

Gender matters: Willingness to Pay for the Contagious Bovine Pleuropneumonia Vaccine in Northern Kenya

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Abstract: This study aimed to establish whether women and men were willing to pay for a novel vaccine against Contagious Bovine Pleuropneumonia. The new vaccine will replace the existing one, which is less desirable. There is dearth of information on adoption and willingness to pay by smallholder livestock keepers, particularly women.

Data for the Contingent Valuation analysis were collected through individual interviews with 108 men and women, and through 12 sex disaggregated focus group discussions. Results show that women were willing to pay on average USD 2.01 (KSh174.38)/dose/year, whereas men were willing to pay USD 2.69 (KSh233). These are significantly higher than the USD 0.17 – 0.29 (KSh15 – 25) that farmers are currently paying for two doses a year. Production costs are estimated at USD 1.5/dose/year. These results suggest that there is potential for commercialization of the new vaccine. Gender matters in vaccine delivery and adoption, contrary to the conventional view that vaccine delivery is gender neutral. Practical strategies to target and reach men and women are needed for effective delivery and utilization of the new vaccine as results show that in most cattle owning households, decisions to vaccinate cattle were made jointly by women and men.

Introduction

Contagious Bovine Pleuropneumonia (CBPP) is a highly contagious disease of cattle transmitted among crowded cattle through inhalation of cough droplets containing the disease causing bacteria, *Mycoplasma mycoides mycoides* small colony biotype (MmmSC). The disease manifests clinically as emaciation, a deep cough and subsequent death and is currently controlled by vaccination.

Kenyan and Canadian researchers are developing a novel vaccine that will be thermal stable, effective, with fewer side effects than the current one and affordable to livestock keepers. The current vaccine requires refrigeration, two annual immunizations and has adverse side effects such as causing the tail to drop off after immunization at the tip of the tail.

The new vaccine has to be adopted and used by smallholder livestock keepers, among who are women who manage and derive milk from the cattle.

The roles of women and men in decision making about livestock, and especially in smallholder pastoral and agropastoral households, is poorly understood.

Anecdotal and empirical evidence suggest that men mainly make decisions on sale of cattle and women mainly make decisions on sale of milk but, it is not clear who decides on use of vaccines.

Existing vaccine adoption studies are gender-blind. The questions whether and how gender matters in vaccine adoption motivated this study. This study establishes gender differences in willingness to pay for the new vaccine.

Methodology

The study was conducted in five randomly sampled locations in Ijara sub-county of Garissa County northern Kenya, where people mainly depend on Boran cattle for their livelihoods.

Data on dichotomous choice willingness to pay (WTP) USD 2.31 (KSh200) was obtained by asking respondents to answer “yes” or “no” to the question; “If this new vaccine were sold to you at KSh 200, would you pay?” The USD 2.31 figure was arrived at based on an estimated production cost of USD1.5 plus delivery costs and adjusting for inflation and exchange rate fluctuations estimated at USD 0.81 per dose. Actual maximum WTP values were obtained by asking respondents if they would pay more or less at incremental rates of KSh20 until they responded to a “no” or “yes” respectively. 60 men and 48 women were interviewed through individual questionnaires and the data obtained was analyzed statistically using STATA.

Supporting qualitative data was obtained from 6 men and 6 women only focus group discussions and analyzed inductively.



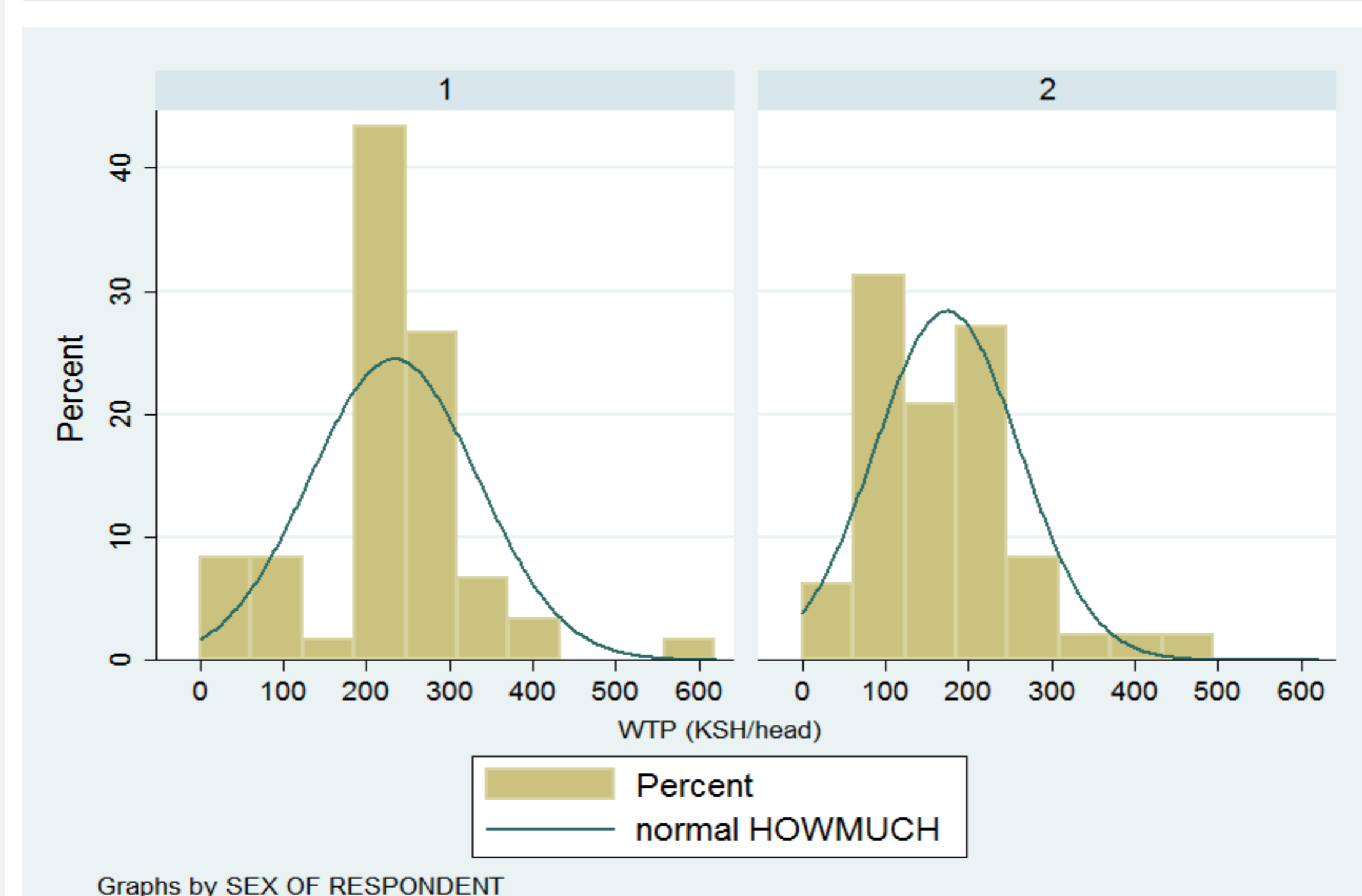
Above: Focus group discussion activities by women and men. Below: A cow manifesting clinical signs of CBPP and a community animal health worker vaccinating cattle against CBPP at the tip of the tail.



Results

Willingness to pay (WTP)	All (n=108)	Men only (n=60)	Women only (n=48)
Range	0 – 620	0 – 620	50 – 440
P25	120	220	100
P50 (median)	220	240	160
P75	260	280	230
Mean	206.94	233***	174.38***
SD	99.09	101.02	87.15

***Men were willing to pay significantly more money than women at p=0.01



Frequency distribution graphs showing that more men (1) than women (2) were willing to pay KSh200 and more

Results cont...

Decisions on cattle vaccination against CBPP were made jointly by women and men, they were all in agreement about vaccination and they both contributed money towards the purchase of the current vaccine.

Women are willing to pay an average of USD2.01, which is 34% higher than the estimated cost of production, while men were willing to pay 79% more than the cost of production.

In addition, 42% of women and 82% of men were willing to pay USD 2.31 (KSh200) which is 54% more than the production cost.

Men’s WTP was motivated by the fact that they value their cattle highly and would pay almost anything to keep them healthy whereas women’s WTP was motivated by the prospect of having healthy cattle that produced milk and meat.

18% Men and 58% women were not willing to pay USD (2.31) KSh200 because they cannot afford it.

WTP was directly related to number of cattle owned with individuals willing to pay more money owning more cattle on average. Interestingly, WTP was inversely related to household income with households willing to pay less having a higher average income.

Key messages

1. The new vaccine might have a high potential for commercialization as men and women in the study are willing to pay more than the production costs.
2. Delivery systems that might further reduce costs of vaccine and, hence, increase adoption may be sought.
3. Gender really matters. This study has demonstrated that men and women’s WTP for the novel CBPP vaccine is significantly different.
4. Disaggregating data collection by sex enables gender analysis, which provides insights on what really happens within the household.
5. Because they consult each other and agree on the final action e.g. whether or not to adopt a paid-for CBPP vaccine and at what price, women and men in the same household may have to agree on a negotiated price.
6. Obtaining WTP data from men mainly – through household surveys may misinform WTP studies and affect CBPP vaccine technology adoption negatively.

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