



Better lives through livestock

Antimicrobial Resistance in Livestock Through a Gender Lens: A Case Study from Vietnam

Thinh Nguyen

Research Officer

International Livestock Research Institute (ILRI) – Regional office for Asia

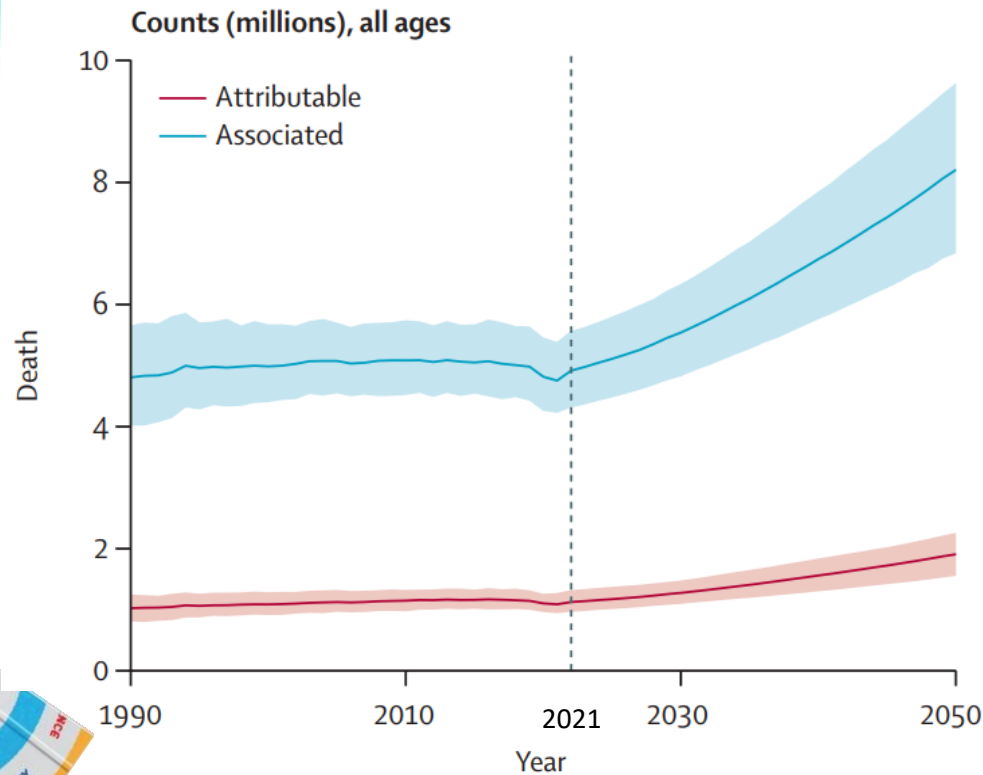
Gender awareness webinar in Asia Pacific

28 April 2025

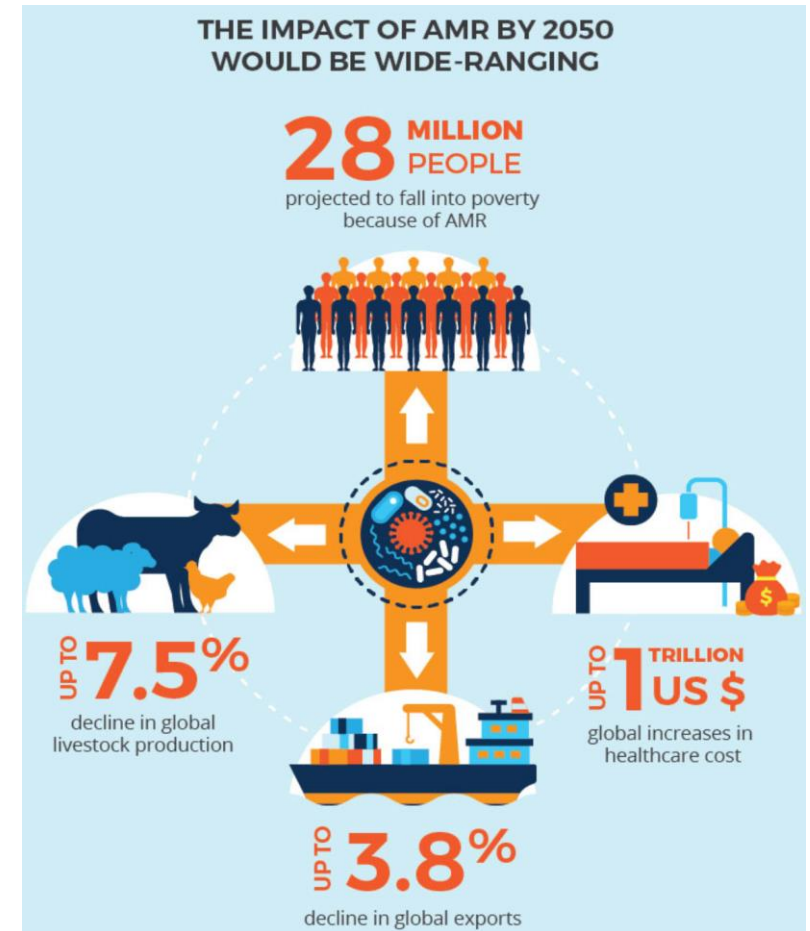
Antimicrobial resistance (AMR)



Global burden of bacterial antimicrobial resistance
1990–2021 with forecasts to 2050



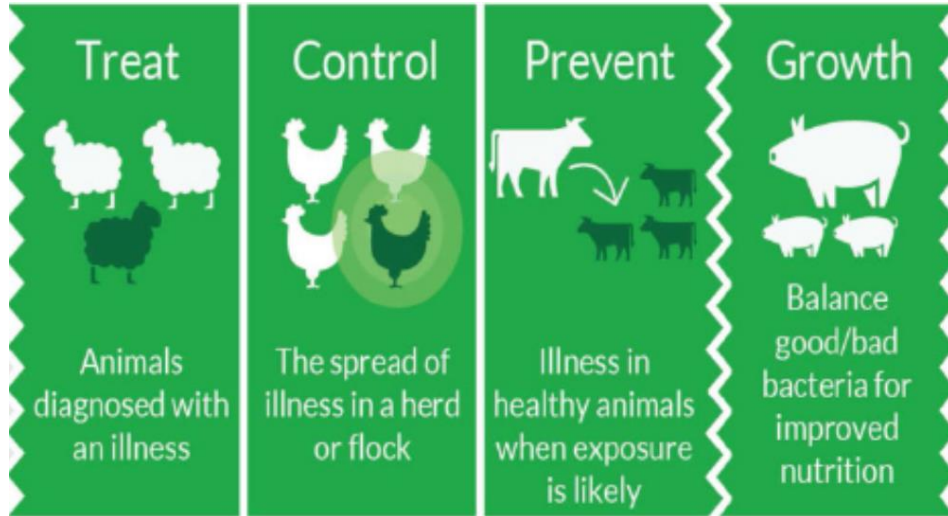
(Naghavi et al, 2024)



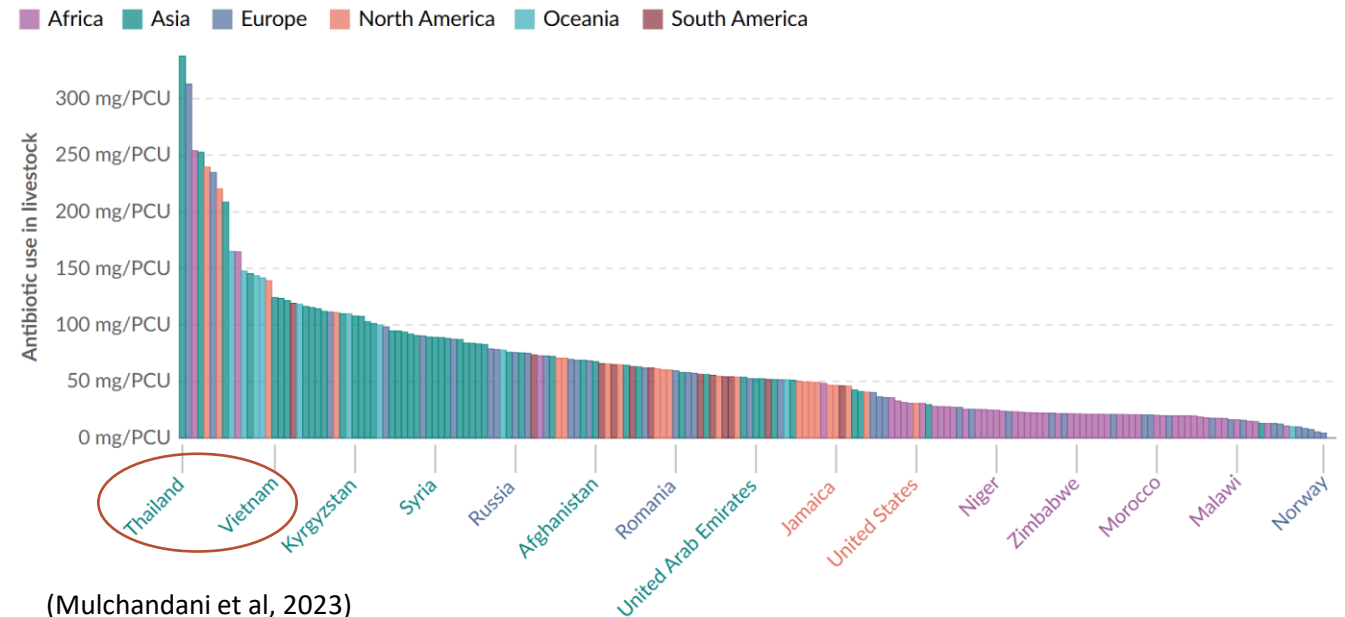
(World Bank Group, 2016)

AMR and Livestock

70% of all antibiotics are used in farm animals



Antibiotic use in livestock, 2020



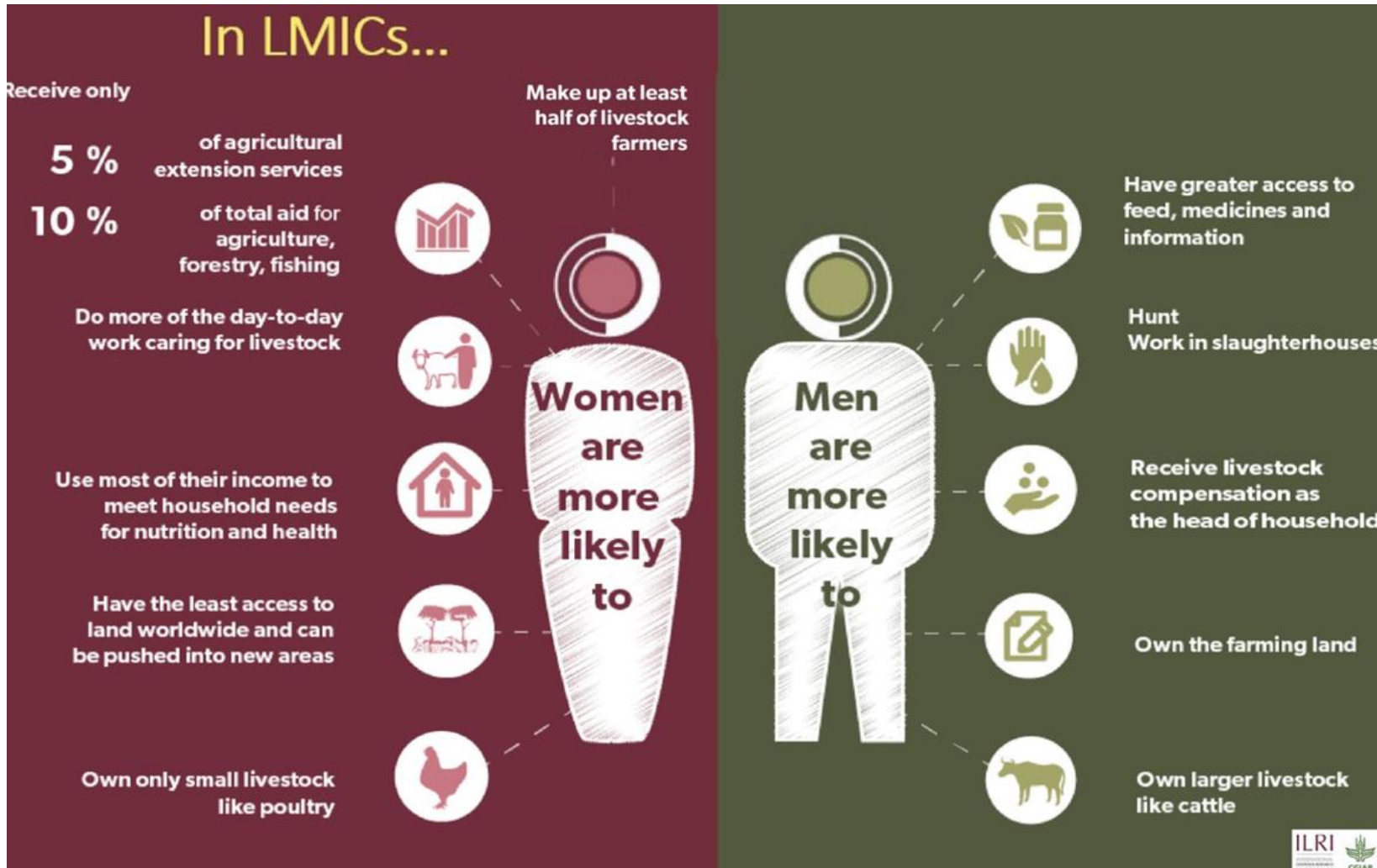
(Mulchandani et al, 2023)

Key challenges to reducing antibiotic use in livestock in LMICs:

- The absence of or the ineffective enforcement of regulations governing antibiotic sales (Prevalence of over-the-counter sales)
- Lack of access to professional animal health services and laboratory capacity

Veterinary drug sellers play an important role in mitigating the overuse and misuse of antibiotics in LMICs

Why gender matters in livestock AMR?



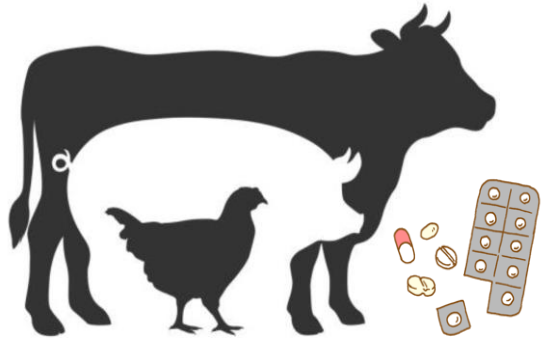
A 2021 scoping review of antibiotic use, a primary driver of AMR, identified 13 studies in Southeast Asia that considered gender, three of which focused on veterinary antibiotic use (Pham-Duc and Sriparamanathan 2021).

A participatory study of pig and poultry smallholder farmers in Phu Binh District, Vietnam suggested top-down regulatory approaches rarely received in livestock whose prevention and control of disease did not.

Gender remains “silent” in livestock AMR research

poultry farmers in Vietnam. Motivations for farmers who reduced their antibiotic use varied; family commercial farms were motivated to produce good quality chickens in terms of taste and food safety while ensuring sufficient profits while larger, integrated farms desired to comply with national regulations and to adhere to international market trends (Bâtie et al. 2023). Bâtie et al. specifically noted the under-representation of women farmers was a weakness in the study design. While

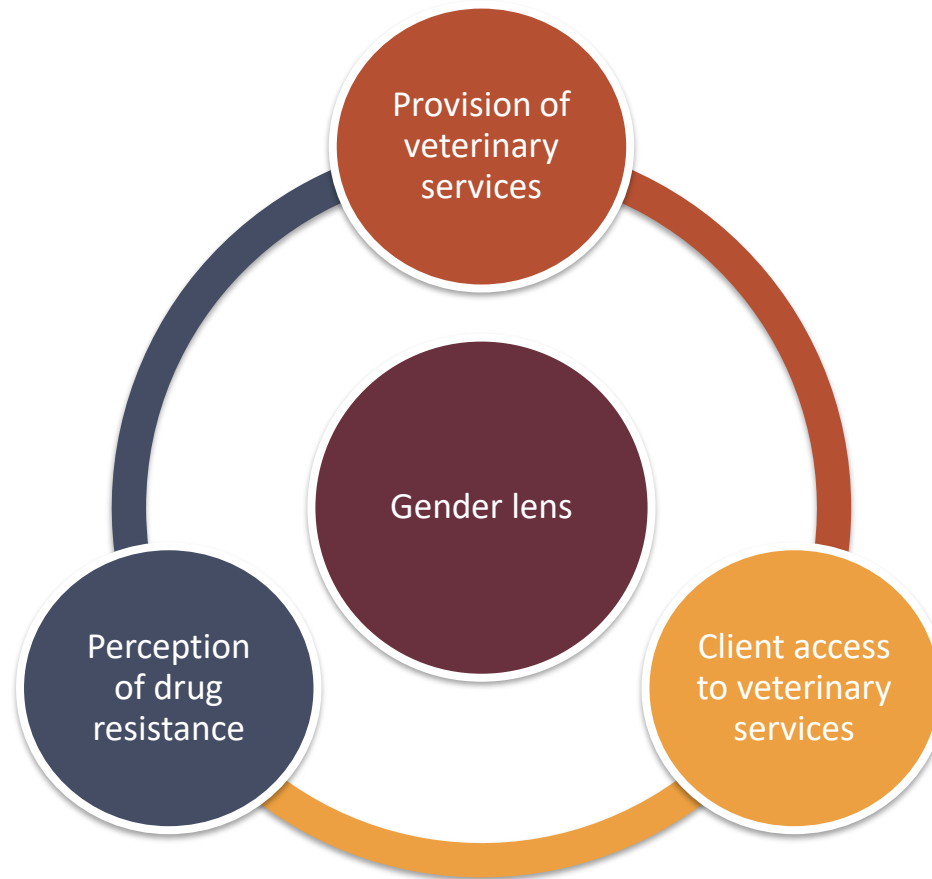
Study objectives



Farmers



Drug vendors



Note: “Drug vendors” refer to anyone engaging in the sale of veterinary drugs to customers, irrespective of their formal qualifications

ILRI
INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE



ILRI RESEARCH BRIEF 125

December 2023



Gender, livestock, and antimicrobial resistance through the eyes of veterinary pharmacists – A case study from Thái Nguyên Province, Vietnam

Zoë A. Campbell, Thanh Nguyen-Thi, Zelalem Terfa, Nguyen Thi Van An, Bui Van Quang, Vu Xuan Thai and Nozomi Kawarazuka

(Campbell et al, 2023)

Study sites and methods

ACIAR, ILRI, CIP & ISD (Dec. 2018)

Method: Qualitative interviews

Role	Women	Men	Total
Main drug vendors (owners - veterinarians)	1	9	10
Sales assistants (Spouses/family)	5	2	7
Sales assistants (Hired)	4	0	4
Commune vets	2	1	3
District vets	1	0	1
Total	13	12	25

Swedish University of Agricultural Sciences, ILRI & NIVR (2022)

DOI: 10.1002/vms3.1502

ORIGINAL ARTICLE

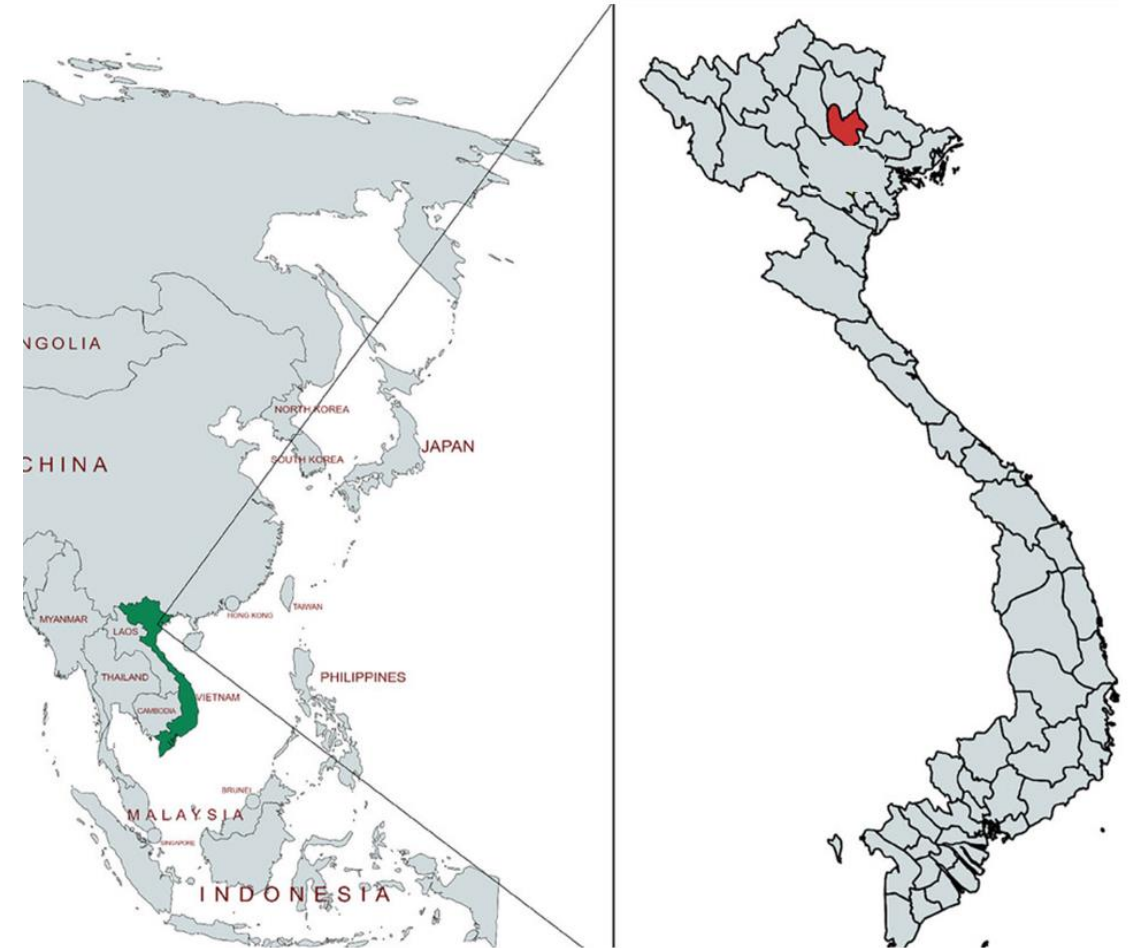
WILEY

Understanding veterinary drug shop workers' knowledge and practices to identify drivers of antibiotic use in Vietnamese livestock farms

Sandra Nohrborg¹ | Thinh Nguyen-Thi² | Huyen Nguyen Xuan³ | Yen Luu Thi Hai³ | Johanna Lindahl⁴ | Sofia Boqvist⁵ | Josef D. Järhult⁶ | Ulf Magnusson¹

(Nohrbog et al, 2024)

	Women	Men	Total
Drug vendors	32	18	50



Provision of services by drug vendors

Main drug vendors (Shop owners)	Sales assistants
<ul style="list-style-type: none"> Mainly men Have veterinary qualification Provide technical advice/ treatment and sell drugs Frequently absent from the shop, offer remote oversight of the daily operations 	<ul style="list-style-type: none"> Mainly women, in charge of the daily operations Do not have or have basic vet training (spouses/relatives) - young graduates (hired staff) Sell drugs based on experience, can deal with simple diseases and consult the owners for difficult cases.

Men are more skilled technically due to their hands-on experience from frequent visits to farms

Women excel in drug sales due to better communication skills with clients

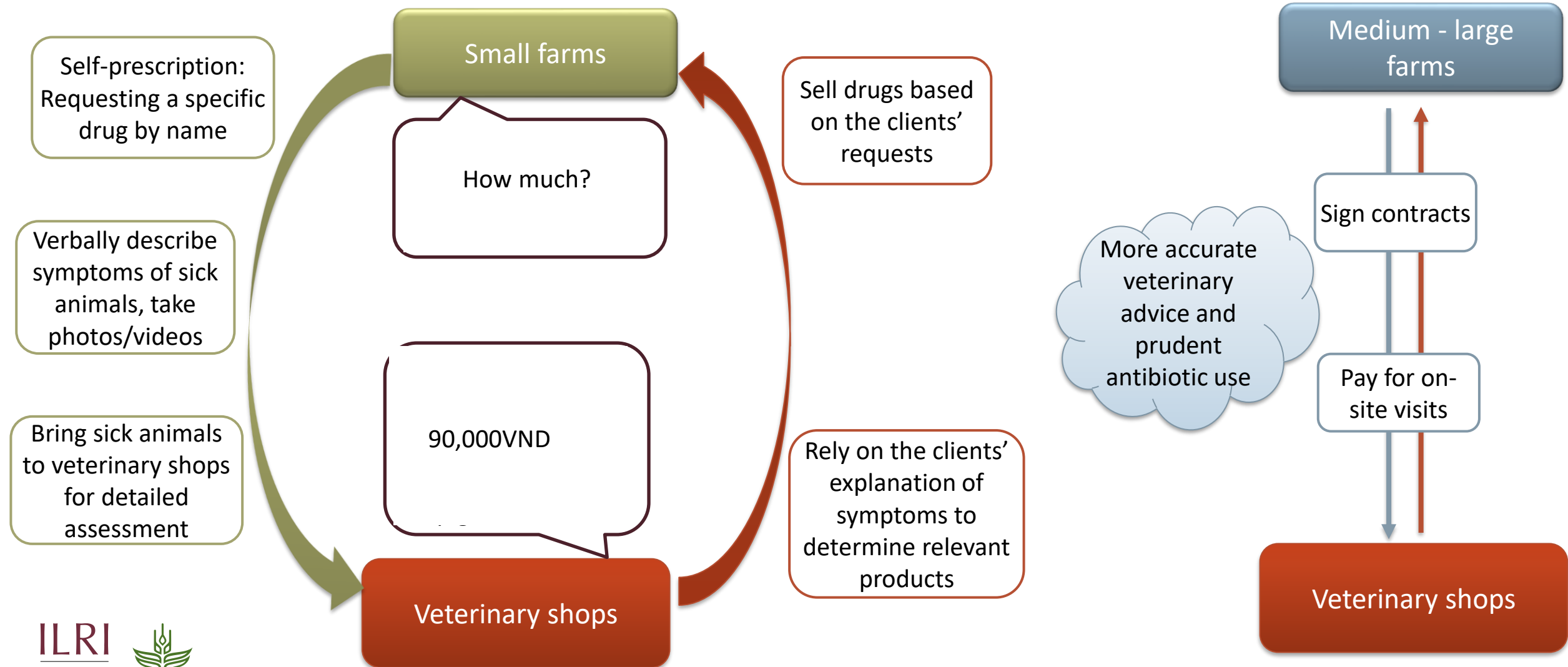
"I mostly only watch the shop. I know the restorative or fattening drugs used for chicks, so I can sell them. My husband instructs me on which drugs to sell for disease treatment." (Sales assistant/housewife)

Veterinary drug vendors must have a Veterinary Practice Certificate (Veterinary Law, 2025)

"I am not a veterinarian, I am only a sales assistant. I give advice to customers when the veterinarian is not around." (Veterinarian, man)

"Experienced breeders are knowledgeable ... I sell drugs based on their requests." (Sales assistant, man)

Client access to veterinary drugs



Client access to veterinary drugs

Men clients

Farm responsibilities

- Medium- and large-scale farms
- Heavy work: buying feed and animals, treating diseases, selling livestock
- Decision-makers

Animal health care

- Handle large animals (pigs, cattle)
- More **conservative and confident in their knowledge**

Women clients

Farm responsibilities

- Small-scale farms
- Light work: feeding and cleaning

Animal health care

- Handle small animals (chickens)
- More likely to **follow drug vendors' advice**

"Women buy whatever they are told to buy." (Sales assistant, wife)

Men often bring drug samples to show what they want. Sales assistant

Women are more likely to get the right products, but only if the drug vendors are well-trained and experienced to offer accurate guidance

"Men are more confident. They often use drugs not as directed. They often ignore advice even though I try to guide them." (Veterinarian, woman)

Perceptions of drug resistance

Farmers

- Want to quickly cure sick animals
- Use experience to adjust the doses

Drug vendors

- Sell drugs based on clients' requests
- Increase doses to enhance effectiveness and protect their reputation

Drug dose increase is a common practice for both farmers and drug vendors

"Following package instructions won't cure diseases, as they assume ideal farming conditions. To be effective, the doses should be increased- about 30% more works best." (Veterinarian, man)

"We increase doses because of drug resistance and spillage during treatment. It's based on our experience; no one teaches us." (Sale assistant, woman)

"I don't have enough knowledge to advise on the matter of drug resistance". (Sales assistant, woman)

"I will not participate in the drug resistance training due to my busy schedule at the shop." (Sales assistant, woman)

"I will prioritize my husband to attend the training because he is the main vendor." (Sales assistant/housewife)

Question	Option	Total	Women	Men
For which purposes do you recommend antibiotics to farmers? n=50	To treat sick animals	100	100	100
	To prevent animals from becoming sick	54	62.5	38.9
If you advise treatment dosage, what do you usually recommend? n=49	What is stated on the package	49	45.2	55.6
	A higher dose than what is stated on the package	45	54.8	27.8


Conclusion

1. The involvement of women and men in the veterinary drug business reflects **various relationships** - gender (women-men), professional (expert-executor), family (husband-wife), and workplace (employer-worker). In these dynamics, women often hold **less decision-making power** and face **limited career advancement**.
2. Many women selling veterinary drugs do not have the **required certifications**. To effectively support the fight against AMR, they need better **access to education and training**.
3. Though limited in scale, this study is one of the few exploring gender and AMR, aiming to spark further discussion and research on gender dynamics in veterinary drug business.



ILRI
INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE



The International Livestock Research Institute (ILRI) is a non-profit institution helping people in low- and middle-income countries to improve their lives, livelihoods and lands through the animals that remain the backbone of small-scale agriculture and enterprise across the developing world. ILRI belongs to CGIAR, a global research-for-development partnership working for a food-secure future. ILRI's funders, through the [CGIAR Trust Fund](#), and its many partners make ILRI's work possible and its mission a reality. Australian animal scientist and Nobel Laureate Peter Doherty serves as ILRI's patron. You are free to use and share this material under the Creative Commons Attribution 4.0 International Licence .

*better lives
through
livestock*

ilri.org