56.3** in 2010 to **73.2** in 2020 (+2.2 from 2019)
- See [Appendix](#) for more details

Rankings on Doing Business topics - Kenya



Kenya ranks 1st across SSA in the Sustaining livestock score, with 5 out of 6 points in quality of veterinary products

	Enabling the Business of Agriculture	SCORE (0-100)	64.80
	Sustaining livestock	SCORE (0-100)	81.67
	Quality of manufactured feed index (0-5)		4
	Quality of veterinary medicinal products index (0-6)		5

- The **World Bank Enabling the Business of Agriculture (EBA)** assesses whether governments make it easier or harder for farmers to operate their businesses.
- Among its 8 indicators, the **Sustaining livestock indicator** measures **regulations** affecting domestic farmers' access to safe, high-quality and affordable livestock farming inputs for animal nutrition and health.
- Kenya ranks **first across Sub-Saharan African** countries (and 30th out of 101 countries worldwide) in terms of the Sustaining Livestock score (81.67), followed by Benin (65).
- See [Appendix](#) for more details.

Access to financial services – Limited uptake by SSPs and pastoralists, hindering their ability to buy quality inputs



Access to financial services for actors in the livestock value chain remains a challenge, especially for SSPs and pastoralists. Private financial institutions mainly serve large dairy operations but coverage of smaller and remote actors is currently left to public institutions and government-led programmes.



ACCESS TO FINANCE

- Low access to **agricultural finance**: **15% coverage** (formal and informal)², despite high ranking in the Doing Business index regarding access to credit regulations.
- **High cost of credit** for players along the livestock value chain.
- Most affected groups: **SSPs, pastoralists, women and youth**, who lack collateral required by conventional financial institutions.
- Majority of these groups access credit through **CBOs**, which is expensive and insufficient.
- The **Agricultural Finance Corporation (AFC)** established by the GoK in 1963 to provide affordable credit to farmers, struggles to meet demand and has limited coverage in the ASALs.
- **Examples** of financial institutions providing credit to livestock farmers: The **Kenya Livestock Finance Trust (K-Lift)**, Equity Bank, Kenya Women Finance Trust, Family Bank (see list [here](#)).
- Current **depreciation** trend of the Kenyan shilling poses a challenge for actors relying on imports.



LIVESTOCK INSURANCE

- Uptake of insurance **<1%** across agricultural population¹.
- Only a **few insurance companies** offer livestock insurance on commercial basis and mostly cover high value dairy animals.
- **Kenya Livestock Insurance Programme (KLIP)** launched by the GoK in 2015 to protect pastoralists against climate shocks, through subsidised satellite-based index insurance for livestock. As of July 2018, programme had paid KSh 400MN in premiums and over KSh 700MN in payouts to 32k beneficiaries⁴.
- Causes of limited uptake of livestock insurance common across markets:
 - risks associated with livestock farming such as drought and diseases
 - **limited awareness** of insurance products
 - **inadequate data** for designing insurance products
 - **limited capacity** of SSPs **to pay** premiums
 - **high cost of delivery** of insurance services, especially in the ASALs

Access to market data & extension – Suboptimal management and dissemination of market data and extension services



The lack of credible market information is especially significant in remote livestock markets. Advancements in technology and infrastructure are key to improve the access of livestock producers to market data and extension services.



ACCESS TO LIVESTOCK MARKET DATA

- An ILRI study from 2017 found that the **collection and dissemination of livestock market data**, while widespread, is currently **suboptimal**.²
- Lack of coordination and high costs of data collection efforts due to technical and infrastructural challenges, leading to an **unnecessary information asymmetry** along the value chain, uninformed HH decision-making, and poor service delivery.
- **Advances in ICT** have created new opportunities for innovative ways to improve access to market data and services.
- The **Kenya Livestock Marketing Council (KLMC)** aims to provide reliable market information to livestock producers and traders across the country. The organization supports **42 markets** being monitored under the **National Livestock Market Information System (NLMIS)**, a unified system of information on prices of different livestock species.



TRAINING & EXTENSION SERVICES

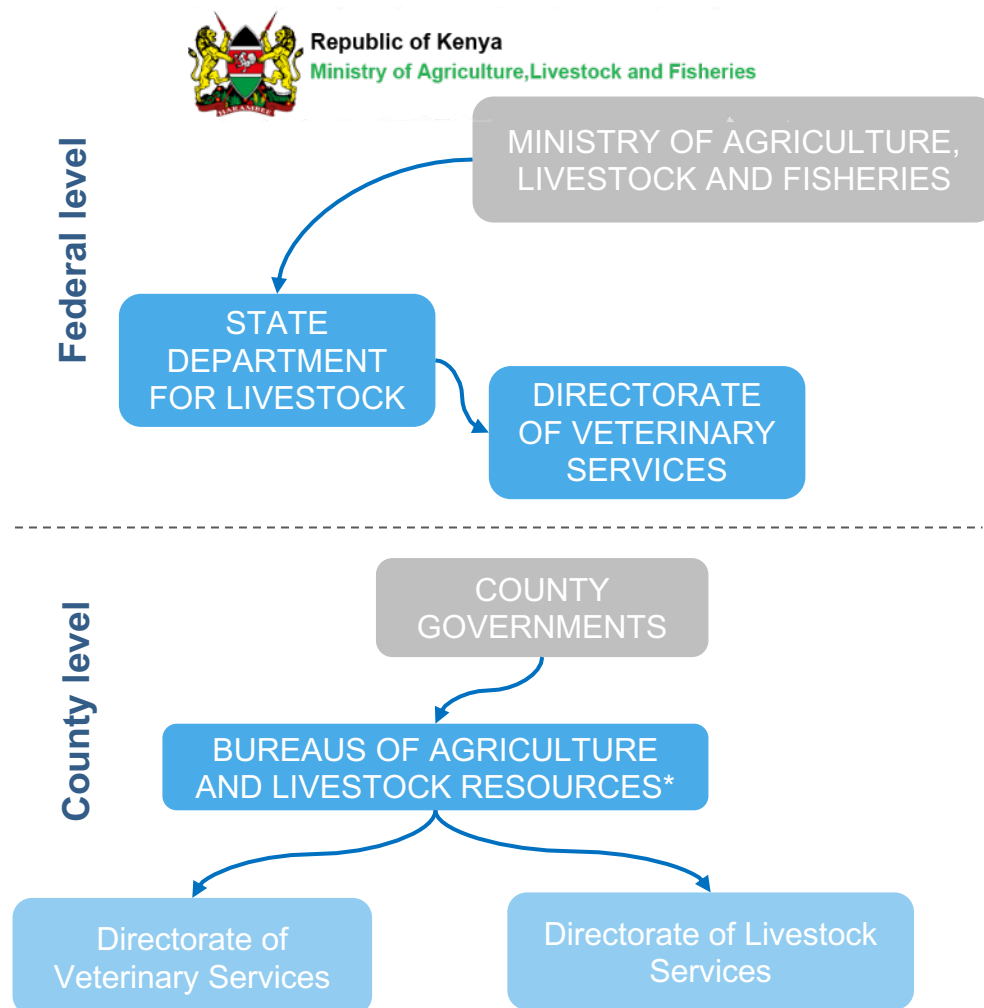
- Livestock extension is the mandate of the **county governments**, while the national government formulates policy, standards and builds capacities of service providers
- Other extension service providers: agro-veterinary pharmaceutical companies, animal feed manufacturers, milk processors, NGOs and CBOs. E.g. World Bank Kenya Agricultural Productivity and Agribusiness Project (2009-2015)
- **Limited collaboration** among **extension service providers** leading to duplication and conflict of interests.
- **Inadequate collaboration** between **research, training and extension**, results in limited access and poor quality of services.
- **Inadequate staffing** and funding for delivery of services at county level. While FAO recommends a 1:400 extension worker-farmer ratio, Kenya's ratio is 1:700 for intensive mixed farming systems, 1:640 for agro-pastoral system, and 1:1000 for pastoral systems.

1. Executive Summary
2. Context
3. Animal health overview
- 4. Enabling environment for animal health sector**
 - a. Doing Business in Kenya
 - b. AH regulation and national strategies**
5. Animal health market structure
6. Appendix



Regulation overview – Strong regulatory framework overseeing the AH market (1/2)

MAP OF REGULATORY ACTORS

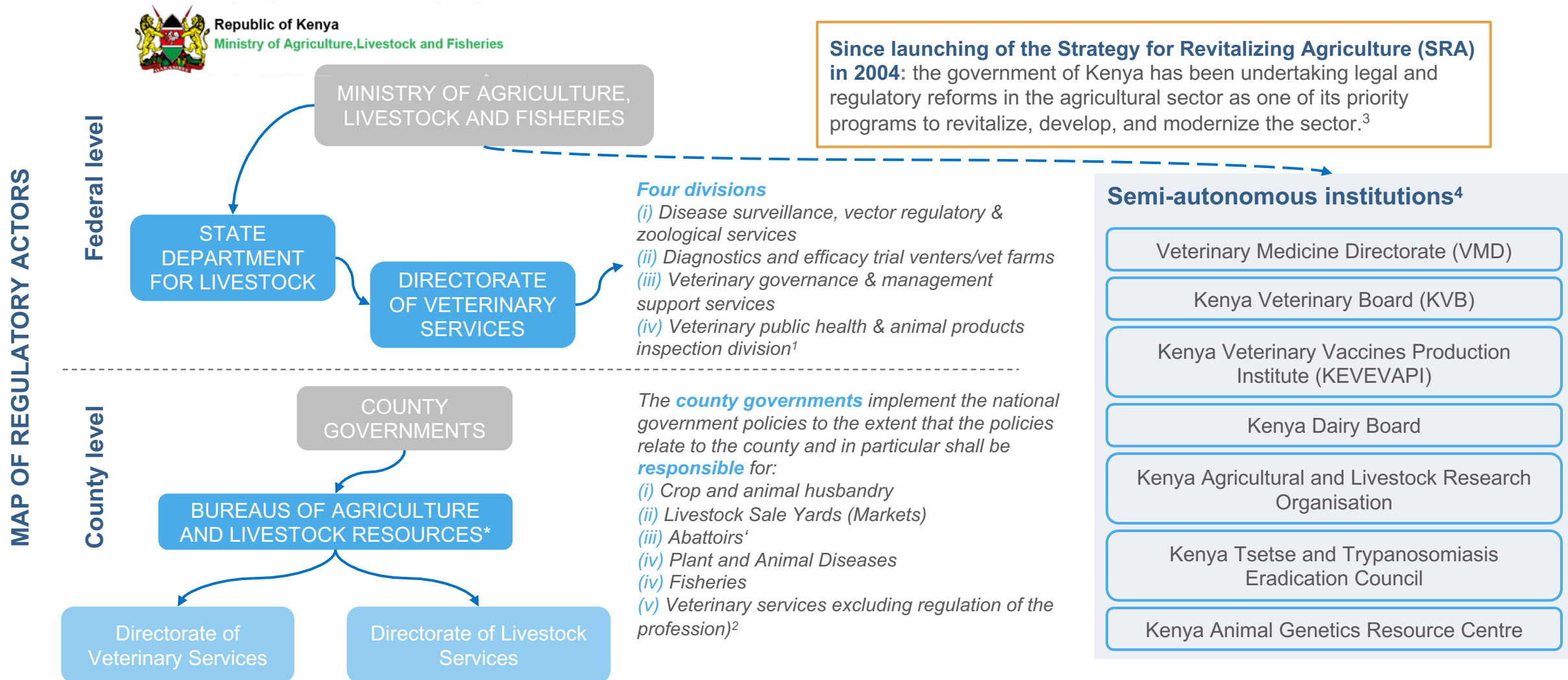


*Organization of the Bureaus of Agriculture and Livestock Resources will vary according to counties

REGULATORY KEY TAKEAWAYS

- Strong regulatory framework governing the animal health sector in Kenya
- The Veterinary Medicine Directorate (VMD) was created in 2017 to consolidate main AH regulatory activities in a single dedicated entity, but some consider the agency not yet fully established
- Some private sector actors identify registration costs and timescales as areas for improvement
- The National Livestock Policy (2019) targets the transformation of the sector from subsistence to commercial undertaking.
- Planned future legislation should simplify the sector's legal framework.

Regulation overview – Strong regulatory framework overseeing the AH market (2/2)



*Organization of the Bureaus of Agriculture and Livestock Resources will vary according to counties

National Livestock Policy (revised 2019) – Main strategy pursued by the government for the development of the sector



The National Livestock Policy (revised 2019, pending ratification) is the overarching framework that guides the development of the livestock sector in Kenya. In addition, three bills under parliamentary review will consolidate the livestock and animal health legislation bringing a much needed update and simplification to the legal framework.

CONTEXT: Latest approved version of the National Policy dates from Nov 2008. In Feb **2019** a **revision** of the policy was released to **align with the two levels of government** (National and County) as defined by the 2010 Constitution (4th Schedule). The 2019 revision is still pending ratification.

OBJECTIVE: Policy aims to support the transformation of the sector **from subsistence to commercial undertaking** and provides a comprehensive situational overview of the livestock sector's challenges and policy statements to address them.

IMPLEMENTATION:

- **National government** is responsible for developing regulations, standards, strategies and any other relevant policies through the ministry in charge of livestock and its agencies.
- **County governments** are responsible for implementation of this policy, developing their own policies, legislations, strategies and plans to guide the implementation. They cover animal husbandry, livestock sale yards, county abattoirs, livestock disease control, animal control and welfare.

LEGISLATION

There are currently **3 bills** (Livestock Bill, Animal Health Bill, Veterinary Public Health Bill) for parliament approval, which will **consolidate** the laws that govern the livestock subsector into only three acts of parliament. This is considered the **most transformative reform undertaken** in this subsector since independence.¹



Livestock and AH are addressed in national strategies in view of their economic importance



Presently, there are several policies and strategies guiding the development of the country and its livestock sector. The transformation of the livestock sector is expected to be so rapid that existing policies and strategies might become inadequate in few years' time to steer a sustainable growth of livestock.

The **Kenya vision 2030** – implemented through a series of Medium Terms Plans (MTP 2008/12, MTP II 2013/17 and MTP III 2018/22) – aims to transform Kenya into an industrialised middle-income country ensuring high quality life to all its citizens. Over and above the current MTP III, the President's **Big 4 priority agenda** (2019/22) is focusing on enhancing food security, affordable housing, manufacturing and universal health, modelled around Public-Private Partnerships (PPP).

The **Agriculture Sector Development Strategy** (ASDS – 2010/20), the **Food and Nutrition Security Policy**

(2011) and the **Kenya Climate Smart Agriculture Implementation Framework** (2018/27) guide the growth and transformation of the agriculture sector. They aim at enhancing sustainable agricultural productivity for food and nutrition security. They are complemented by the **Agriculture Sector Transformation and Growth Strategy** (ASTGS – 2019/29) that emphasises the importance of modernizing agriculture and shifting towards more value addition for attaining 100 percent food and nutrition security.

“Apart from the Kenya Vision 2030, these plans, policies and strategies are short to medium term and attempt to mainly address current issues and constraints.”

- FAO, The Future of Livestock in Kenya

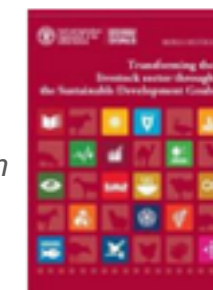
Links to the main Kenyan national strategies and plans



Kenya Vision 2030



Agricultural Sector Transformation & Growth Strategy



Transforming the Livestock Sector Through SDGs



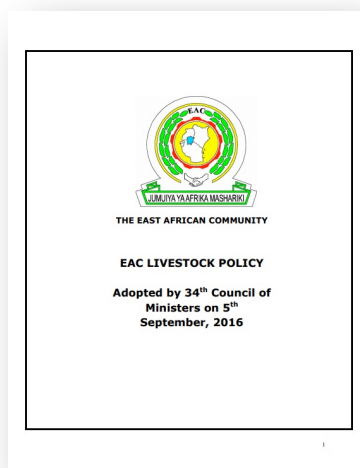
Eye on the big 4, Budget watch & Medium Term goals

Source: [FAO 2019](#)

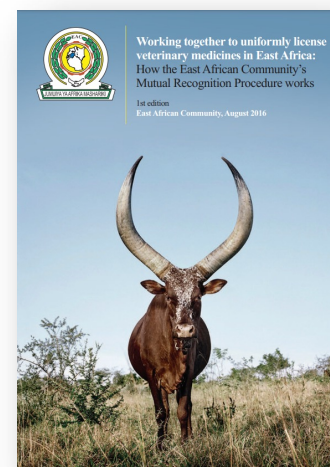
A growing importance of regional policies led by the East African Community

The East African Community's Livestock Policy - 2016

The East African Community's Mutual Recognition Procedure (MRP) - 2014



- **Objective:** foster focused and coherent set of strategic policy decisions and actions relevant to propelling and transforming EAC Partner States Livestock industry beyond the outcomes attained with the past and current livestock subsector policy instruments.
- **Goal:** attain an annual growth rate of at least 5.0% with significant livestock contribution to the agricultural GDP surpassing 50%



- **Objective:** MRP was adopted by EAC members in 2014 to harmonize the registration procedures of Immunological Veterinary Products (IVP), reducing duplication of assessments and site inspections for the same medicinal product throughout the regional economic community.
- **Advantage:** MRP is particularly valuable for manufacturers of veterinary vaccines, which is why the system has been introduced for them first
- [Guidance for applicants](#)



- The EAC Partner States comprise the Republics of Burundi, **Kenya**, Rwanda, United Republic of Tanzania and Republic of Uganda
- The EAC applies has a Common External Tariff policy. All pharmaceutical products, including animal health products, have **no tax applied at the time of importation within the EAC countries.**¹

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 - b. Product flow by product type
 - c. Ecosystem actor analysis
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Ecosystem map

Objective:

- Represent the interactions between the different categories of actors in the Kenyan AH ecosystem
- Provide a list of organisations for each category, with a link to their webpage (if available)

Methodology:

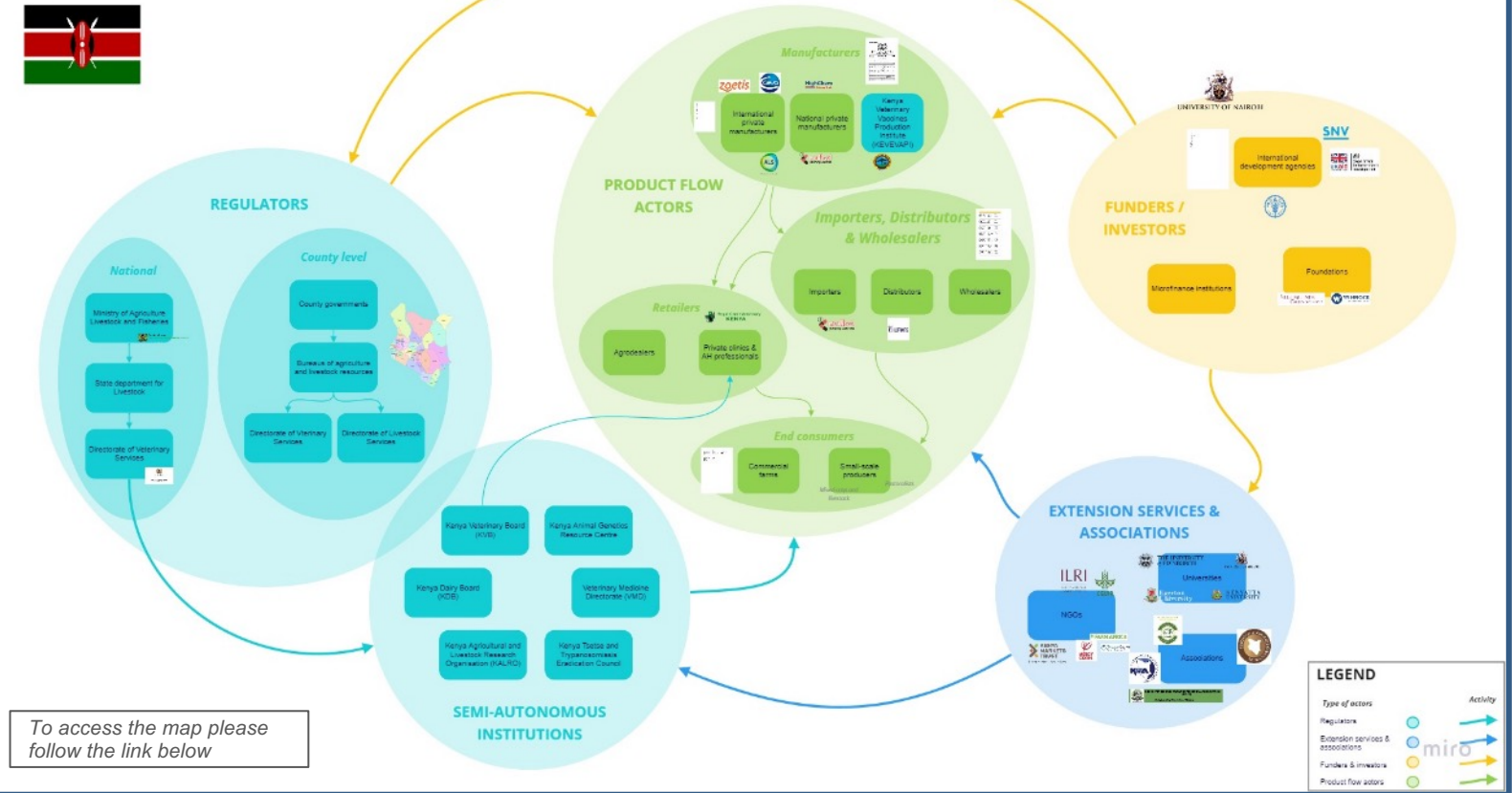
- The map has been constructed following a series of interviews with representatives from the different categories in the ecosystem and parallel desk-based research
- While the map of organisations aims to be as comprehensive as possible, the list is not exhaustive

How to access the mind map?

Visualization available on this link: [AH Ecosystem – Kenya](#)

*There is no need to download a program or app and websites or documents are available by clicking on them

Kenya Animal Health Ecosystem Map



Legend

- Regulators and regulating activities
- Product chain actors and product flow
- Extension services and association
- Funders and financial flows

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Manufacturers – An open and growing market, experiencing a rapid surge in the number of national private manufacturers



- While international manufacturers are the main suppliers of AH products in Kenya, market share of national private manufacturers is growing.
- The Kenyan AH market has proven itself a good opportunity for international manufacturers.*
- The openness of the AH market has allowed for the emergence of manufacturers with diverse business models, some deciding to control the entire product distribution chain.
- The main obstacle remains livestock keepers' awareness of the importance of quality AH products.

Opportunities

1. A **growing** market
2. **Limited AH product** supply, particularly in the ASALs, where most livestock is present
3. **Large number of distributors** in the market
4. **Ease of doing business** in Kenya and **trade** conditions
5. Increasing **digitalization** & world-leading adoption of **mobile money** (M-Pesa)

Challenges

1. Large presence of **cheap, inconsistent quality** AH products
2. **Lack of AH awareness** within SSPs
3. Small number of commercial farms and difficulty to reach **remote areas**
4. Lack of consistent **market data**
5. Duration of **product registration**, challenges to register products competing with KEVEVAPI
6. Identifying the appropriate **local importers**

Manufacturers – Overview

GEOGRAPHIC COVERAGE CENTRALISED AROUND NAIROBI



- National manufacturers are concentrated in and around **Nairobi**, close to **distributors** and **major commercial farms**.

ONE MAIN REGULATORY BODY



- Previously overseen by the Pharmacy and Poisons Board (PPB), the **VMD** is now responsible for issuing permits for the importation of registered drugs, medical devices and vaccines. The VMD falls under the Directorate of Veterinary Services (DVS) from the GoK.

A LONG BUT IMPROVING PRODUCT REGISTRATION PROCESS



- The **registration** of a drug can only be made through a **local entity**, either **(i)** the license or patent holder; **(ii)** the manufacturer (if local); or **(iii)** an authorized **local technical representative** (LTR). It can take an average of 12 months to register a product, but it often takes longer, including GMP inspections.

KEVEVAPI: A PARASTATAL INSTITUTION THAT MANUFACTURES VACCINES



- Even though **KEVEVAPI** has the support of the government, this does not give them competitive advantage in the market (see [slide](#))

IT IS ESTIMATED ONLY 5-10% OF AH PRODUCTS REACH THE MARKET THROUGH PUBLIC TENDERS



- Central role played by the **private sector** in the manufacturing and distribution of products.

Manufacturers – Types of manufacturers

FOUR TYPES OF MANUFACTURERS IDENTIFIED

1

International manufacturers
– branded

- Majority enter through local **importers and distributors** (see [slide](#))
- Some will also manufacture generics, but main business is branded products

2

International manufacturers
– generics (only)

- **Largest** actor in the market
- Majority Asian manufacturers
- Includes manufacturers of raw materials (e.g.: minerals) and AH components

3

National private
manufacturers

- Different **models**: **1)** manufacture from **raw materials**, **2)** contract with **international generic manufacturers**, **3)** repackage and **rebrand**
- Some actors combine these roles or change which role they play based on the product category
- Some may also be importers/ distributors

4

National public
manufacturer (KEVEVAPI)

- Focused on vaccine production (see [slide](#))

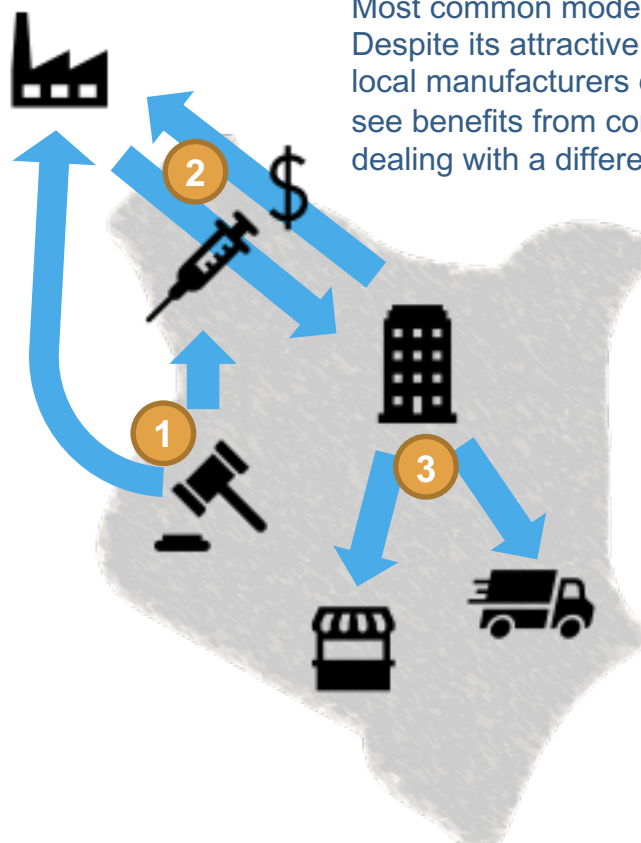
Manufacturers – Two market entry models for international manufacturers: direct exporting and local manufacturing



While international manufacturers have relied on the direct export model for a long time, the growing local competition may push them to find new ways of doing business in Kenya

DIRECT EXPORTING

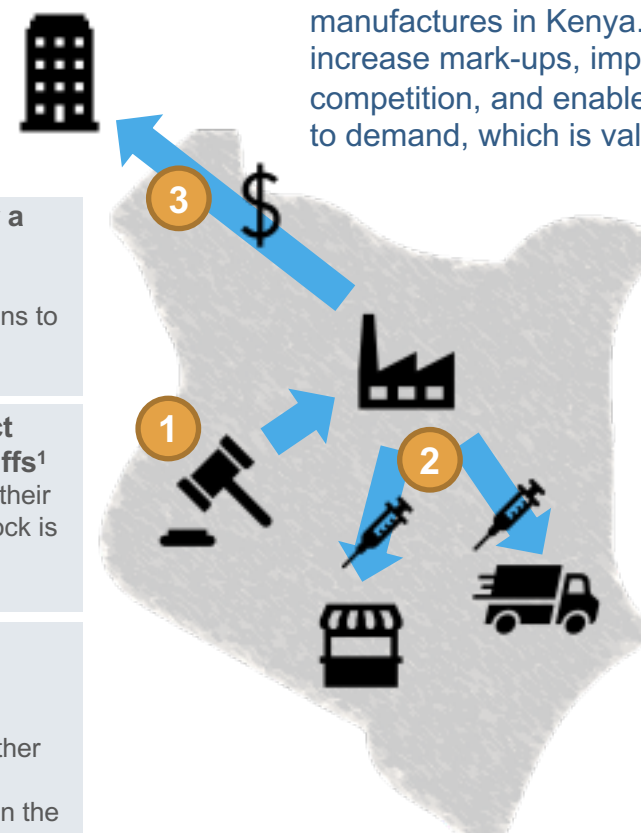
Most common model for international manufacturers. Despite its attractive simplicity, margins are likely to fall as local manufacturers develop. International manufacturers see benefits from contracting with various importers, e.g. dealing with a different importer per species.



- 1 VMD grants market authorization for a product**
 - Registration process requires Good Manufacturing Practice (GMP) Inspections to be carried out at the international manufacturing site
- 2 A local importer buys the AH product with 0% taxes, according to EAC tariffs¹**
 - International manufacturers often adapt their product packaging/sizing as most livestock is held by SSPs, who do not need large quantities
- 3 The local importer can either:**
 - Distribute the products itself to farms or through its own retail shops
 - Sell the products to a wholesaler or another distributor
 - Repackage the products and put them on the market through the above methods

LOCAL MANUFACTURING

In 2020, Norbrook is the only international manufacturer that manufactures in Kenya. This model can be riskier, but can increase mark-ups, improve understanding of consumers and competition, and enable them to rapidly adapt supply according to demand, which is valuable in this growing market.



- 1 An international manufacturer gets the authorization to manufacture locally (through franchising or contract manufacturing)**
 - They can decide to import the raw materials and agents or buy them locally
- 2 The local plant can decide to:**
 - Distribute the products itself to farms or through its own retail shops
 - Sell the products to a wholesaler or another distributor
- 3 Generated income can easily be transferred from the country, if required (no restrictions)**

Manufacturers – Zooming into KEVEVAPI, the parastatal vaccine manufacturer facing increased private sector competition



- KEVEVAPI is a parastatal institution established in 1990 in charge of manufacturing and marketing veterinary vaccines.
- KEVEVAPI is currently facing strategic challenges such as the need to modernise its facilities, which is preventing them from being a stronger vaccine alternative to the growing private sector.

- ▶ Turnover 2016/2017: \$3.53M USD
- ▶ Profit 2016/2017: \$100K USD
- ▶ In 2017, KEVEVAPI planned a \$14M USD **5-year programme for facilities modernisation** to be able to meet GMP certification required to access the international markets



Image source: KEVEVAPI Facebook site

Diseases covered by vaccines produced and commercialized by KEVEVAPI²

Poultry:

- Newcastle F strain
- Newcastle La Sota strain
- Fowl typhoid
- Turkey pox

Ruminant & equine:

- Bluetongue Disease
- CCPP
- CBPP
- FMD (2)
- Lumpy skin

- ORF
- Pasteurella
- PPR
- Rift Valley Fever
- Sheep & goat pox



Coverage and distribution³

- Kenya's "Vision 2030" strategic plan targets a significant capacity increase for KEVEVAPI to produce vaccines in order to reach an increased **national vaccination coverage from 10 to 80%**
- KEVEVAPI principally distributes through **pre-qualified suppliers and registered suppliers** as well as open tender processes for distributors
- KEVEVAPI has two sites with **significant development potential**:



93 Ha of land in Embakasi, principally producing FMD vaccines

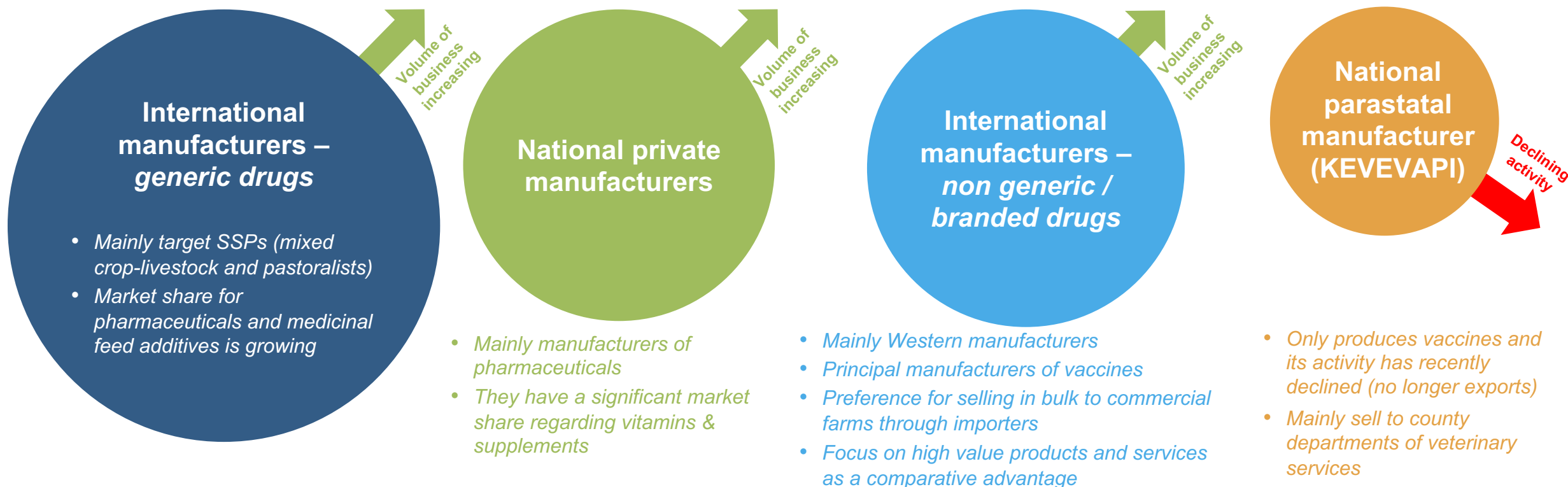


152 Ha of land in Limuru, producing non-FMD vaccines

6 main challenges identified by KEVEVAPI in its strategic plan 2018-2023¹

- Predetermined and unrealistic Institute's performance management targets;
- Inadequate funding and late disbursement of funds;
- Limited capacity among technical staff.
- Extreme weather conditions that affected vaccine usage
- Limited automation of critical production processes
- Negative publicity

Manufacturers – Growth by both international and national private manufacturers is indicative of market potential*



Legend :

- Size of circle = proportion of market share, indicative
- The arrows indicate the trends of future revenues for each actor regarding the growing market

*BMGF is sponsoring other studies and development of tools aiming to estimate the AH market potential

Source: Questionnaire and interviews run by Archipel&Co 2020

Manufacturers – Examples

Norbrook



HQ in Ireland
Manufactures in Banana
Hill, Kenya



Operating
since 1970



[Link to
website](#)

The only international company manufacturing AH products in Kenya

- Norbrook started manufacturing veterinary pharmaceutical in 1970 in Ireland
- By **1993** Norbrook had established a manufacturing presence in **Kenya** and began to produce animal health products for East Africa. They also distribute deliver their own products.
- Norbrook Kenya continues to deliver **steady growth** and now also has a **sales and marketing office in Uganda**, which allows them to be one of the most powerful players in the region.
- Their local manufacturing also allows them to answer **public tenders** more easily.

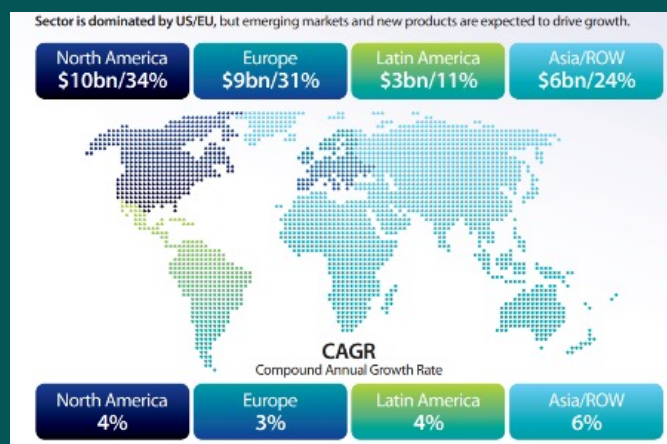


Image source: Norbrook website

Boehringer Ingelheim (BI)



HQ in Germany
EA Office in South Africa



Operating
since 1885



[Link to website](#)

BI is present in 15 African countries.

- A manufacturing unit was established in Pretoria in 1995. Most products in EA come from this unit.
- BI's go to market strategy in Kenya is based on **local partnerships to lessen the necessary investments in logistics. It is a minimal risk business strategy that does not need long-term commitments.**

Points of innovation:

- Part of the **LastMile initiative**, aiming to raise AH awareness among SSPs and drug shops by deploying teams of paravets carrying out field visits
- Sells **thermostable vaccines** for Newcastle Disease so that they can be used safely in remote areas

“Boehringer Ingelheim has been at the forefront of introducing a broad range of initiatives that are focused on creating sustainable value in Kenya and the wider African continent. We work with local, regional and multinational leaders to support the development of innovative healthcare solutions”

- Sabine Emmerich, Global lead of Making More Health
Venture4Change

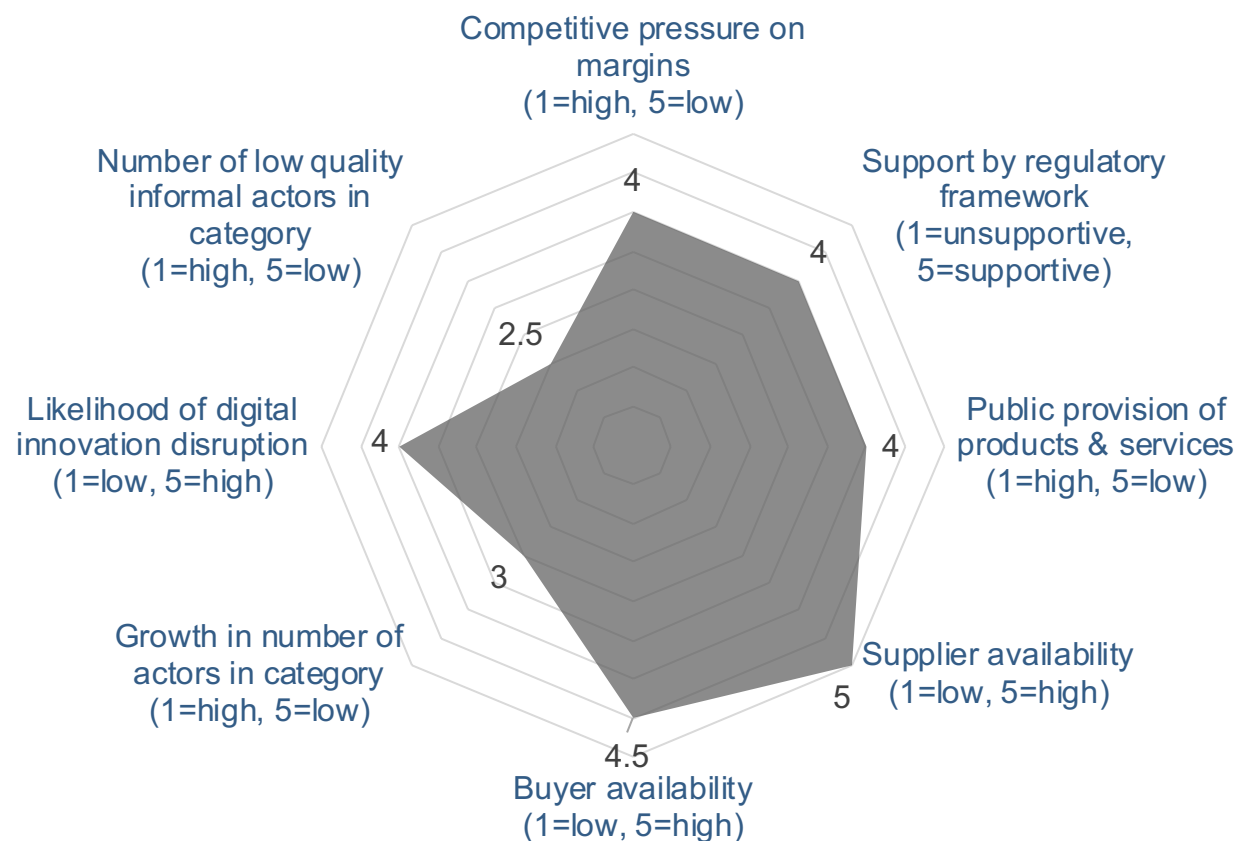
Manufacturers – Ease of doing business and high demand are driving growth of national manufacturers, but competition is still low



Image source: A&Co

The graph shows an **overview of the AH market** from the **perspective of new entrants or innovators** considering to enter the market as manufacturers. It includes **ratings across 8 factors** and ratings have been determined from both desk-based and interviews carried out as part of this study.

How to interpret the graph? Each factor has been rated from 1 to 5. Higher ratings (i.e., the larger the colored area) indicate a more attractive market for new entrants. For example, a rating of 5 on “Competitive pressure on margin” should be read as a low competitive pressure. On the other hand, a rating of 5 in “Buyer availability” should be read as high buyer availability.



Importers, Distributors & Wholesalers – Have significant power in the ecosystem, with direct links to manufacturers and customers



While some countries mandate that importing, distributing and wholesaling activities are done by different companies (with different licenses), Kenya's regulation allows for one company to do several of those activities. Thus, it can be difficult to distinguish actors based on activity type. Differentiation can be done according to: (1) whether they can import and (2) the geography they cover. In addition, some of the biggest actors will also hold a manufacturing license.

Opportunities

1. **Many players** keep the market competitive
2. **Ease of doing business** in Kenya and favourable trade conditions
3. A **growing** demand for AH products
4. Visibility of **the whole distribution chain** all the way to the end consumer

Challenges

1. **Lack of quality control** of storage & distribution of AH products
2. **Opacity of market figures** keeps risk of market failure high
3. **Transportation & last mile delivery**
4. **Education & awareness of SSPs** regarding quality AH products

Standard* product flow from importers to retailers

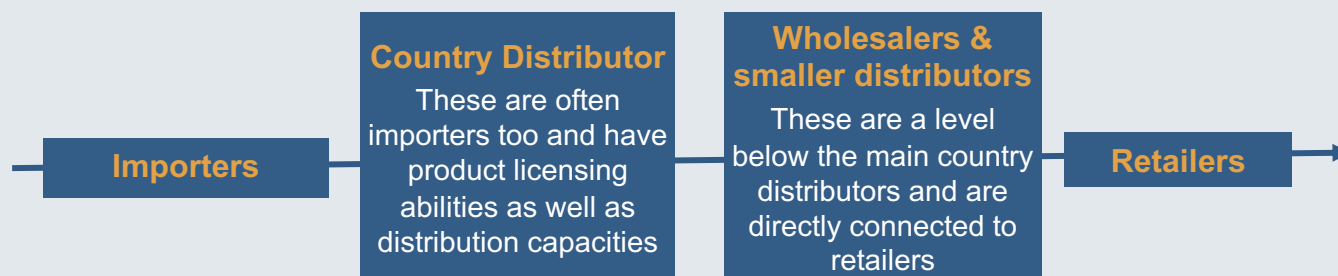


Image source: A&Co

* The product flow is often collapsed, where several activities are carried out by the same companies

Importers, Distributors & Wholesalers – Overview

GEOGRAPHIC COVERAGE CENTRALIZED
AROUND NAIROBI BUT REACHING MOST
REGIONS



- Most importers and distributors are **headquartered around Nairobi** but have **distribution hubs all around the country**. The ASAL's are the most underserved region, due to transport infrastructure limitations and lack of intensive farming.

ONE MAIN REGULATORY BODY



- The **VMD** is responsible for regulating the entire product flow.
- No taxes for importing AH products in Kenya, as planned by the EAC Custom Union common external tariff

ONE OF THE MOST POWERFUL ACTORS ON
THE DISTRIBUTION CHAIN



- As they hold a large amount of market information and enjoy close relationships with actors upstream and downstream.

EVEN IF ACCESS TO FOREX IS NOT AN ISSUE,
THE HIGH VOLATILITY OF THE KENYAN
SHILLING IS A CHALLENGE FOR IMPORTERS



- Transacting in another currency or selling KSh, managing **foreign exchange risk** is complex.

NON-EXCLUSIVE CONTRACTS WITH
INTERNATIONAL MANUFACTURERS



- Most importers and distributors deal with **several manufacturers**. The fluctuating nature of the market pushes them to increase the number of partnerships in order to ensure supply.

ONE DEDICATED ASSOCIATIONS

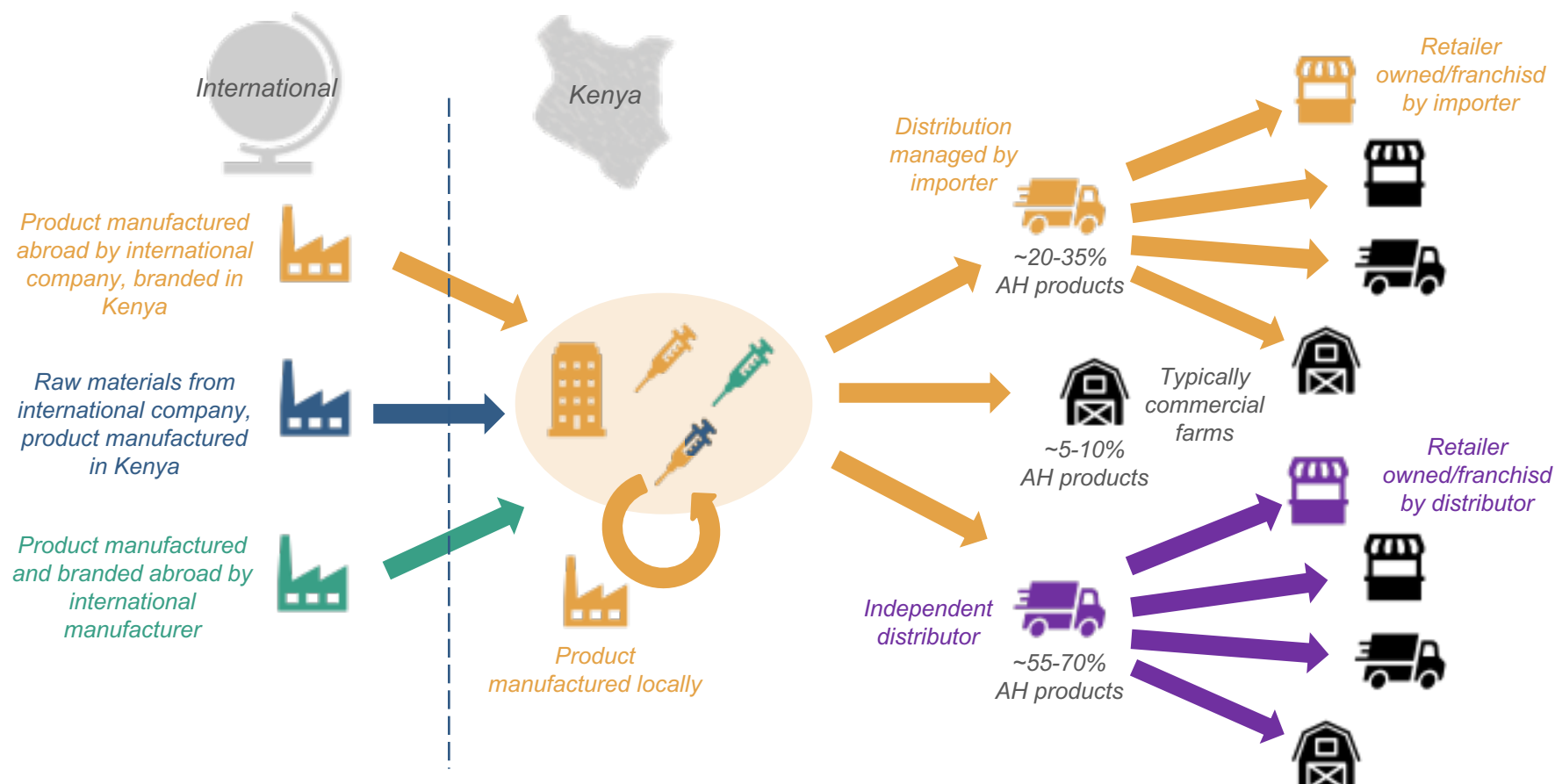


- **VISAK** (Veterinary Inputs Suppliers Association of Kenya)
- They promote proper use of animal health products, fair practice in the industry, conduct public awareness, and articulate and address their needs.

Importers, Distributors & Wholesalers – Diagram of the possibilities of product flow control by different actors

An importer can:

- Have its **own production** abroad through contracted manufacturers (eg. Medisel) (Orange)
- **Buy raw materials/agents** from international manufacturers and finish production in Kenya (Blue)
- **Buy finished, branded AH products** from international manufacturers (Green)
- **Repackage and rebrand** imported generic AH products or manufacture locally from raw materials (Circular orange arrow)



Legend



Product flow managed by importer



Product flow managed by independent distributor



Manufacturer



Importer



Distributor



Retailer



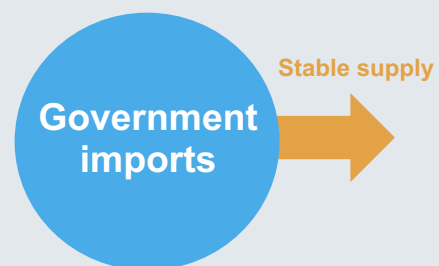
End consumer



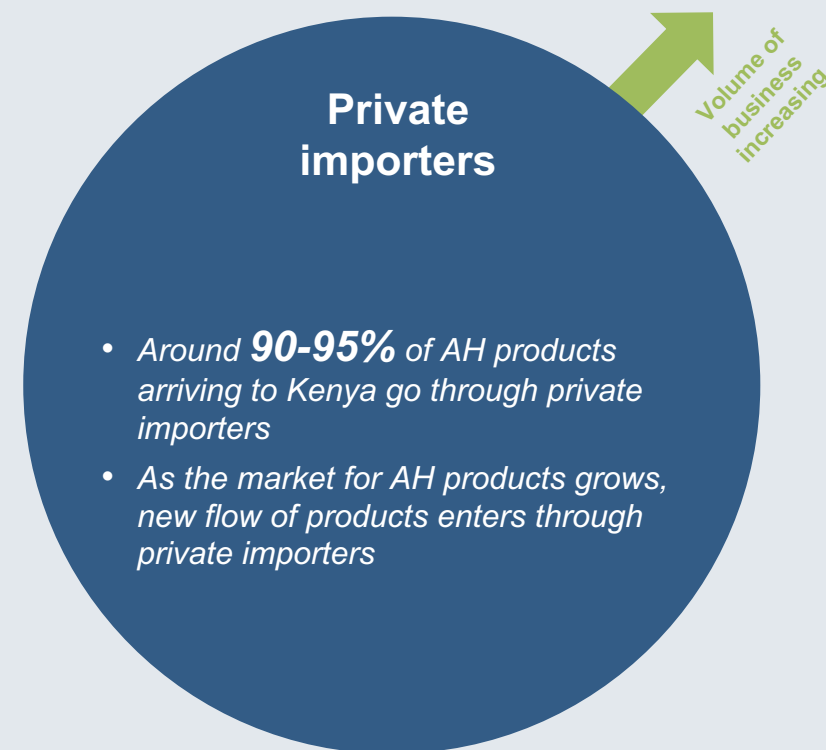
AH Products

Importers, Distributors & Wholesalers – Vast majority of AH products enter Kenya through private importers, not public tenders

Market share of importers based on the totality of AH imported products present in the country



- Around **5-10%** of AH products arriving to Kenya go through public tender purchase.
- Tender imports are managed directly by the county departments of veterinary services without the need for intervention by private importers.



- Around **90-95%** of AH products arriving to Kenya go through private importers
- As the market for AH products grows, new flow of products enters through private importers

Legend:

- The size of circles is an estimation of the market share of each actor
- The arrows indicate the trends of future revenues for each actor regarding the growing market

Importers, Distributors & Wholesalers – Example

Medisel Kenya Ltd.



HQ in Thika



Operating since
1994



<https://www.mediselkenya.com>

One of the top 5 pharma companies in Kenya for over 20 years (Human & AH)

- **Three main activities:**

- **Manufacturer:** produces AH products that do not need a sterile environment; also contract with international manufacturers (mainly in India) to manufacture Medisel branded products.
 - **Importer:** imports finished branded products from companies in Asia and Europe (e.g. Boehringer Ingelheim).
 - **Distributor:** Most of their products are intended for SSPs. Hence around 95% of their products are sold to wholesalers and retailers.
- Annual turnover of **+\$50M USD**
 - Flagship company & parent company of Dawa Ltd
 - Their production is also exported to other Eastern African countries, but their main market remains Kenya



Image source: A&Co

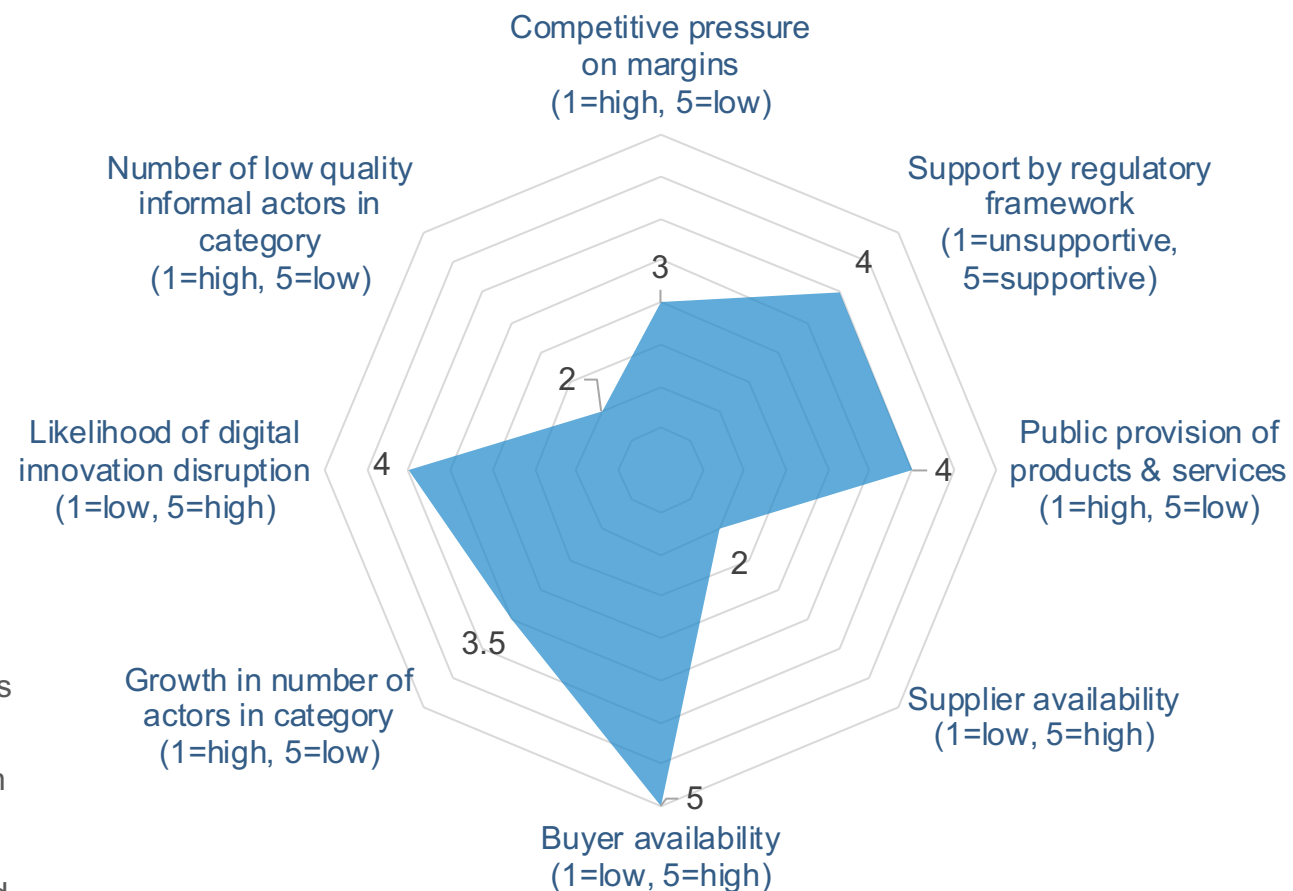
Importers, Distributors & Wholesalers – Competitive segment, where some actors control large part of the value chain



Image source: A&Co

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Retailers – With over 10k outlets in the country, agrodealers are the main link with end customers and play a key role in the product chain



“Agrodealer” is the name given to the small-scale independent stockists or dealers of farm inputs, including veterinary products. Given the privatization of the market, they have become the main distribution player connecting to the end consumer. Their number has steadily increased in recent years, alongside the AH market growth.

Opportunities

1. **Rising number of private national manufacturers** that will increase the available supply
2. The **developing Kenyan infrastructure** is improving the means of distribution
3. **Including veterinary services in their offer** to have competitive advantage

Challenges

1. In areas densely populated by livestock, **agrodealer competition is strong**
2. **Having enough financial resources to buy in large quantities** from importers or distributors
3. **Stock management** & delivery times
4. **Accessing market information**

Today, there are around
10,000 agrodealers
in Kenya¹



More and more, local manufacturers are trying to sell direct through agro-dealers. They are using M-Pesa USSD systems to do reverse credit terms i.e. the farmer places an order, gets a code and takes that code to a registered dealer. The dealer will then get their markup settled.



- Importer of silage inoculants

Retailers – Overview

GEOGRAPHIC COVERAGE



- Agrodealers locations follow the market opportunity and are concentrated in areas with large **livestock population and higher incomes**, increasing competition locally.

TWO DIFFERENT LEVELS OF REGULATORY BODIES, NATIONAL VS COUNTY



- Agrodealers are **not exclusive to the AH** sector, thus the regulatory bodies will vary. For veterinary products, there licenses are provided at two levels:
 - *Nationally: **VMD** grants licenses to stock and sell veterinary products, and the KVB awards licenses to veterinary professionals, which is a requirement to be an agrodealer*
 - *County: the **county administration** grants licenses to operate as an agrodealer*

AGRODEALERS FACE SUPPLY ISSUES



- Despite having access to **many supplying companies**, the **prices** offered can vary greatly (subject to stock availability), as well as the **quality** of their service (delivery times can be long). Therefore, agrodealers need to be aware and follow market information daily, which can be challenging.

MOST AGRODEALERS SELL BIOLOGICALS



- The Kenyan **electrification rates** (from 36% in 2014 to nearly 75% in 2018)¹ allows retailers maintain the cold chain and to sell vaccines.
- Most vaccines come from KEVEVAPI, but international private manufacturers are growing.

PRIVATE OWNERSHIP



- Agrodealers are **private businesses**.
- Majority of private clinics also operate as agrodealers and are owned by the same veterinarians.

Retailers – Examples

Retailer #1 - Anonymous



Kajiado



Operating since
2019



Vet technologist

Sells vet products as well as crop products. The vet technologist is the newest agrodealer in his area and is confident that by developing a good relationship with his costumers he will be able to differentiate from the others.

- **Main clients:** small scale farmers, who keep livestock for subsistence and a few small commercial farms.
- **Monthly turnover:** very irregular and seasonal. Before COVID-19 monthly revenue averaged 180k KES (\$1 654 USD) including crop products, but it went down to 120k KES (\$1 100 US) at the start of the pandemic (now stabilizing).
- **Suppliers:** while some distributors have general vet products and feeds, he has to deal with various specialized distributors to be able to access specific products.
- **Mark-ups:** he can apply bigger mark-ups to drugs than feeds, in particular when he buys in bulk
- **Additional services:**
 - *Partnered with a registered vet, who does ambulatory services*
 - *Accepts orders placed manually by phone and paid via M-Pesa*



Kilimo Bora Agrovet



Kiambu



Operating since
2018



Anne, crop protection
expert & Dr Makumi, vet
surgeon

Kilimo Bora Agrovet is specialized in crop products but also sell AH products. Farmers in their region are mostly mixed crop and livestock farmers, who prioritize crops.

- **Monthly turnover:** can vary between 250k and 300k KES (\$2 300 USD and \$2 760 USD), without including vaccines. AH sales are higher during the rainy season due to increased disease incidence. Crop business is bigger in terms of revenue.
- **Competition:** there are more than 100 agrodealers in their region, strong competition. They are offering added services as a differentiator.
- **Suppliers:** around 150 products coming from 40 to 50 different suppliers. It often takes a long time to have products delivered. Sometimes they will try to buy directly from national manufacturers.
- **Products:** all species. At least 70-80% of their products are Kenyan but some might have been repackaged in Kenya but produced abroad. Most internationally manufactured products are from CEVA.
- **Additional services:**
 - *Partnered with KEVEVAPI to serve county officers, acting as intermediary between the manufacturer and the counties*



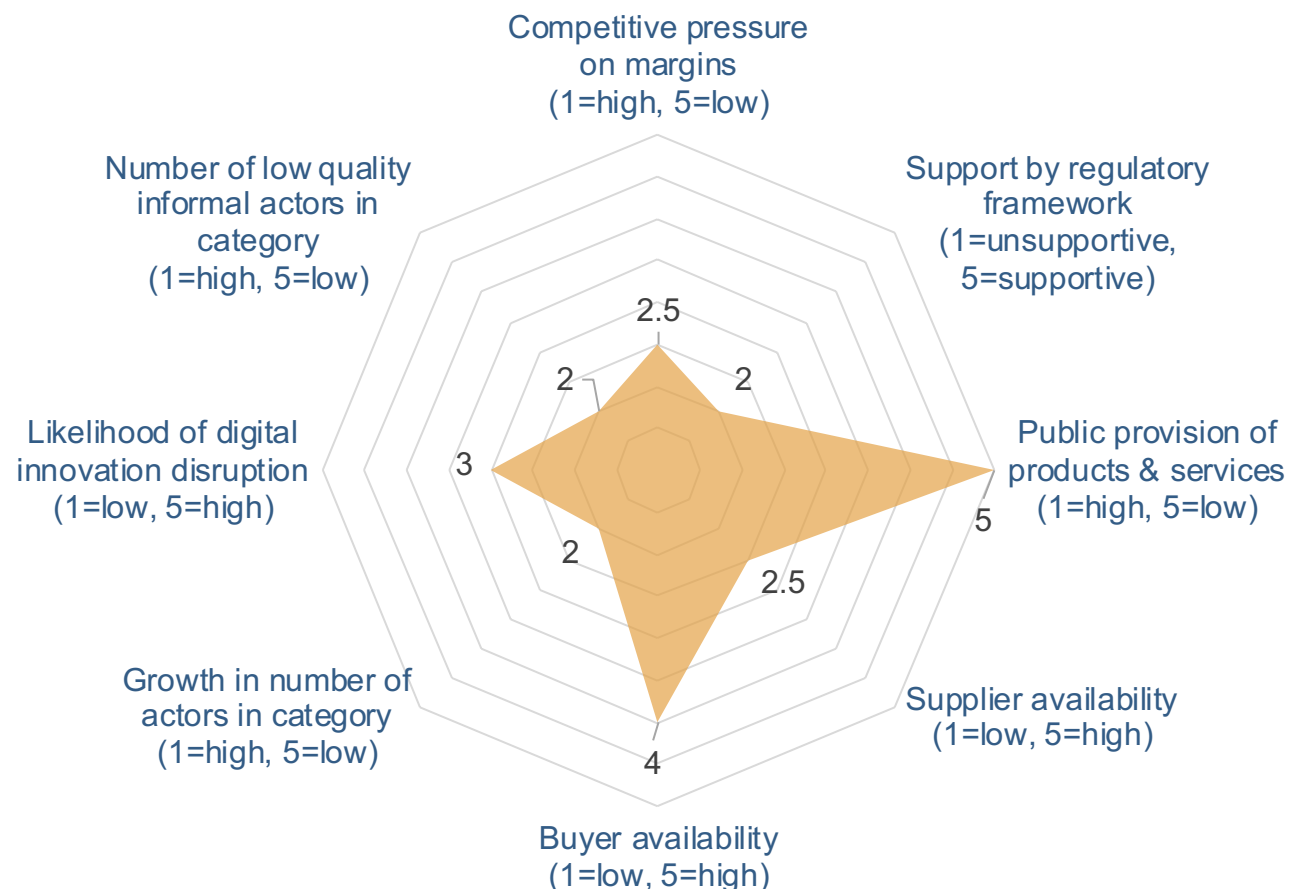
Retailers – A rapidly growing segment but whose sales are often dominated by agro inputs



Image source: A&Co

The graph shows an **overview of the AH market** from the **perspective of new entrants or innovators** considering to enter the market as retailers. It includes **ratings across 8 factors** and ratings have been determined from both desk-based and interviews carried out as part of this study.

How to interpret the graph? Each factor has been rated from 1 to 5. Higher ratings (i.e., the larger the colored area) indicate a more attractive market for new entrants. For example, a rating of 5 on “Competitive pressure on margin” should be read as a low competitive pressure. On the other hand, a rating of 5 in “Buyer availability” should be read as high buyer availability.



Clinics & AH Professionals – Relatively low number of qualified AH professionals not aligned with sector growth, unable to meet demand



Following the privatization of the veterinary clinical services in 1989, many veterinary surgeons and veterinary paraprofessionals joined the private sector and there was an emergence of unqualified practitioners. Today, the veterinary services sector in Kenya is still weak, an important challenge for the development of the sector.¹

Challenges

1. Need for **stronger enabling environment** that provides vets and paravets with the financial and institutional support they need
2. Potential **conflict of interest** between vet services (e.g.: diagnostics) and the agrovet businesses



KENYA VETERINARY BOARD

UPHOLDING VETERINARY STANDARDS

Our Vision

To be a regional model regulating agency for veterinary training, business and practice

The government intends to strengthen the animal health delivery system by establishing **mobile animal health clinics**, screening units and disease surveillance mechanisms²

700 new AH practitioners are registered annually by KVB¹

Many private clinics **also operate as agrodealers** and are owned by the same veterinarians



Image source: A&Co

Clinics & AH Professionals – Overview

GEOGRAPHIC COVERAGE



- **Few AH clinics** in Kenya and revenues from livestock are not enough to set up a clinic.
- Largest revenues come from pets or from the sales of AH products that come with the vet services. Vets are also scarce, particularly in the northern regions.

ONE MAIN REGULATORY BODY



- The **Kenyan Veterinary Board (KVB)** is the main regulatory body of veterinarian services, setting standards for veterinary training and practices; and overseeing the registration and licensing of veterinary practitioners, businesses and institutions.

THERE ARE DIFFERENT LEVELS OF VET PROFESSIONALS



- The main ones being veterinary surgeons and para veterinary professionals

THE VETERINARY ACT



- Outlines training, registration & licensing of vets and paravets for AH services, welfare and other such matters.


DEDICATED ASSOCIATIONS




- KVA (Kenya Veterinary Association), KVPA (Kenya Veterinary Paraprofessional Association), AHTTAK (Animal Health Technician Association of Kenya) and KASPA (Kenya Animal Scientist Practitioner Association)

Clinics & AH Professionals – Examples

Royal Crest Veterinary Clinic

 Mombassa Road Namanga Road, Nairobi

 Dr Kibaria,
Veterinary Surgeon



Royal Crest Veterinary
KENYA

The clinic is in a Maasai region and specializes in livestock, pets and exotic animals. Dr Kibaria is also an agrodealer (2 shops) and works with commercial farms. His main revenues come from the sale of products and not from the vet services.

- **Team:** 2 veterinary surgeons and 4 paraprofessionals
- **Three activities:**
 - **Clinical services:** these can be ambulatory or at the clinic. To reach out to pastoralists, he will covers and area of 100km around
 - **Advisory services to commercial farms**
 - **Agrodealer**
- **Turnover:** for his clinical services, 35% of the turnover come from pets and 65% from livestock
- **Challenges:**
 - **Changing treatment habits:** over the last 30-40 years, livestock keepers have been buying drugs on their own, which has led to overdoses and antimicrobial resistance
 - **Recognition of the financial value of veterinary services**
 - **Late payments**



Image source: A&Co

Livestock Keepers – Most livestock is owned by SSPs engaged in mixed farming or pastoralism



The end consumers of AH products and services are mainly divided into subsistence and commercial farmers. Kenya's agri-business sector is very active, drawn by an open operating environment and opportunities to inform, equip, and sell to farmers while improving animal health and productivity.

Mix crop and livestock production systems

- Mainly found in urban and peri urban areas and high rainfall areas
- Priority is crop, livestock comes second. Subsistence activity with a small number of animals (2-10), mainly cattle and small ruminants

Access to AH products:

- Primarily buy pharmaceuticals and vitamins/supplements from agrodealers but their main AH expense are feeds
- Rarely vaccinate their animals

Pastoralists and agro-pastoralists

- Mainly found in the ASALs (which cover 75% of total surface land)
- Pastoralists keep a large number of animals, mainly cattle, indigenous breeds of sheep, goats and camels

Access to AH products:

- Veterinary drugs are their main expense
- CAHWs play an important role in facilitating access to veterinary medicine
- Subsidies provided by GoK on major vaccines are rising

Commercial or specialized farming

- Mainly found near trading points and near urban and peri-urban markets
- Mostly focused on dairy, followed by ruminant meat and poultry

Access to AH products:

- Buy AH products directly from manufacturers, importers or wholesalers; feeds are their main expense
- For ad-hoc needs, they will purchase products at agrodealers
- Easy access to products and often hire AH experts

Role of NGOs and development agencies in the AH sector

Role of NGOs and Development Agencies in the AH sector

- Provision of extension services and education to SSPs, pastoralists on AH diseases and medicines
- Building trust on the ground for outside agencies
- Grassroot level data gathering from livestock keepers
- Support national and state governments in policy and strategy development and implementation
- Financial support and philanthropy
- Important research, publication and data collection on livestock sector.
- Act as interface between local communities and government

Objectives of their work in Kenya

- Partnership building between NGOs and international development agencies powerful to resolve market failures and policy gaps.
- NGO's have an important role of trust-building and education, especially in the ASALS with pastoralists.
- Improvement in health outcomes, productivity & reproduction of animals due to improved access to services.

Examples of livestock related programs in Kenya

- LD4D site records 40 livestock projects in Kenya by 36 grantees
- Main funders: BMGF, DFID, USAID
- Grantees include academic/research organizations (e.g. ILRI), NGOs (e.g. Save the Children UK), private organizations (e.g. Land O'Lakes) or UN agencies (e.g. UNICEF)
- Program: **Index Based Livestock Insurance**
- Funder: DFID
- Grantee: Crown Agents Bank
- Objective: uses satellite technology to protect pastoralists in the remote, arid and drought-prone rangelands of Kenya from the impacts of extreme weather.³
- Program: **More Milk – Making the most of milk**
- Funder: BMGF
- Grantee: ILRI
- Objective: aims to generate research evidence on how informal milk markets can be leveraged to improve nutrition and health, especially in peri-urban settings.⁴
- Program: **Kenya Dairy Sector Competitiveness Program**
- Funder: USAID
- Grantee: Land O'Lakes International
- Objective: strengthen the competitiveness of Kenya's dairy industry through increasing economic revenues in the entire dairy value chain, particularly for smallholder farmers⁵

The informal sector

KEY INSIGHTS

TYPES OF INFORMALITY

- **Products: counterfeit medicines** and fake drugs sold to unsuspecting customer; **low quality** (expired, diluted vaccines/medicines).
- **Informal and itinerant drug traders**, unauthorized outlets.
- **AH workers**: unqualified/fake vets, unofficial practice of public sector workers.

IMPACT

- Causes market failures and skews the actual demand rates.
- Drug Resistance: Rampant and indiscriminate use of antibiotics leads to drug resistant diseases.
- Misuse of Drugs: Lack of knowledge and education among SSPs leads to misuse of drugs threatening animal health and product.
- Health of Kenyans: Through animal products like meat with harmful levels of antibiotics.
- High mortality rates, low productivity: Creates lower quality animal products and high mortality.
- Economic losses: The presence of counterfeit drugs skews the market causing market failures.

FACTS

- 80% of livestock suffer from drug misuse, affects health of animals and trade in Kenya
- The counterfeit trade is a billion-dollar trade in Africa
- Port of Mombasa notorious entry point funneling 12 MN units of pharmaceuticals & vet drugs
- AHTTAK reported that it caused health risks and economic losses.

SOLUTIONS

REGULATION

- Measures adopted by VISAK to draft policy & regulation for proper use, fair practice, public awareness
- VMD does infrequent inspections to curb the counterfeit practice.

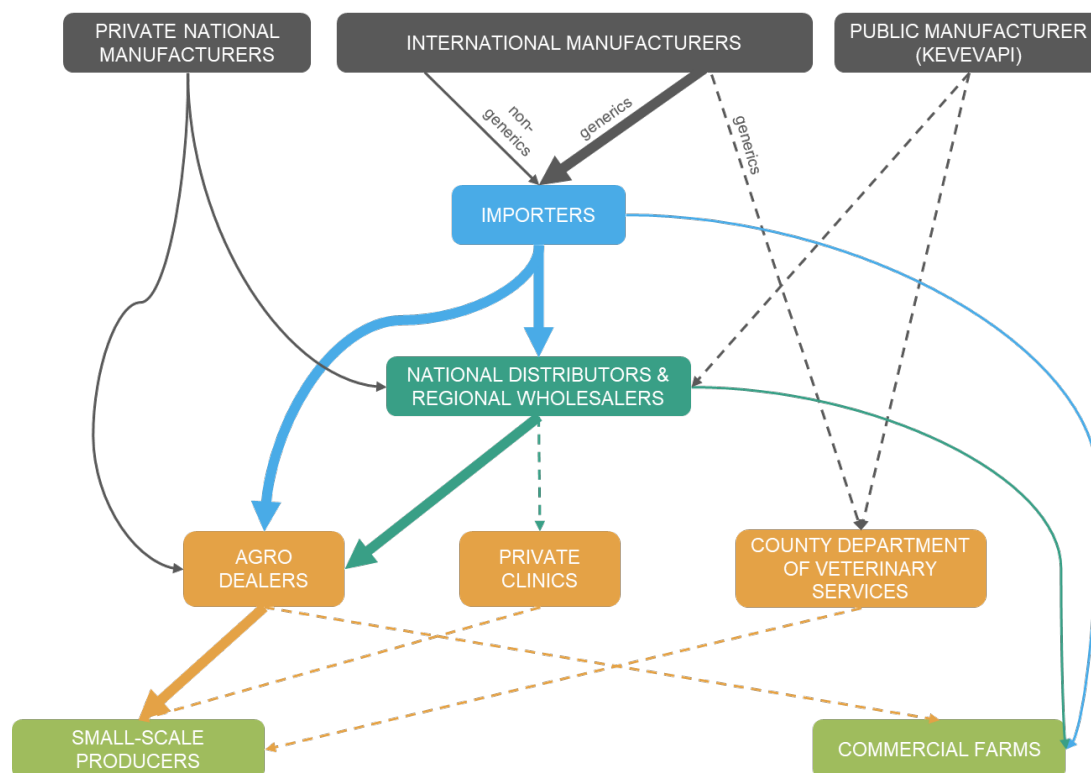
POSSIBLE SOLUTIONS

- Better end customer education (especially SSPs and, in particular, pastoralists in the ASALs)
- Enforcement of regulation in storing, dispensing, selling and use of products. Potential role of associations supporting authorities in enforcement activities
- Explore technology solutions (e.g. blockchain) for improved traceability

1. Executive Summary
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- 5. Animal health market structure**
 - a. Ecosystem map
 - b. Product flow**
 - c. Ecosystem actor analysis
 - d. Trends and innovations
6. Appendix



General AH Product Flow – Key Learnings



See next slide for larger/readable view of the product flow diagram

- **The Kenyan AH product distribution chain is dominated by the private sector**
 - Contains actors playing multiple roles at the same time in order to bypass some categories of actors and increase mark-ups
- **As direct exporting is the main market entry strategy used by international manufacturers, importers hold a large influence in the product flow. The growth of national private manufacturers is changing the market.**
 - Most AH importers and local manufacturers are based near Nairobi, which is considered the center for the Kenyan AH distribution chain.
- **Most Kenyan livestock keepers are SSPs and agrodealers play a key role in the product flow as their main suppliers.**
- **Access to AH product is easier in areas of the country where infrastructure is more developed and farming more concentrated**
 - The ASALs are underserved
- **Counties rarely publish public tenders and have a relatively small role in the AH product flow, except for vaccines.**
- **The largest mark-ups are applied by actors at the top of the product flow, event if these can vary between products and according to demand.**

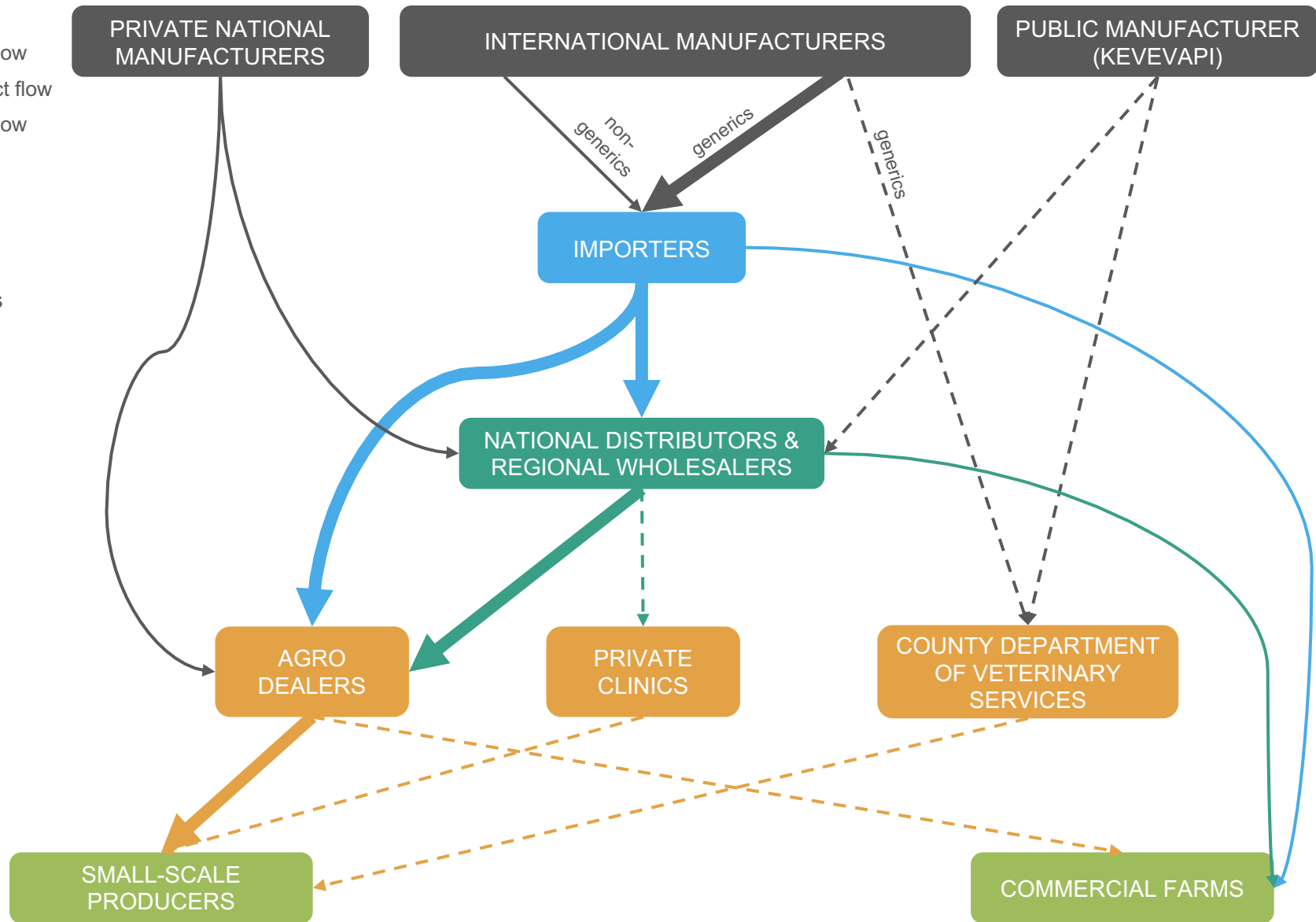
General AH Product Flow – Diagram

- Minor product flow
- Average product flow
- Major product flow

*NOTE: Mark-up information is indicative based on qualitative interviews

* Generics and non-generics have been separated in the product flow as their distribution routes are often different

Source:
Questionnaire,
interviews and field
study led by
Archipel&Co 2020



MANUFACTURERS

17-25%
mark up*

IMPORTERS

10-30%
mark up

DISTRIBUTORS

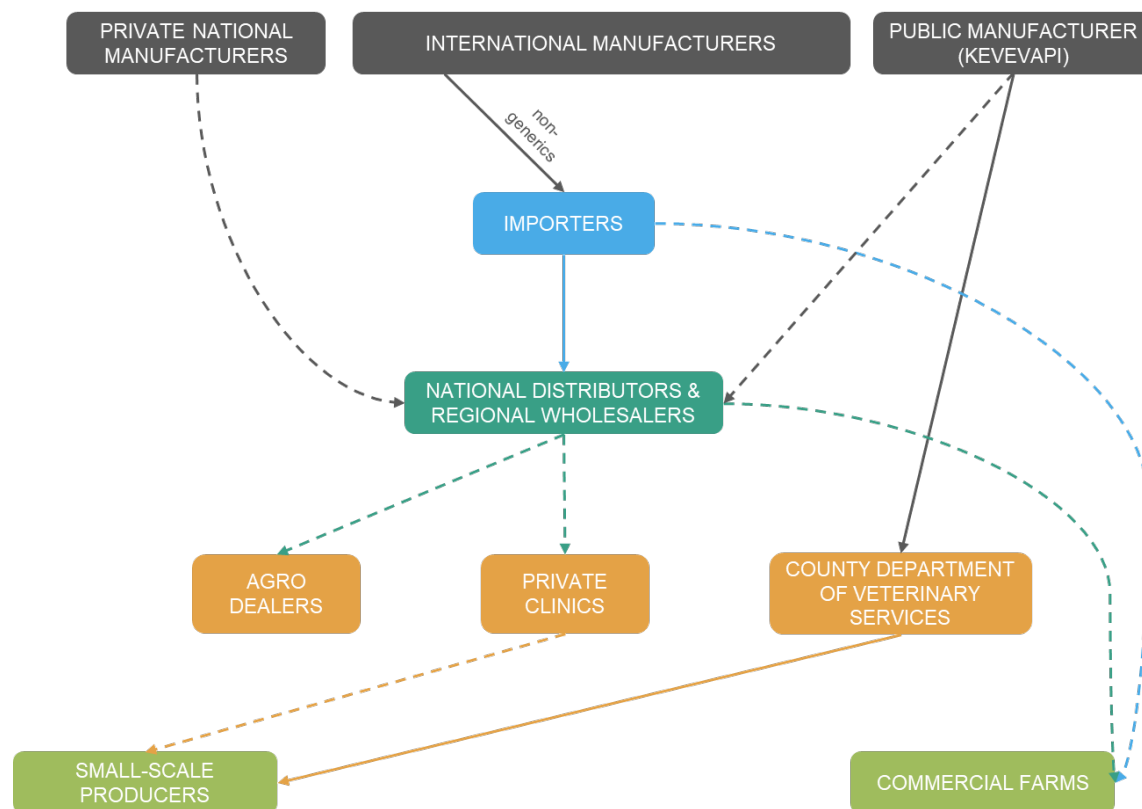
10-20%
mark up

RETAILERS

5-15%
mark up

END CUSTOMERS

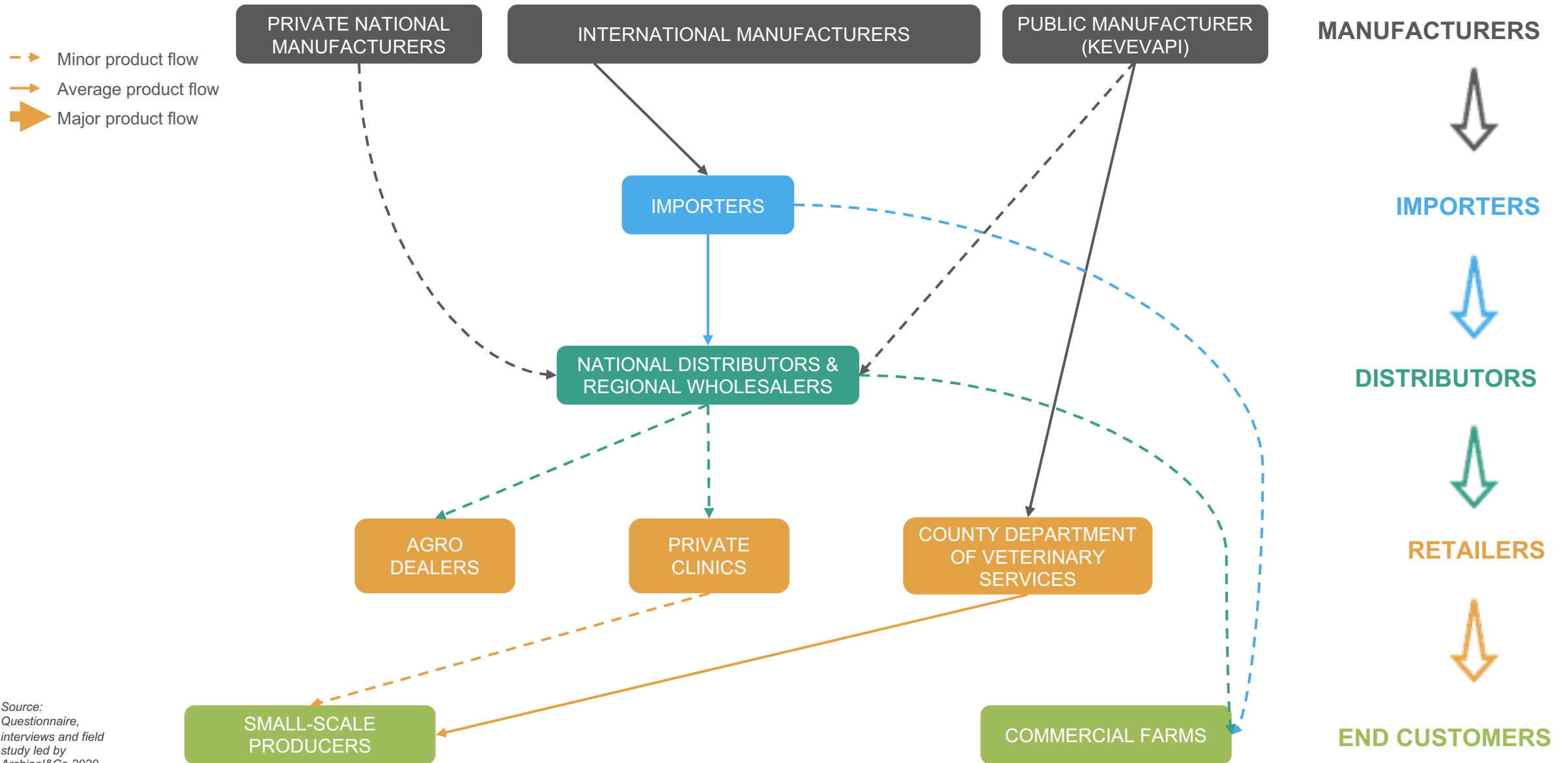
Biologicals AH Product Flow – Key Learnings



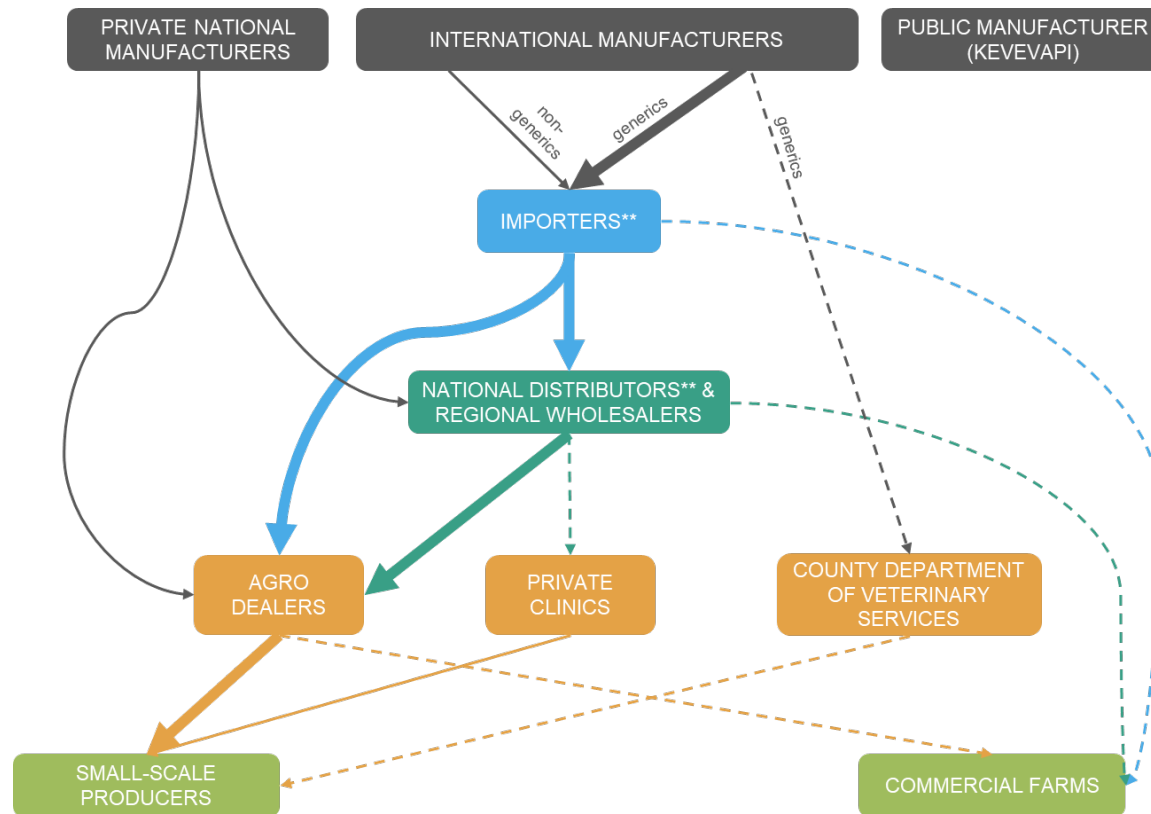
See next slide for larger/readable view of the product flow diagram

- The amount of biologicals flowing through product chain is still very low. In 2014, the Ministry of Agriculture, Livestock and Fisheries reported a vaccination national coverage of 10%¹.
- The product flow for biologicals follows two distinct routes:
 1. Preventive animal medication is more common within commercial farms, mainly poultry, that buy directly in large quantities from importers.
 2. Biologicals are the only product produced by a public manufacturer, KEVEVAPI, which is still the key player and oversees product distribution. However, the emergence of private actors selling biologicals has made the sector more competitive.
- There is an important need to raise awareness on vaccination within SSPs.
- Some private sector actors highlight challenges with local manufacturer not being able to meet demand from volumes and quality perspective.
- Poultry biologicals are mainly sold directly from the importer to commercial farms

Biologicals AH Product Flow – Diagram



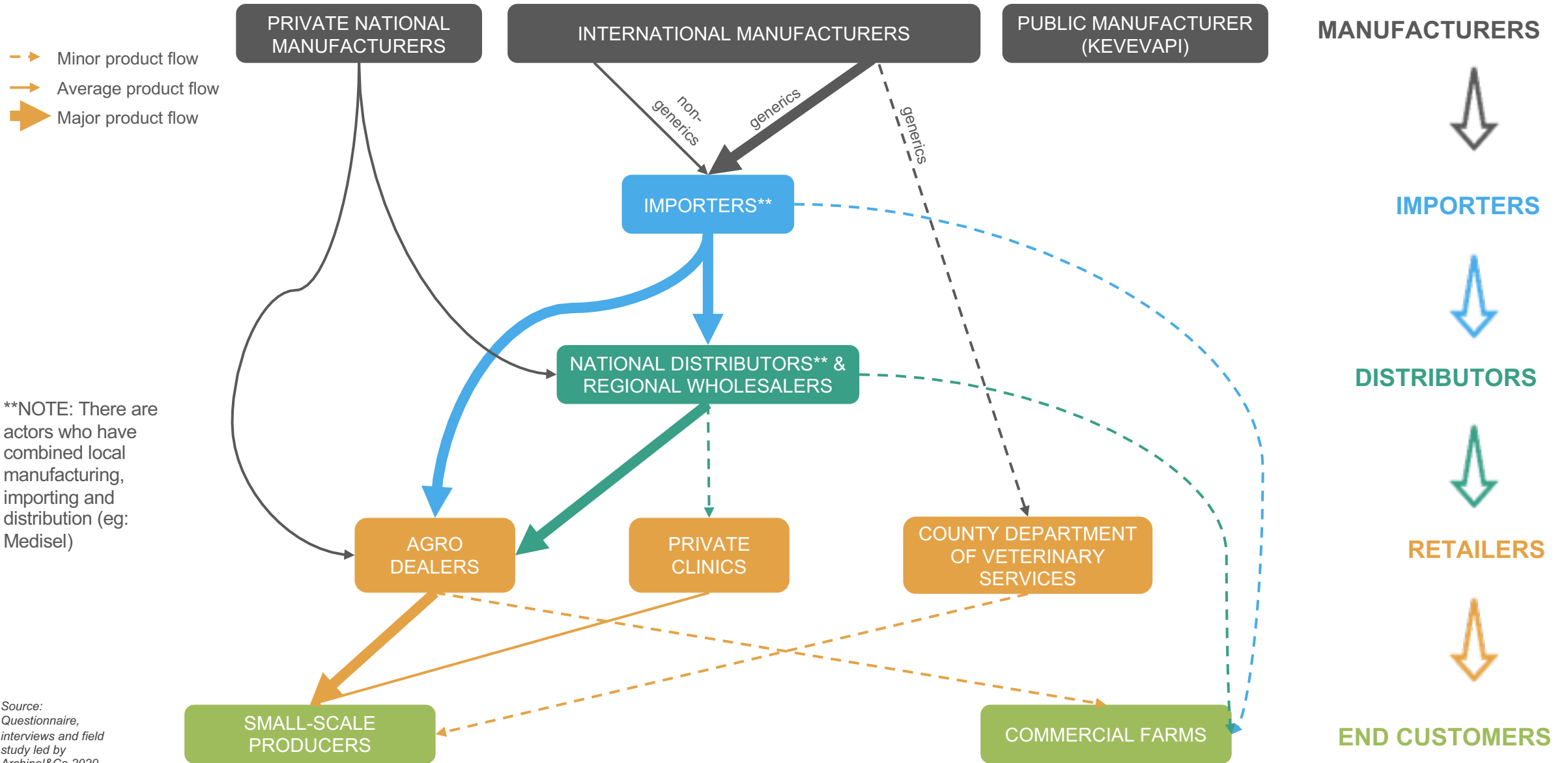
Pharmaceuticals AH Product Flow – Key Learnings



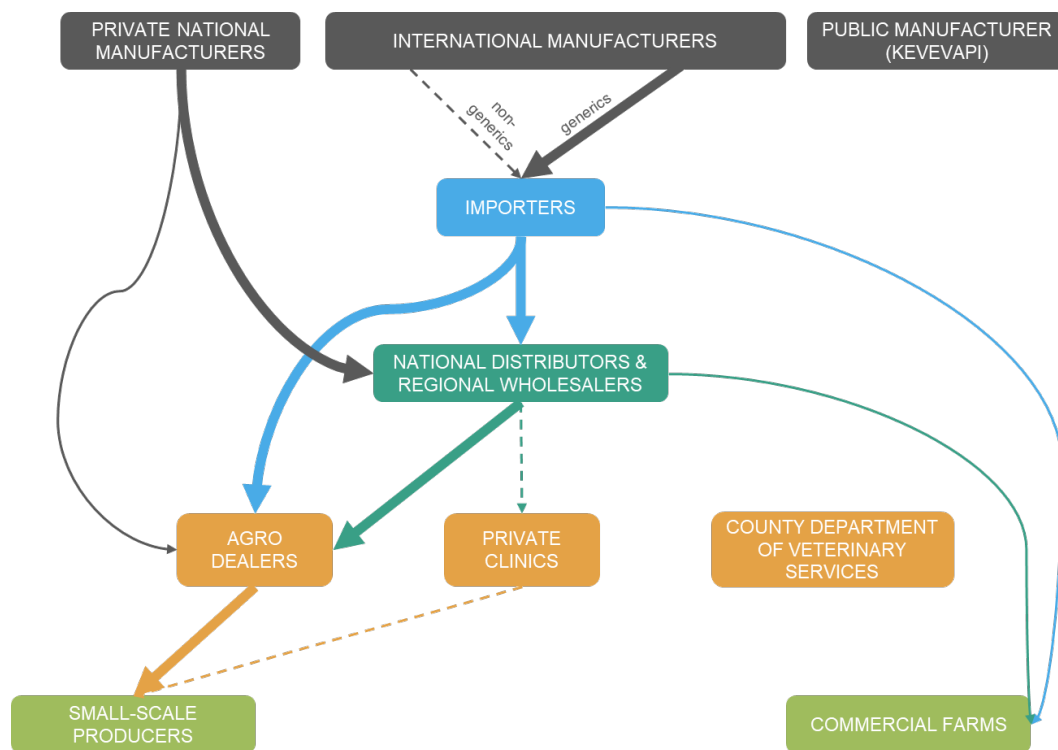
See next slide for larger/readable view of the product flow diagram

- **The AH pharmaceuticals market is largely served by international generic product manufacturers.**
 - These cheaper products are more adapted to the financial capacity and priorities of SSPs (minimal cash outlay) and agrodealers (increase margins)
 - The lower quality and misuse of these pharmaceuticals has a negative impact on the sector, leading to reduced farmer trust, increased antimicrobial resistance (AMR) and rising mortality rates
- **Large commercial farms have better diseases prevention/management practices and diagnostic capabilities. They follow a more preventive strategy with the use of biologicals, which allows them to have a lower consumption of pharmaceuticals.**
 - Being an infrequent necessity for large commercial farms (key accounts), importers and distributors mainly sell pharmaceuticals to smaller farms (general accounts)
- **Pharmaceuticals are also the main AH product category sold informally.**
 - On the one hand, they are exported as contraband to neighboring countries like Ethiopia, where the demand and price offered is higher.
 - On the other hand, the large presence of counterfeit or sub-standard products is leading to drug resistance in both animals and humans.

Pharmaceuticals AH Product Flow – Diagram



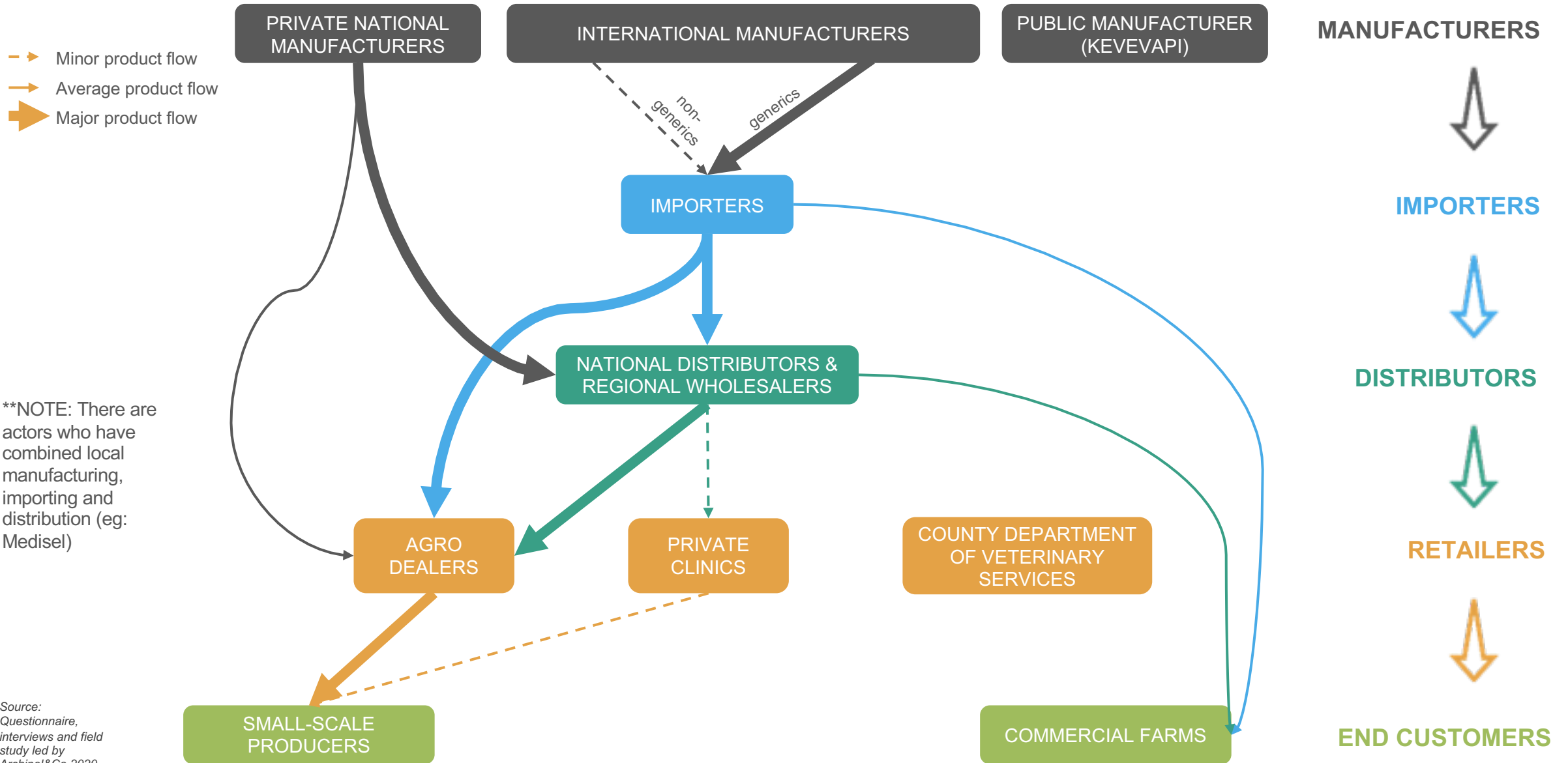
Vitamins & Supplements AH Product Flow – Key Learnings



See next slide for larger/readable view of the product flow diagram

- The vitamins & supplements segment in Kenya represents a huge market, notably due to the large consumption of minerals by the dairy sector.
 - Managed by the private sector, with nearly no intervention of public actors
- The market has low regulation and quality standards, allowing for a large numbers of players in the market.
 - This segment therefore has lower prices and margins, compared to the other AH product types
- Vitamins & supplements are in constant demand by commercial farms. Thus, importers and distributors tend to sell directly to them in bulk.
- The offer of vitamins & supplements in Kenya coming from local manufacturers has been constantly growing.
 - This is in part due to the extensive use of vitamins & supplements in feeds, which are commonly produced by the same manufacturing companies
- As Kenya tries to increase its local livestock production of cattle to meet its national demand, the consumption of vitamins & supplements is expected to increase.
- As it is less/not regulated, this market is less structured; we have represented it in simplified fashion based on the majority of volumes.

Vitamins & Supplements AH Product Flow – Diagram



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Kenya has a dynamic agricultural innovation ecosystem, with a growing number of companies looking at AH services



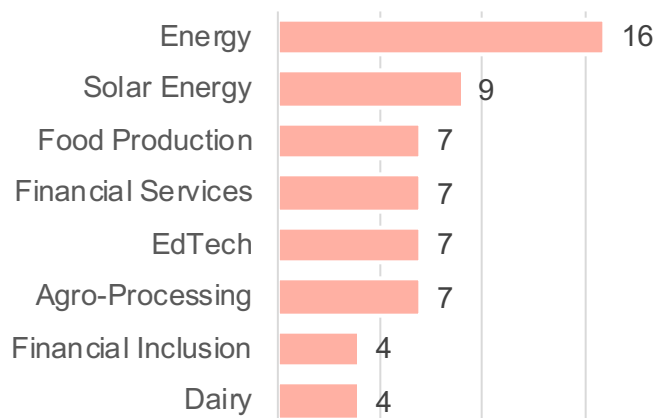
- One of the **most advanced agri-technology ecosystems in SSA**. Nearly 30% of all agri-technology start-ups in SSA operate in the country, with 18% of all firms also locating their headquarters there.

- High mobile phone penetration (80% of SSPs own mobile phones, 15% smartphones) and the widespread use of mobile payment systems (M-pesa).
- World Bank's **"One Million Farmers initiative"** will fund agri-tech innovations to enrol 1M farmers onto digital platforms by 2022

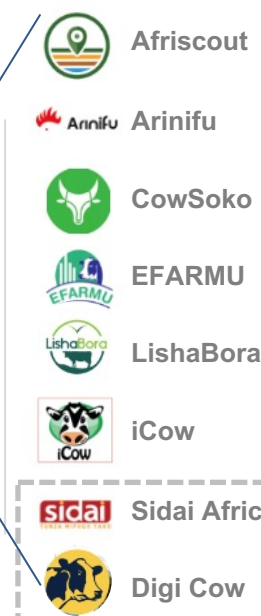
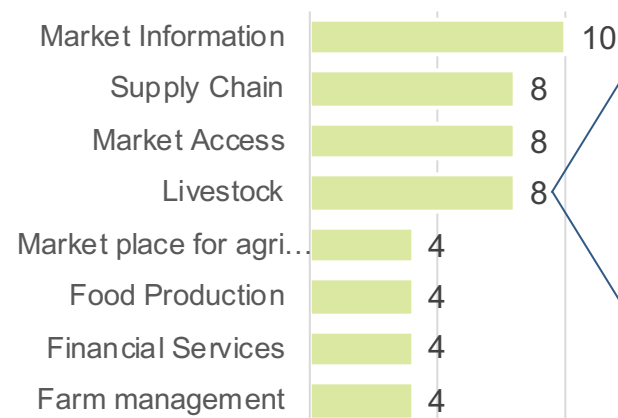
- While **investors** in the agri space are focusing on **energy** investments, **companies** are trying to solve current market challenges around **access to markets and market information**.

- Disruptive innovation: In addition to tech-based innovations, companies like Sidai Africa are disrupting the market by integrating several steps of the product & services flow, i.e. **collapsing the value chain**.

Targeted Products & Services by Investing companies



Targeted Products & Services by Start-Up companies



see company profiles in next slides

SIDAI AFRICA LTD. – Innovation through vertical integration

PROFILE



HQ in Nairobi

Operating since 2011

Website: <https://www.sidai.com>



BUSINESS MODEL

- Sidai is a social enterprise with a vertically-integrated approach that supplies quality inputs, services and training to farmers and pastoralists across Kenya



PRODUCTS & SERVICES

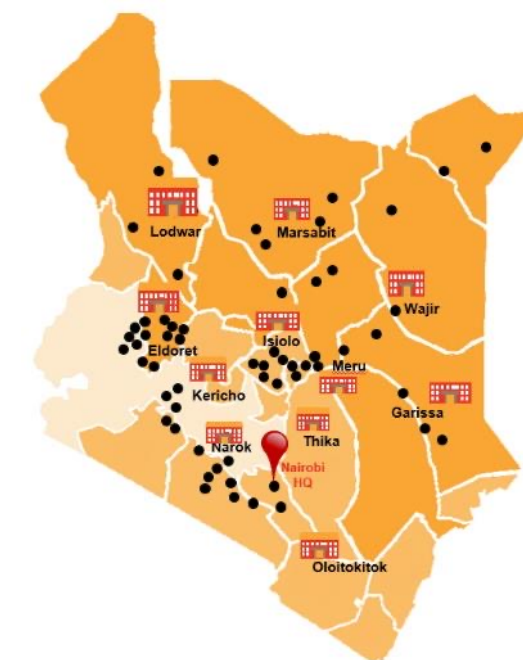
- Own-brand products:** in addition to imports from international suppliers, SIDAI has 16 branded products
- Distributor:** established network of 11 company-run stores, 87 franchises and 45 field staff on motorbikes for last-mile distribution; it sells to a further 1,500 stockists through its wholesale business
- Veterinary services:** clinical and vaccination services
- Training:** provides technical training to farmers and professionals through the Sidai Academy
- Research and Development**



IMPACT



- Directly employs over 120 people, 30% women
- Supplies products and services to over 300K farmers and vaccinated over 8.2M animals



Sidai's distribution hubs and agrodealer partners across Kenya

Digi Cow – An “uber” like platform for SSPs in Kenya



PROFILE

Product of Farming Tech Solutions Ltd.

Operating since 2018

Website: <https://digicow.co.ke>



DigiCow
Dairy App



BUSINESS MODEL

- Free mobile app linking small livestock owners to veterinary and artificial insemination services and feed suppliers, aggregating demand as a business enterprise.
- Revenue streams: advertisements (e.g. from feed companies), transaction fees for vet services, sponsored training, sponsored expert chats



HOW IT WORKS

- Farmers regularly enter data about milk sales and their cows' health, feed and milk production into the app.
- DigiCow's app evaluates this data and delivers reports on finance, breeding and the health of the animals, and also sends warnings if the data indicates a problem.
- Farmers can also use the app to reach a dairy farming consultant or access verified information on the dairy sector and new technologies. They can also connect to other farmers through a farmer chatroom.



IMPACT

- 10K smallholder dairy farmers accessing the services
- Affordable veterinary services available within 1 hour
- Average increase in milk productivity by 4 litres per cow per day



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List of stakeholders interviewed by Archipel&Co

Name	Organization	Function
Adesola Tolefe	Veterinary Medicine Directorate UK	Project manager
Andrew Peters	SEBI – <i>the University of Edinburgh</i>	Program Director
Andrew Terwin	Zoetis – <i>Manufacturer</i>	Operations lead Ethiopia
Anne Makomi	Kilimo bora Agrovet - <i>Agrodealer</i>	Vet surgeon & owner
Ashwani Kalpushu	Medisel Kenya Limited - <i>Importer</i>	CEO
Attie venter	CEVA Santé Animale	Operational Director, EA, Nigeria & Angola
Christie Peacock	Sidai Africa – <i>Manufacturer</i>	Founder and Chairman
Comfort Phiri	Elanco – <i>Manufacturer</i>	Business Unit Manager SSA
David Chemirmir	Boehringer Ingelheim – <i>Manufacturer</i>	Area Business Manager, SSA
David Kibaria	Royal Crest Clinic – <i>AH Clinic</i>	Founder and CEO

Name	Organization	Function
David Nyagaka	Medisel Kenya Limited - <i>Importer</i>	General Manager
Enrique Hernández Pando	GALVmed	Commercial Director
Graham Benton	Zaidi Technologies	Co-Founder and Director
Karen Smyth	SEBI – <i>the University of Edinburgh</i>	Deputy Director
Kevin Mwangi	Alphavet Animal Care - <i>Agrodealer</i>	Owner
Kristin Girvetz	Agri Reseaux International	Consultant
Noel Joseph	Veterinary Medicine Directorate UK	Head of International Office
Philip Maciocia	Argyll & Sutherland Limited	Managing Director
Ruth Pearson	Veterinary Medicine Directorate UK	Senior Scientific Officer
Tom Osebe	GALVmed	Senior Manager
Xavier Cadiou	Agri Reseaux International	Founder/Owner

Methodology for Market Evaluation Matrix

- **Proxy indicators to determine market opportunity**
 - Economic Growth
 - Livestock population
 - Animal produce demand projections
 - Financial losses due to diseases
 - Animal health coverage
 - Livestock productivity
 - Presence of low quality/counterfeit products
- **Proxy indicators to determine ease of doing business / enabling environment**
 - World Bank Doing Business ranking
 - World Bank Sustaining livestock index
 - Institutional support/focus on livestock
 - Government influence/power
 - Ability to cope to climate risks
 - Access to finance
 - Access to livestock market data
 - Communications infrastructure
 - Start-up ecosystem
- **Each of the above indicators has been evaluated using data from the study and the weighted average calculated to determine a rating between 1 and 5 for market opportunity (y-axis) and ease of doing business (x-axis)**
 - For Kenya:
 - Market opportunity = 3.15
 - Ease of doing business = 3.625

Kenya 2020 Doing Business scores – Data points

Starting a Business (rank)	129	✓ Getting Credit (rank)	4	Trading across Borders (rank)	117
Score of starting a business (0-100)	82.7	Score of getting credit (0-100)	95.0	Score of trading across borders (0-100)	67.4
Procedures (number)	7	Strength of legal rights index (0-12)	11	<i>Time to export</i>	
Time (days)	23	Depth of credit information index (0-8)	8	Documentary compliance (hours)	19
Cost (number)	22.4	Credit registry coverage (% of adults)	0.0	Border compliance (hours)	16
Paid-in min. capital (% of income per capita)	0.0	Credit bureau coverage (% of adults)	36.4	<i>Cost to export</i>	
✓ Dealing with Construction Permits (rank)	105	✓ Protecting Minority Investors (rank)	1	Documentary compliance (USD)	191
Score of dealing with construction permits (0-100)	67.6	Score of protecting minority investors (0-100)	92.0	Border compliance (USD)	143
Procedures (number)	16	Extent of disclosure index (0-10)	10.0	<i>Time to export</i>	
Time (days)	159	Extent of director liability index (0-10)	10.0	Documentary compliance (hours)	60
Cost (% of warehouse value)	2.8	Ease of shareholder suits index (0-10)	9.0	Border compliance (hours)	194
Building quality control index (0-15)	10.0	Extent of shareholder rights index (0-6)	6.0	<i>Cost to export</i>	
✓ Getting Electricity (rank)	70	Extent of ownership and control index (0-7)	6.0	Documentary compliance (USD)	115
Score of getting electricity (0-100)	80.1	Extent of corporate transparency index (0-7)	5.0	Border compliance (USD)	833
Procedures (number)	3	✓ Paying Taxes (rank)	94	Enforcing Contracts (rank)	89
Time (days)	97	Score of paying taxes (0-100)	72.8	Score of enforcing contracts (0-100)	58.3
Cost (% of income per capita)	615.4	Payments (number per year)	24	Time (days)	465
Reliability of supply and transparency of tariff index (0-8)	5	Time (hours per year)	180	Cost (% of claim value)	41.8
Registering Property (rank)	134	Total tax and contribution rate (% of profit)	37.2	Quality of judicial processes index (0-18)	9.0
Score of registering property (0-100)	53.8	Postfiling index (0-100)	62.0	✓ Resolving Insolvency (rank)	50
Procedures (number)	10			Score of resolving insolvency (0-100)	62.4
Time (days)	43.5			Recovery rate (cents on the dollar)	31.8
Cost (% of property value)	5.9			Time (years)	4.5
Quality of the land administration index (0-30)	15.0			Cost (% of estate)	22.0
				Outcome (0 as piecemeal sale and 1 as going concern)	1
				Strength of insolvency framework index (0-16)	14.5

Sustaining Livestock indicator – Data Points

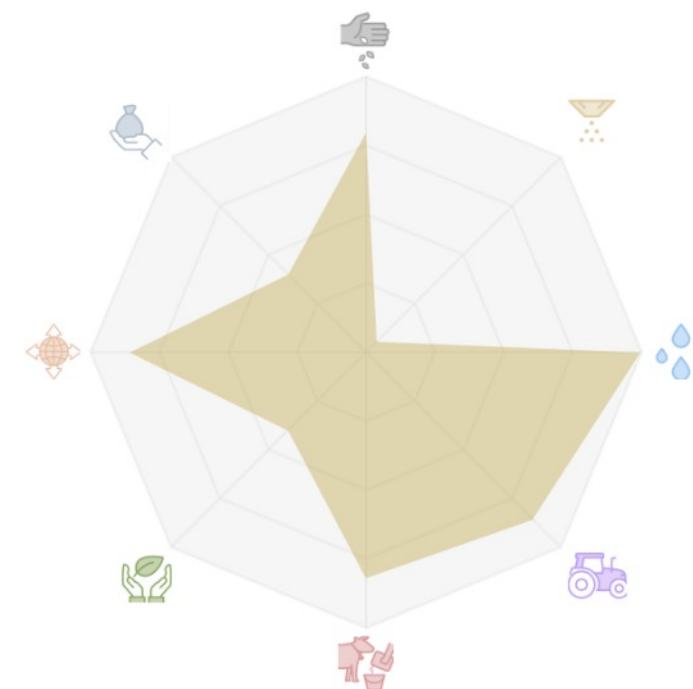
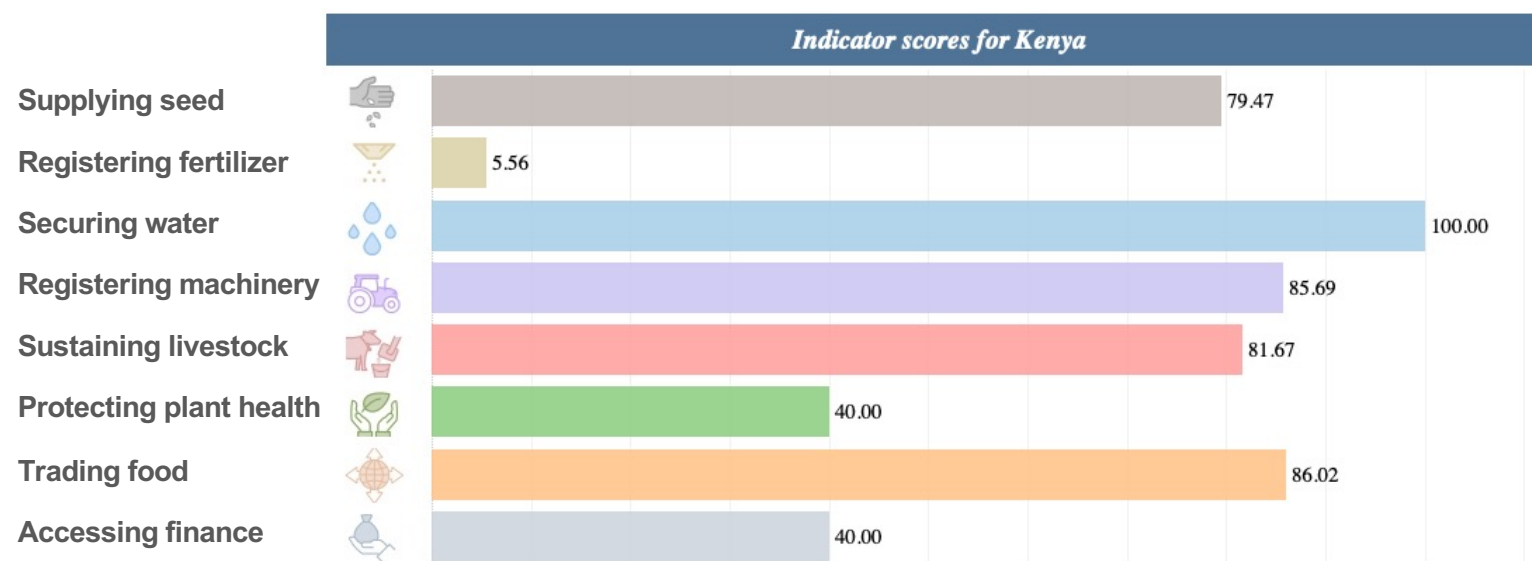
- The indicator includes two legal components that cover: (a) manufactured feed and (b) veterinary medicinal products.



Table 3.7 Sustaining livestock indicator data points and scoring methodology

DATA POINT	SCORING
a. Quality of manufactured feed index	Sum of sub-questions
Must feed manufacturing facilities be approved before the start of operations?	1/0
Are inspections of in-use feed manufacturing facilities based on a risk assessment?	1/0
Must manufactured feed be labeled?	1/0
Must manufactured feed sold in bulk be accompanied by a document containing all mandatory labeling information?	1/0
Are feed manufacturers required to keep monitoring records?	1/0
b. Quality of veterinary medicinal products index	Sum of sub-questions
Must the veterinary medicinal products be registered to be commercialized (in non-emergency or normal situations)?	1/0
Is there a specific timeframe set by law for dossier revision?	1/0
Is there a list of officially registered veterinary medicinal products on the website of the relevant regulatory authority?	1/0
Are generic versions of a registered brand-name veterinary medicinal products allowed by law?	1/0
Is there a specified proprietary time between registration of a generic and a registered brand-name veterinary medicinal products?	1/0
Must registration holders of veterinary medicinal products have a mechanism to capture unexpected or dangerous reactions to marketed veterinary medicinal products?	1/0

Kenya Enabling Business of Agriculture scores as of 2019



Role of industry associations

- **Veterinary Input Suppliers Association of Kenya (VISAK):** consists of manufacturers, formulators, importers, and distributors of animal health products and equipment. Objective is to promote proper use of animal health products, fair practice in the industry, conduct public awareness, and articulate and address their needs.

4 associations are approved by the Kenya Veterinary Board and have similar roles and missions:

- **Kenya Veterinary Association (KVA):** a professional membership organization for all veterinarians in Kenya in both public and private sectors registered under the societies Act Cap 108 of the Laws of Kenya. “Acts as a watchdog for the veterinary profession to ensure proper management of veterinary issues that impact on the welfare of the veterinarians with an overall aim of enhancing animal welfare”
- **Animal Health Technicians and Technologists Association of Kenya (AHTTAK):** carries out advocacy activities and recognized as one of the paraprofessional associations for purpose of registering paraprofessionals by Kenya Veterinary Board (KVB).¹
- **Kenya Veterinary Paraprofessional Association (KVPA):** registered in 2012 as an official body representing the welfare issues of the veterinary paraprofessionals countrywide. Three missions
 - Represent veterinarian members and front their welfare issues
 - Promote, safeguard and protect the health of animals
 - Offer capacity building to livestock farmers, and other animal keepers
- **Kenya Animal Scientist Practitioner Association (KASPA)**

Most associations seem to have a limited role in the industry apart from KVA who's advocacy activities play an important role in policy definition





Contact

Laura Arribas

Senior Consultant

Laura.Arribas@archipel-co.com

+44 (0) 7391 128 977

Justin DeKoszmovszky

UK Managing Partner

Justin.DeKoszmovszky@archipel-co.com

+44 (0) 7786 794 603

www.archipel-co.com