Breakthrough ACTION Global Health Security Agenda Risk Communication and Community Engagement Reach and Recall Assessment Brief Report

Johns Hopkins Center for Communication Programs-Ethiopia (CCP/Ethiopia) August 2023

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Acronyms

AHC	Animal Health Clinic
AHW	Animal Health Worker
CSA	Central Statistical Agency
GHSA	Global Health Security Agenda
HEW	Health Extension Worker
HP	Health Post
IPC	Interpersonal Communication
JHSPH	John Hopkins School of Public Health
LQAS	Lot Quality Assurance Sampling
PHCU	Primary Health Care Unit
PZD	Priority zoonotic diseases
RCCE	Risk Communication and Community Engagement
RMNCH	Reproductive, Maternal and Newborn, and Child Health
SBSC	Social and Behavioral Change Communication
ZD	Zoonotic Disease

Executive summary

Starting in 2018, Johns Hopkins Center for Communication Programs (CCP) has been implementing Global Health Security Agenda (GHSA) activities in 22 woredas of three regions in Ethiopia: Amhara, Oromia, and Southern Nations, Nationalities and Peoples (SNNP). The goal of the project is to prevent and control the spread of priority zoonotic diseases (PZDs) by increasing healthy practices among communities and households in the intervention woredas. The project has provided trainings on community engagement for frontline community workers, primarily Health Extension Workers (HEWs) and Animal Health Workers (AHWs); developed and distributed community engagement tools such as cue cards that facilitate Interpersonal Communication (IPC); aired radio spots that promote healthy behavior change and gender equality; and facilitated community mobilization activities. This activity aims to assess the reach of health messages to target audiences and the effectiveness of the messages in improving knowledge, attitudes, and healthy practices focusing the interventions from October 1, 2022, to September 30, 2023. A Lot Quality Assurance Sampling (LQAS) method was used for the assessment. A total of 456 (50% female) randomly sampled men and women were interviewed using a structured questionnaire in August 2023.

Main findings

Study participants demographics

- Mean age of the respondents was 37 years. About 42% of respondents were uneducated, 41% had completed primary cycle, and 17% had completed secondary cycle or above. Most of the respondents (95%) had at least one type of domestic animal. The majority (66%) had a working mobile phone and 27% had a radio at their home.

Exposure to messages

- Less than half (40%) of respondents were exposed to 1-2 interventions, 34% reported being exposed to 3+ interventions, while about 26% were never exposed to any of the interventions.
- The highest message reach was reported in SNNP, followed by Oromia. Exposure to 3+ messages was found among 57% of respondents in SNNP, 23% in Oromia and 21% in Amhara.
- The main sources of the messages about PZDs were AHWs, HEWs, community volunteers, friends, and radio.

Knowledge, attitude and practice on PZDs

- 78% of respondents agreed that wild animals can transmit diseases to domestic animals; 59% agreed that the environment can host diseases causing pathogens that can infect animals.
- 74% of respondents knew that ingestion of raw animal products is a major transmission route for ZDs; 61% were able to name unsafe contact with animals and 34% reported inhalation as major transmission routes.
- Regarding Anthrax, 57%, 61% and 46% named unsafe contact with infected meat or blood, eating infected meat, and drinking raw milk as means of transmission, respectively.
- Regarding Brucellosis, 53% of respondents reported animal abortion as a symptom of Brucellosis, and 43% and 36% reported that consumption of raw animal products and unsafe contact with the blood or meat of infected animals can transmit Brucellosis, respectively.

- Regarding rabies, 88% and 59% reported that being bitten by infected dog and/or direct contact with an infected dog can transmit rabies. 68% of respondents agreed to the statement eating meat of rabid animal is not medicinal, while 18% disagreed and 14% don't know.
- About 72% of respondents reported that they knew at least two prevention methods for ZDs; 97% agreed that vaccination can prevent most ZDs.
- As a means of preventing ZDs, 67.3% respondents reported that ensuring proper vaccination of animals; 67% avoiding consumption of raw animal products; 63% cleaning hands after contact with animals; and 47% properly disposing of carcasses.
- Most respondents (79%) vaccinated their cow/ox, and 92% often washed hands after contact with animals in the past 6 months. However, 24% respondents consumed raw meat and 22% consumed raw milk over the past 6 months.

Gender

- More than three in four respondents reported that women in the household have a role in making decisions about the buying and selling of animals. About 30% of the decisions to take sick animals to an animal clinic were made by husband only.
- Most of the respondents 85% believed that husband should engage in household chores. Fetching water (84%), cleaning yard (64%), buying food supplies from market (55%), cleaning house (36%), feeding children (32%) and cooking (32%) were the types of household activities named by respondents for men's engagement.

Effectiveness of exposure to the messages on knowledge, attitudes and practices

- The percentage of respondents who vaccinated their cow/ox varied significantly by respondents' level of exposure to the project interventions: 59% among those who had no exposure, 85% of those exposed to 1 to 2 interventions, and 87% of those exposed to 3 or more interventions ($P<0.000$). The multivariate logistic regression analysis also indicated that respondents exposed to the interventions were 3 times more likely to vaccinate their livestock than unexposed respondents; with an adjusted odds ratio of 3.3 [95 CI: 1.67-6.93].
- Percentage of respondents reporting handwashing after contact with animals was found to be 84% among those who had no exposure to interventions, 94% among those who had exposure to 1-2 interventions, and 95% among those who exposed to 3 or more interventions ($P<0.01$).
- Consumption of raw meat was named as means of transmission for PZD by 55% of unexposed, 71% those who exposed 1-2 and 72% among those exposed for 3 or more interventions ($P<0.01$).

Conclusion and recommendation

Findings indicated that the messages disseminated by the project reached the majority of the target audiences and resulted in significant improvements in knowledge, attitudes and practices related to ZDs. The use of mix of communication channels (IPC and media) and engagement of both AHW and HEWs led to the high reach of messages to target audiences. However, there were significant regional variations noted on reach and practice. Risk communication programs should use mix of communication channels and consider regional variations in designing strategies and messages for the prevention and control of ZDs.

BACKGROUND

1.1 Brief description of the project

During the period from October 1, 2022, to September 30, 2023, Johns Hopkins Center for Communication Programs has been implementing the Breakthrough ACTION (BA) Global Health Security Agenda (GHSA) Risk Communication and Community Engagement (RCCE) project in 21 woredas of three regions: Amhara, Oromia, and Southern Nations, Nationalities and Peoples (SNNP). The goal of the project is to increase healthy practices by communities and households, and to foster an environment that enables adoption of high-impact health behaviors and practices focusing on priority zoonotic diseases (PZDs) in the intervention woredas.

The project provided trainings on community engagement for frontline community workers, primarily Health Extension Workers (HEWs) and Animal Health Workers (AHWs); developed and distributed community engagement tools such as Cue cards that facilitate IPC, distributed various fliers, leaflets and posters, and aired a radio spot that promotes healthy behavior change across PZDs and gender equality. The project supported community engagement activities such as House to House visit by HEWs and AHWs, family discussions, health education at Health Posts (HPs) and Animal Health Clinics (AHCs) and community education at religious institutions and schools in the intervention regions. Radio spots were also aired at a different time through regional mass media outlets. This reach and recall assessment monitored reach of the messages to the target audiences, audience's recall of the messages, and effectiveness of the messages in improving knowledge, attitude, and healthy practices.

1.2 Assessment objectives

- To monitor reach of health messages to the target audiences, audiences' recall of the messages, and the effect of the messages on the audiences' knowledge, attitudes, and healthy practices.
- To explore associations between level of exposure to interventions and reports of healthy practices.

METHODOLOGY

We used a Lot Quality Assurance Sampling (LQAS) and analysis method. Studies indicate LQAS is a useful method to generate evidence about the quality of health programs. It helps to quickly assess quality of an intervention at lower cost than conventional behavioral surveys [2,3,4]. In LQAS, individual supervision areas or strata can be pooled into an estimate of coverage for an entire program area.

Target Population

The project's RCCE interventions targeted the communities in 21 woredas of the three project regions. Respondents for the reach and recall assessment were randomly sampled adult men and women aged 18+ years in sound mental and physical condition (able to listen and talk) in the project woredas. Purposively sampled key stakeholders from project woredas and zones were also interviewed.

Sampling Strategy

A total of 456 (228 male, 228 female) were interviewed in the three project regions (Amhara, Oromia, and SNNP), with 152 respondents per region. The samples were drawn from six woredas (Dedessa and Duguna Fango in Oromia, East Dembia and Fart in Amhara, Gechi and Kucha in SNNP regions). The woredas were sampled by grouping intervention woredas in each region as remote and nearby considering their distance from the regional capital. One woreda from each group was sampled to have better representation of all project intervention woredas. Two kebeles (one nearby and one remote) were randomly sampled from each woreda, and 19 households were randomly sampled from each kebele. We interviewed one male and one female adult respondent from each sampled household. In total 38 interviews were completed per kebele and 76 interviews per each woreda. The head of household was prioritized among adults in the sampled households.

Data collection procedure

The assessment used a structured questionnaire for data collection. The questions asked about participant's socio-demographic characteristics, exposure and recall to the messages on PZD prevention and control, and knowledge, attitudes, and health behaviors related to PZDs. Data collection was conducted in two local languages (Amharic and Afan Oromo). Six experienced data collectors and three supervisors collected the data. Data collectors and supervisors were trained on research ethics, about the project interventions, methodology of the study, sampling technique, and how to complete the questionnaire using KoboCollect mobile application for before data collection.

Ethical Considerations

For this assessment, a letter of non-research determination that categorized the assessment as a Public Health Practice was obtained from the Johns Hopkins University Institute of Review Board (JHSPH/IRB). All procedures for this assessment were conducted in line with rules governing health research ethics in Ethiopia. Verbal consent was administered by trained data collectors from each respondent before data collection.

MAIN FINDINGS

The assessment findings are organized into four parts. The first part presents respondents' background characteristics; the second part discusses reach of the project interventions to target audiences; the third part presents their knowledge, attitudes, and practices related to ZDs; and the fourth part presents conclusions and recommendations.

Respondents background characteristics

Of the 456 persons interviewed, half were women. Less than half (43%) of respondents were between 18-34 years, 38% were between 35-49 years, and about 18% were above 50 years. The mean age of the sampled respondents was 37 years; the youngest was 18 years and the oldest was 85 years. About 42% of respondents were uneducated, 41% had completed primary cycle (grade 1- 8th), 13% had completed

secondary cycle (grade 9-12th), and 4% had attained Technical and Vocational Education Training (TVET) level 1- 4 or college level. About 95% of the respondents had at least one domestic animal. The majority (66%) had a working mobile phone at home and 27% had a radio.

Table 1: Demographic profile of respondents(N=456)

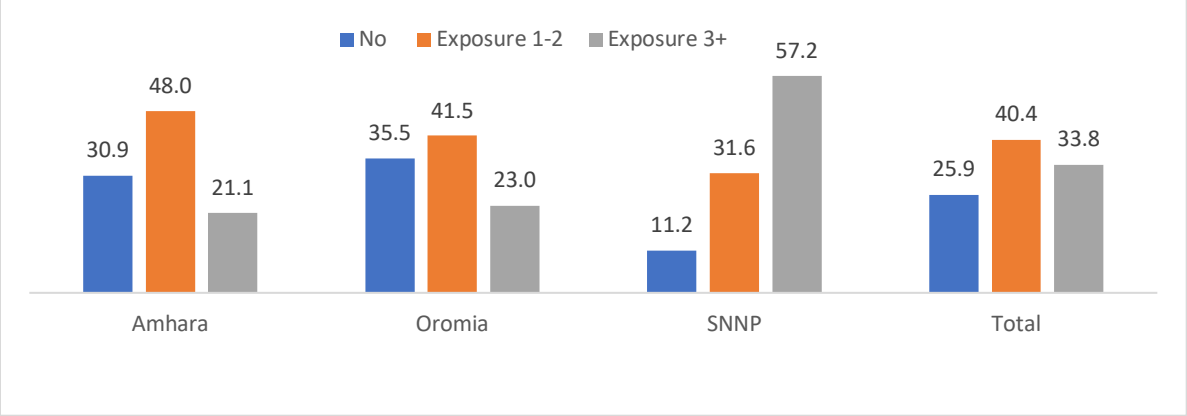
Demographics	Frequency	%
Age group		
18-34	198	43.4
35-49	174	38.2
50-85	84	18.4
Education		
Uneducated	191	41.85
Primary (G1-8)	187	41
Secondary (G9-12)	60	13.2
Higher education	18	3.95
Sex		
Female	228	50.0
Male	228	50.0
Region		
Amhara	152	33.3
Oromia	152	33.3
SNNP	152	33.3
Ownership of domestic animals		
At least one domestic animals	431	95%
Majority HHs have Cow/Ox	371	86.08
Ownership of communication devices		
Mobile Phone	299	65.57
Radio	123	26.97
No (radio, TV, Mobile phone, electricity)	121	26.54

Reach of messages about PZDs to target audiences

Exposure for risk communication interventions

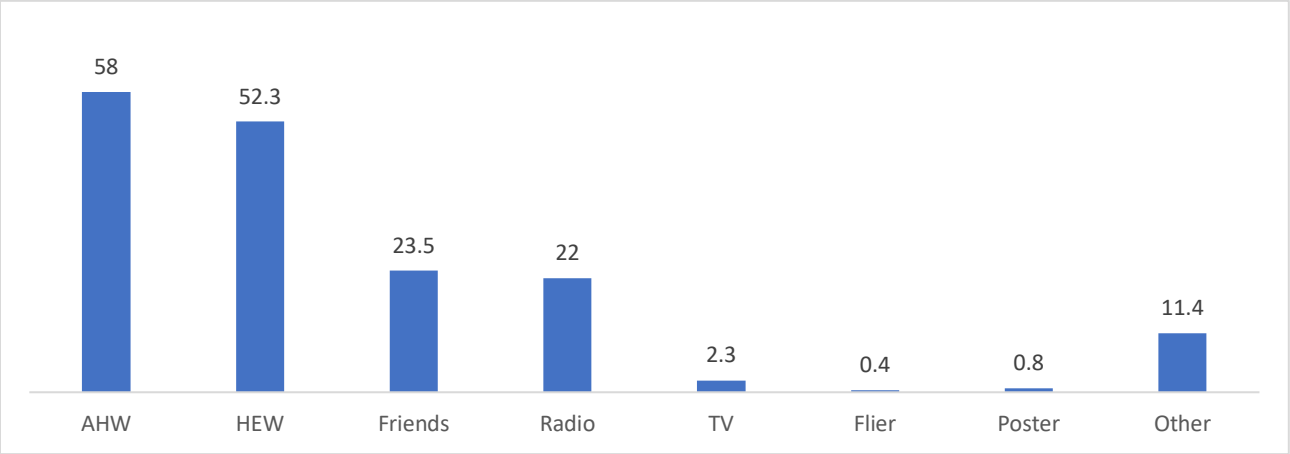
A composite score was created from exposure to any of the project's seven risk communication interventions/strategies [house to house visit, community discussions, health education at health facility, health education at animal health clinics, health education at religious places, awareness creation via mobile van and other (school, children etc.)]. Figure 1 below shows that 40% of respondents were exposed to 1-2 interventions, about 34% exposed to 3+ interventions, while about 26% were never exposed to any of the risk communication interventions on zoonotic diseases. The finding indicates that a majority (66%) had at least one media exposure over the past six months. The level of exposure to media sources varied considerably across regions. A higher proportion of respondents from SNNP (57%) reported 3+ exposures to interventions in the past six months, followed by Oromia (23%). Nevertheless, among respondents who reported not being exposed to any health messages, the majority were from Oromia (36%), followed by Amhara (31%).

Figure 1: Percent exposure to interventions by region (N=456)



Sources of health messages: Respondents who reported being exposed to messages about PZDs were asked about the source of the messages. Figure 2 below shows that 58% of respondents most frequently received health messages from AHWs, followed by 52% from HEWs, 24% from friends/community members, 22% from radio, and 11% from other sources which included mobile van, fliers, posters, marketplaces, religious places. The source of health messages varied across regions. The majority of respondents in Amhara (65%) and in SNNP (67%) mentioned AHWs as the primary source of information, whereas in Oromia 64% mentioned HEWs as the primary source of information.

Figure 2: Percent sources of health messages (N=264)

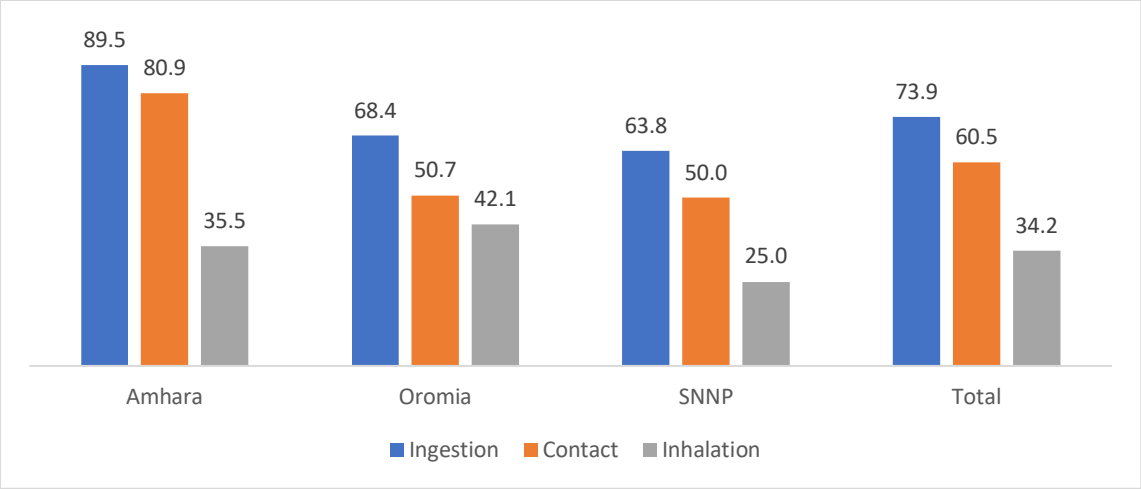


Knowledge, attitude, and practices related to PZDs

Knowledge about major transmission routes of Zoonotic diseases

The majority of respondents (74%) reported ingestion of raw animal products as major transmission routes while 61% reported unsafe contact and 34% inhalation as means of transmitting ZDs. Knowledge varies by the type of ZD. For Anthrax, 57%, 61% and 46% were able to name unsafe contact with infected meat or blood, eating infected meat, and drinking raw milk as means of transmission, respectively. For Brucellosis, 53% of respondents reported animal abortion as a symptom of Brucellosis, and 43% and 36% reported that consumption of raw animal products and unsafe contact with blood or meat of infected animals could transmit Brucellosis, respectively. Similarly, 88% and 59% reported that being bitten by an infected dog and/or direct contact with an infected dog can transmit rabies.

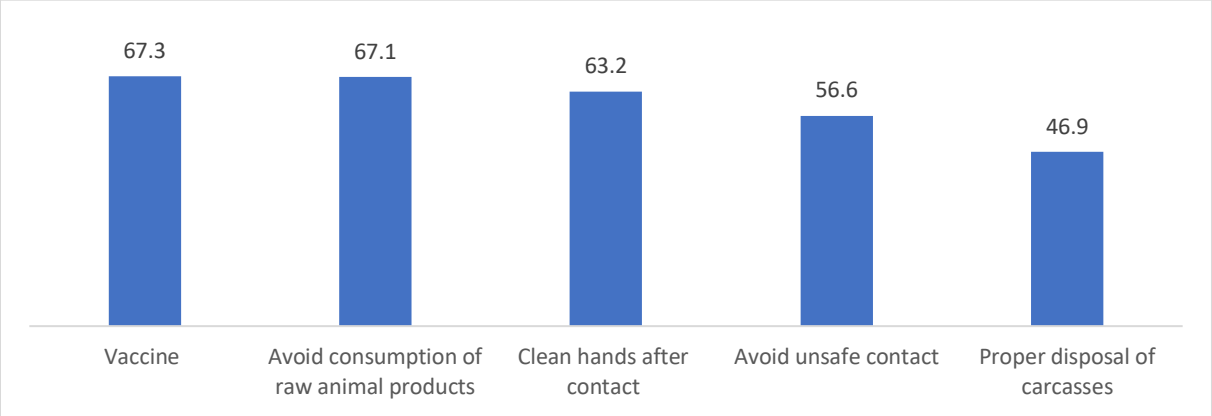
Figure 3: Percent major transmission routes for Zoonotic diseases (N=456)



Knowledge of prevention methods of Zoonotic diseases

The majority of respondents (67%) knew that proper vaccination of animals and avoiding consumption of raw animal products could prevent infection from ZDs. Sixty-three percent, 57%, and 47% knew that cleaning hands after contact with animals, avoiding unsafe contact with animals, and properly disposing of carcasses were means of prevention, respectively. The finding also indicated that about 72% of respondents reported that they knew at least two prevention methods of ZDs. Knowledge about prevention methods was found highest in Amhara region where 80% of respondents knew at least three prevention methods, followed by SNNP (52%) and Oromia (48%).

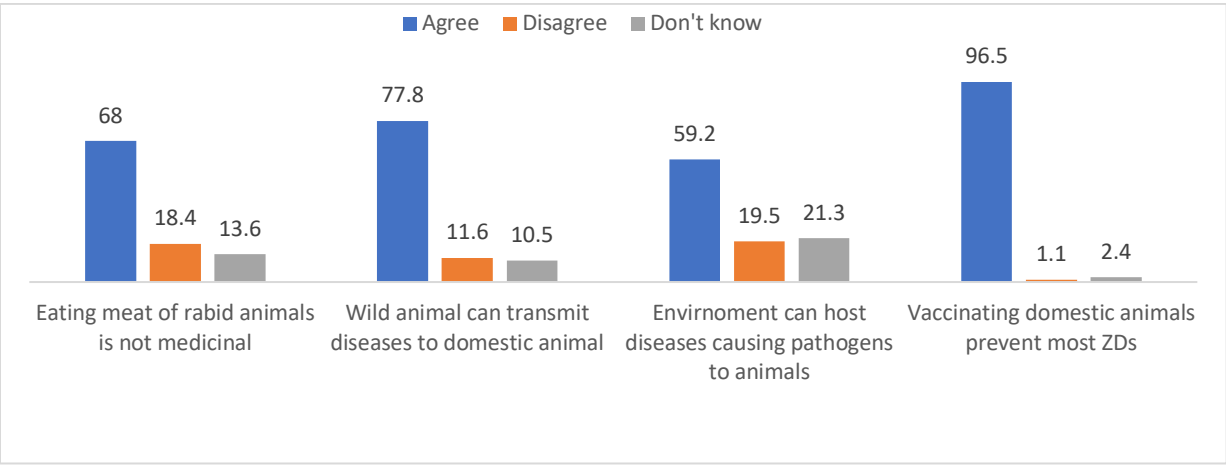
Figure 4: Percent knowledge of Zoonotic diseases prevention methods (N=456)



Attitudes toward ZD transmission routes and prevention methods

Respondents were asked about their level of agreement to statements that measure attitude towards ZDs. For the statement that eating meat of rabid animals is not medicinal, majority of respondents (68%) agreed, 18% disagreed and 14% didn't know. Seventy-eight percent agreed that wild animal can transmit diseases to domestic animals; 59% agreed that environment can host diseases causing pathogens that can infect animals; and 97% agreed that vaccination can prevent most ZDs (Figure 5).

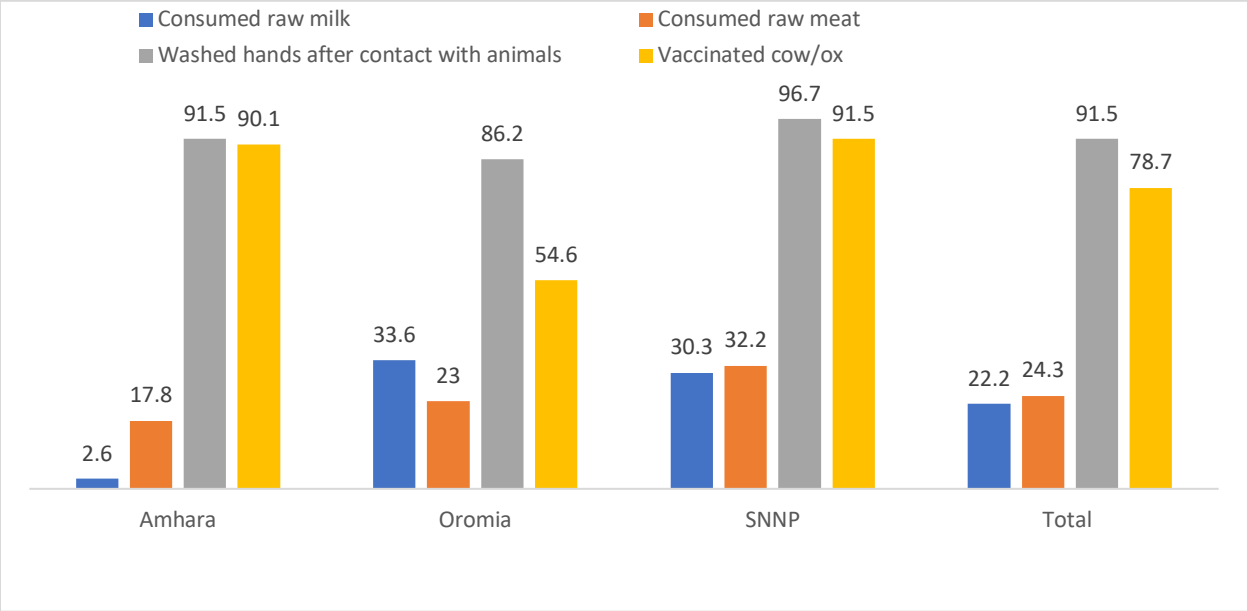
Figure 5: Percent attitude on Zoonotic diseases prevention/transmission methods (N=456)



Practice related Zoonotic diseases.

Prevention and risk practices related to ZDs were assessed. Figure 6 below indicates that 79% of respondents vaccinated their cow/ox, 92% often washed hands after contact with animals, 24% consumed raw meat and 22% consumed raw milk in the past 6 months respectively. Prevention practices such as vaccination of cow/ox and hand washing after contact with animals were found the least in Oromia region compared with Amhara and SNNP. On the other hand, risky practices such as consumption of raw meat and milk were found the least in Amhara region.

Figure 6: Percent practices that determine risk of Zoonotic diseases (N=456)



Effect of exposure to messages on knowledge, attitude, and practice related Zoonotic diseases

Key knowledge, attitude and practice indicators related to PZDs were analyzed by respondents' level of exposure to the project risk communication interventions. The level of exposure was classified in three categories (no exposure =26%, exposure for 1-2 interventions=40%, and exposure for 3 or more interventions =34% of the total respondents).

Table 2 below shows knowledge, attitudes, and practices by level of exposure to the interventions. The percentage of respondents reporting to have vaccinated their cow/ox significantly varied by respondents' level of exposure to the project interventions: 59% report vaccination among those who had no exposure, 85% among those exposed to1 to 2 interventions, and 87% reported vaccination among those exposed to 3 or more interventions (P<0.000). The overall practice of handwashing after contact with an animal was found to be e 84% among those who had no exposure, 94% among those exposed to 1-2 interventions, and 95% among those exposed to 3 or more interventions(P<0.01). Similarly, the percent of respondents who knew ingestion was found to be 60% among those who had

no exposure, 76% among those exposed to 1-2 interventions, and 81% among those exposed to 3 or more interventions (P<0.000). Avoid consumption of raw meat was reported as prevention by 55% of those unexposed, 71% exposed 1-2 and 72% among exposed 3+ interventions (P<0.01).

Table 2: Percent knowledge, attitudes and practices on Zoonotic diseases by level of exposure

Indicators	No exposure	1-2 Exposure	3+ Exposure	Total	Sig.
Knew ingestion as major route for transmission of ZD	60.17	76.63	81.17	73.9	0.000
Knew contact with animal as major route for transmission of ZD	53.39	63.04	62.99	60.53	0.183
Knew inhalation as major route for transmission of ZD	30.51	44.57	24.68	34.21	0.000
Knew avoid consumption of raw meat as prevention	55.08	70.65	72.08	67.11	0.005
Knew cleaning hands after contact with an animal as prevention	56.78	67.39	62.99	63.16	0.175
Knew proper disposal of carcasses as prevention	41.53	44.02	54.55	46.93	0.061
Knew avoid unsafe contact with animal as prevention	64.41	53.26	54.55	56.58	0.134
Knew routine vaccination of animals as prevention	52.54	75.54	68.83	67.32	0.000
Drank raw milk in the past 6 months	20.25	21.74	27.92	22.15	0.440
Ate raw meat in the past 6 months	22.88	22.28	27.92	24.34	0.442
Washed hands after contact with animals	83.9	93.48	94.81	91.45	0.003
Vaccinated their cows/ox	58.47	84.78	87.01	78.73	0.000

Association of exposure to project interventions with animal vaccination

Table below presents findings of the logistic regression analysis of the dependent variable vaccinating cow/ox in the past six month, controlling the effect of other demographic characteristics such as age, sex, education, and region. Respondent who had exposure for 3 or more project interventions were 3 times more likely to have the vaccination than those who didn't have exposure, adjusted odds ratio 3.37[95% CI: 1.67-6.93].

Logistic regression — Number of obs = 456
LR chi2(11) = 126.67
Prob > chi2 = 0.0000
Log likelihood = -172.66372 — Pseudo R2 = 0.2684

q304_vac	Odds ratio	Std. err.	z	P>|z|	[95% conf.	interval]
sbc_exposure						
1-2 sbcc exposure	3.082086	1.01498	3.42	0.001	1.616332	5.877045
3-7 sbcc exposure	3.402931	1.235738	3.37	0.001	1.670123	6.933585
1.q209_5_routine_vaccina	2.310866	.672668	2.88	0.004	1.306168	4.088371
q102_Sex1						
Male	.7293111	.2188788	-1.05	0.293	.4049978	1.313327
q103_Edu1						
Primary (1-8 grade)	2.182267	1.626253	1.05	0.295	.5065023	9.402302
Secondary (9-12)	1.61049	1.279274	0.60	0.549	.3394813	7.640116
Uneducated	2.218204	1.735937	1.02	0.309	.4784785	10.28349
age_catagorized						
35-49 years	2.773419	.9314404	3.04	0.002	1.435963	5.356582
3	2.218808	.9361126	1.89	0.059	.9705076	5.072718
Region1						
Oromia	.1307543	.0454531	-5.85	0.000	.0661545	.2584358
SNNP	1.008244	.4401888	0.02	0.985	.4284893	2.372419
_cons	.9326052	.7965069	-0.08	0.935	.1748699	4.973711

Note: **_cons** estimates baseline odds.

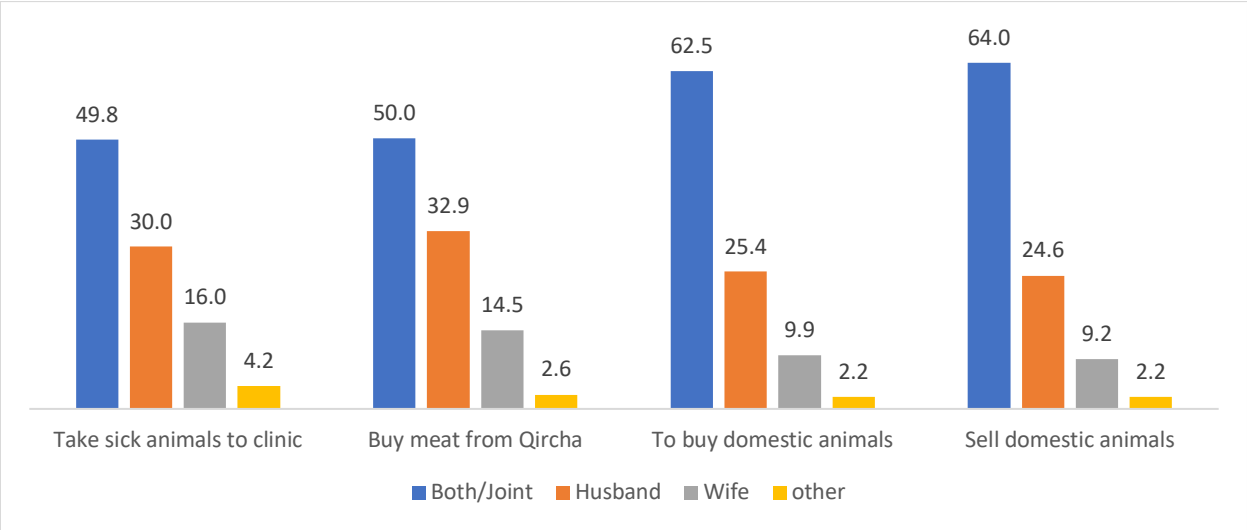
Gender integration

The project integrated gender in all aspects of project design and implementation. This assessment explored women's role in household decisions and male engagement in household chores.

Household Decision-Making

Figure 7 below shows that most of the household decisions were made by both husband and wife together. The second most common decision-making process was for husbands to make decisions on their own. About 30% of decisions to take sick animals to an animal clinic and 33% of decisions to buy meat from Qircha (share) were made by husbands only. More than three in four women have a decision-making role in the buying and selling of animals for the household.

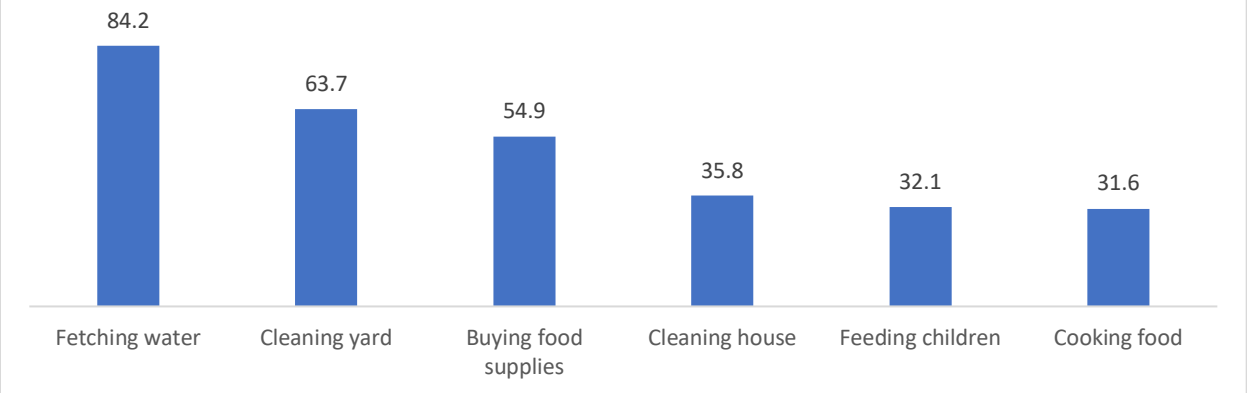
Figure 7: Household decision making (n=456)



Male engagement in household chores

Male engagement is vital to the household use of health services and health practices. Respondents were asked about their attitudes towards husband's support on household chores. Most of the respondents – 85% (79% female and 90% male) reported that husbands – should engage in household chores. Fetching water (84%), cleaning the yard (64%), buying food supplies from the market (55%), cleaning house (36%), feeding children (32%) and cooking (32%) were among the household activities that respondents said men should engage in. Attitudes towards husbands' engagement in household chores were not associated with level of exposure to interventions. This might be because such attitudes are becoming a norm in the community.

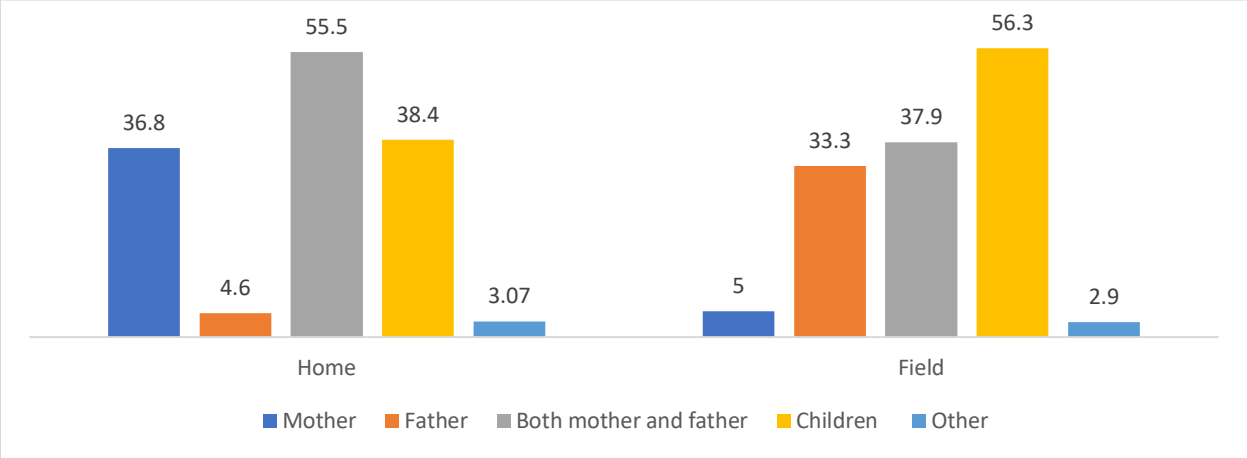
Figure 8: Percent male engagement in household chores (n=456)



Gender differences in taking care of animals

Respondents were asked who takes care of animals at home and in the field. As shown in Figure 9 below, taking care of animals seems to be the responsibility of both the husband and wife. However, the responsibility of taking care of animals at home lies more on women.

Figure 9: Percent male engagement in household chores (n=456)



CONCLUSIONS AND RECOMMENDATIONS

- Findings indicated that the messages disseminated by the project reached the majority of target audiences and resulted in significant improvements in knowledge, attitudes and practices related to ZDs.
- The use of mix of communication channels (IPC and media) and engagement of both AHWs and HEWs in the prevention and control of ZDs led to the high reach of messages to target audiences.
- Significant regional variations were noted in the reach of the messages and risk practices. Risk communication programs should use a mix of communication channels and consider regional variations when designing interventions.