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# Supplementary Table S1: Distribution of responses to each knowledge, altitude and practice item from the questionnaire

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Household Wellbeing and Neighborhood										
Household food insecurity access score as estimated in December 2019	Secure (0–1)	18.5%	24.5%	5.7%	17.9%	17.8%	14.3%	17.0%	17.0%	17.4%
	Mildly food insecure (2–7)	17.1%	30.2%	14.3%	19.7%	23.3%	21.4%	22.0%	22.6%	21.3%
	Moderately food insecure (8–14)	23.3%	20.8%	34.3%	24.4%	20.5%	28.6%	40.0%	28.5%	26.6%
	Severely food insecure (15–27)	41.1%	24.5%	45.7%	38.0%	38.4%	35.7%	21.0%	31.9%	34.7%
Main material used in the construction of the floor of the house	Earth	80.8%	79.2%	97.1%	82.9%	83.6%	92.9%	93.0%	88.2%	85.8%
	Cement	19.2%	20.8%	2.9%	17.1%	16.4%	7.1%	7.0%	11.8%	14.2%
Main material used in the construction of the walls of the house	leaves, tree poles; bamboo	4.8%		5.7%	4%	2.1%			1%	2.3%
	mud and poles or stones	50.7%	26.4%	65.7%	47%	14.4%	9.5%	10.0%	12%	28.0%
	mud bricks	8.9%	18.9%	5.7%	11%	25.3%	21.4%	30.0%	26%	19.3%
	baked or burnt bricks	34.2%	50.9%	22.9%	36%	56.2%	66.7%	59.0%	59%	48.7%
	concrete, cement, stone	1.4%	3.8%		2%	2.1%			1%	1.3%
	Other				0%		2.4%	1.0%	70%	.4%
Main material used in the construction of the roof of the house	grass, leaves, bamboo	51.4%	47.2%	82.9%	55%	55.5%	59.5%	59.0%	57%	56.3%
	galvanized metal sheets / iron sheets	48.6%	52.8%	17.1%	45%	44.5%	40.5%	41.0%	43%	43.7%
Roof leaking		65.1%	50.9%	68.6%	62.4%	50.7%	54.8%	59.0%	54.2%	57.9%
Main type of toilet facility used by the household	Simple pit latrine – unimproved	78.8%	66.0%	77.1%	75.6%	86.3%	90.5%	80.0%	84.7%	80.7%
	Simple pit latrine – improved	10.3%	30.2%	20.0%	16.2%	8.2%	2.4%	5.0%	6.3%	10.7%
	No toilet / bush / field / river	11.0%	3.8%	2.9%	8.1%	5.5%	7.1%	15.0%	9.0%	8.6%
Pit latrine with a drop hole cover	Yes	21.9%	45.3%	60.0%	32.9%	39.7%	47.6%	56.0%	46.5%	40.4%
	No	67.1%	50.9%	37.1%	59.0%	54.1%	45.2%	30.0%	44.4%	51.0%
	NA	11.0%	3.8%	2.9%	8.1%	6.2%	7.1%	14.0%	9.0%	8.6%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Main toilet facility shared with other households	Yes	24.7%	9.4%	22.9%	20.9%	19.9%	14.3%	8.0%	14.9%	17.6%
	No	64.4%	86.8%	74.3%	70.9%	74.0%	78.6%	78.0%	76.0%	73.8%
	NA	11.0%	3.8%	2.9%	8.1%	6.2%	7.1%	14.0%	9.0%	8.6%
Functional hand washing facility around the pit latrine	Yes	4.1%	45.3%	34.3%	17.9%	6.2%	2.4%	11.0%	7.3%	12.1%
	No	85.6%	50.9%	62.9%	74.4%	87.0%	90.5%	75.0%	83.3%	79.3%
	NA	10.3%	3.8%	2.9%	7.7%	6.8%	7.1%	14.0%	9.4%	8.6%
Soap available at the hand washing facility around the pit latrine	Yes	0.0%	15.1%	14.3%	5.6%	2.1%	0.0%	5.0%	2.8%	4.0%
	No	4.1%	30.2%	20.0%	12.4%	4.1%	2.4%	6.0%	4.5%	8.0%
	NA	95.9%	54.7%	65.7%	82.1%	93.8%	97.6%	89.0%	92.7%	87.9%
Existence of refuse pit		23.3%	49.1%	62.9%	35.0%	26.7%	19.0%	12.0%	20.5%	27.0%
Existence of a kitchen		78.8%	69.8%	88.6%	78.2%	43.8%	52.4%	47.0%	46.2%	60.5%
Kitchen with a proper door	Yes	47.9%	37.7%	28.6%	42.7%	4.1%	2.4%	5.0%	4.2%	21.5%
	No	30.8%	34.0%	60.0%	35.9%	39.0%	50.0%	42.0%	41.7%	39.1%
	NA	21.2%	28.3%	11.4%	21.4%	56.8%	47.6%	53.0%	54.2%	39.5%
Main source of drinking water in the rainy season	Piped water to yard/plot					5.5%			2.8%	1.5%
	Public tap or standpipe	4.1%			2.6%	9.6%			4.9%	3.8%
	Protected dug well	2.1%			1.3%	4.1%	7.1%	2.0%	3.8%	2.7%
	Protected spring	1.4%			.9%					.4%
	Rainwater collection		1.9%		.4%					.2%
	Tube-well or borehole	80.8%	77.4%	77.1%	79.5%	74.0%	83.3%	96.0%	82.9%	81.4%
	Unprotected dug well	8.2%	18.9%	17.1%	12.0%	4.8%	9.5%	1.0%	4.2%	7.7%
	Unprotected spring	.7%	1.9%		.9%					.4%
	Surface water: Stream / river	1.4%		2.9%	1.3%	.7%		1.0%	.7%	1.0%
	Surface water: Dam			2.9%	.4%	.7%			.3%	.4%
	Other surface water source	1.4%			.9%					.4%
	Other					.7%			.3%	.2%
Time taken to fetch drinking water (go, fetch and return) in the rainy season	Less than 5 minutes	21.2%	26.4%	28.6%	23.5%	37.7%	26.2%	20.0%	29.9%	27.0%
	5 – 10 minutes	35.6%	26.4%	25.7%	32.1%	34.2%	40.5%	45.0%	38.9%	35.8%
	10 – 30 minutes	26.0%	30.2%	40.0%	29.1%	21.2%	23.8%	31.0%	25.0%	26.8%
	30 minutes - 1 hour	14.4%	13.2%	2.9%	12.4%	6.2%	7.1%	4.0%	5.6%	8.6%
	1 hour - 2 hours	2.7%	3.8%	2.9%	3.0%	.7%	2.4%		.7%	1.7%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Main source of drinking water in the dry season	Piped water to yard/plot					5.5%			2.8%	1.5%
	Public tap or standpipe	4.1%			2.6%	9.6%			4.9%	3.8%
	Protected dug well	3.4%			2.1%	4.8%	7.1%	2.0%	4.2%	3.3%
	Protected spring	.7%			.4%		2.4%		.3%	.4%
	Bottled water	.7%			.4%					.2%
	Tube-well or borehole	77.4%	77.4%	77.1%	77.4%	72.6%	81.0%	96.0%	81.9%	79.9%
	Unprotected dug well	8.9%	20.8%	17.1%	12.8%	6.8%	9.5%	2.0%	5.6%	8.8%
	Unprotected spring	.7%	1.9%		.9%					.4%
	Surface water: Stream / river	2.1%		2.9%	1.7%					.8%
	Surface water: Dam			2.9%	.4%					.2%
	Surface water: Lake	.7%			.4%					.2%
	Other surface water source	1.4%			.9%					.4%
	Other					.7%			.3%	.2%
Time taken to fetch drinking water (go, fetch and return) in the dry season	Less than 5 minutes	21.9%	26.4%	28.6%	23.9%	37.7%	26.2%	20.0%	29.9%	27.2%
	5 – 10 minutes	34.2%	24.5%	28.6%	31.2%	32.2%	40.5%	44.0%	37.5%	34.7%
	10 – 30 minutes	26.7%	22.6%	34.3%	26.9%	23.3%	23.8%	31.0%	26.0%	26.4%
	30 minutes - 1 hour	13.0%	20.8%	2.9%	13.2%	5.5%	7.1%	4.0%	5.2%	8.8%
	1 hour - 2 hours	4.1%	5.7%	5.7%	4.7%	1.4%	2.4%		1.0%	2.7%
	2 hours - 3 hours							1.0%	.3%	.2%
Household Food Insecurity Access Scale										
In the past four weeks, a mother was worried that her household would not have enough food		67.8%	62.3%	88.6%	69.7%	75.3%	69.0%	77.0%	75.0%	72.6%
Frequency	Rarely	21.2%	20.8%	25.7%	21.8%	22.6%	7.1%	32.0%	23.6%	22.8%
	Sometimes	28.1%	28.3%	37.1%	29.5%	22.6%	33.3%	30.0%	26.7%	28.0%
	Often	18.5%	13.2%	25.7%	18.4%	30.1%	28.6%	15.0%	24.7%	21.8%
	NA	32.2%	37.7%	11.4%	30.3%	24.7%	31.0%	23.0%	25.0%	27.4%
At least a household member was unable to eat the kinds of foods they preferred in the past four weeks because of a lack of resources		70.5%	62.3%	85.7%	70.9%	74.7%	78.6%	77.0%	76.0%	73.8%
Frequency	Rarely	19.2%	18.9%	28.6%	20.5%	23.3%	14.3%	29.0%	24.0%	22.4%
	Sometimes	26.0%	28.3%	28.6%	26.9%	23.3%	42.9%	31.0%	28.8%	28.0%
	Often	25.3%	15.1%	28.6%	23.5%	28.1%	21.4%	17.0%	23.3%	23.4%
	NA	29.5%	37.7%	14.3%	29.1%	25.3%	21.4%	23.0%	24.0%	26.2%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
At least a household member had to eat a limited variety of foods in the past four weeks due to a lack of resources		74.7%	58.5%	85.7%	72.6%	67.1%	76.2%	73.0%	70.5%	71.5%
Frequency	Rarely	21.9%	13.2%	34.3%	21.8%	17.8%	16.7%	22.0%	19.1%	20.3%
	Sometimes	27.4%	32.1%	28.6%	28.6%	23.3%	31.0%	23.0%	24.3%	26.2%
	Often	25.3%	13.2%	22.9%	22.2%	26.0%	28.6%	28.0%	27.1%	24.9%
	NA	25.3%	41.5%	14.3%	27.4%	32.9%	23.8%	27.0%	29.5%	28.5%
At least a household member had to eat some foods that they really did not want to eat in the past four weeks because of a lack of resources to obtain other types of food.		76.0%	69.8%	85.7%	76.1%	76.7%	83.3%	80.0%	78.8%	77.6%
Frequency	Rarely	17.1%	18.9%	20.0%	17.9%	24.7%	16.7%	26.0%	24.0%	21.3%
	Sometimes	32.2%	37.7%	37.1%	34.2%	23.3%	42.9%	38.0%	31.2%	32.6%
	Often	26.7%	13.2%	28.6%	23.9%	28.8%	23.8%	16.0%	23.6%	23.8%
	NA	24.0%	30.2%	14.3%	23.9%	23.3%	16.7%	20.0%	21.2%	22.4%
At least a household member had to eat a smaller meal than they felt in the past four weeks because there was not enough food		66.4%	54.7%	88.6%	67.1%	69.2%	71.4%	73.0%	70.8%	69.2%
Frequency	Rarely	16.4%	15.1%	31.4%	18.4%	20.5%	14.3%	29.0%	22.6%	20.7%
	Sometimes	26.0%	22.6%	37.1%	26.9%	21.2%	31.0%	31.0%	26.0%	26.4%
	Often	24.0%	17.0%	20.0%	21.8%	27.4%	26.2%	13.0%	22.2%	22.0%
	NA	33.6%	45.3%	11.4%	32.9%	30.8%	28.6%	27.0%	29.2%	30.8%
At least a household member had to eat fewer meals (once or twice) in a day in the past four weeks because there was not enough food		61.6%	47.2%	85.7%	62.0%	66.4%	76.2%	65.0%	67.4%	64.9%
Frequency	Rarely	11.6%	13.2%	34.3%	15.4%	16.4%	23.8%	22.0%	19.4%	17.6%
	Sometimes	28.8%	20.8%	31.4%	27.4%	27.4%	33.3%	32.0%	29.9%	28.7%
	Often	21.2%	13.2%	20.0%	19.2%	22.6%	19.0%	11.0%	18.1%	18.6%
	NA	38.4%	52.8%	14.3%	38.0%	33.6%	23.8%	35.0%	32.6%	35.1%
In the past four weeks, household did not have any kind of food to eat because of lack of resources to get food		58.9%	37.7%	68.6%	55.6%	45.9%	45.2%	33.0%	41.3%	47.7%
Frequency	Rarely	19.2%	13.2%	28.6%	19.2%	13.0%	9.5%	21.0%	15.3%	17.0%
	Sometimes	21.9%	13.2%	22.9%	20.1%	16.4%	26.2%	12.0%	16.3%	18.0%
	Often	17.8%	11.3%	17.1%	16.2%	16.4%	9.5%	0%	9.7%	12.6%
	NA	41.1%	62.3%	31.4%	44.4%	54.1%	54.8%	67.0%	58.7%	52.3%
In the past four weeks, at least a household member would go to sleep at night hungry because there was not enough food		56.2%	39.6%	62.9%	53.4%	43.8%	33.3%	30.0%	37.5%	44.6%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMBU	KAMENYAGWAZA	CHAUMA	OVERALL	MAGANGA	PEMBA	NDINDI	OVERALL	
Frequency	Rarely	21.2%	17.0%	25.7%	20.9%	18.5%	16.7%	26.0%	20.8%	20.9%
	Sometimes	21.2%	13.2%	25.7%	20.1%	12.3%	11.9%	4.0%	9.4%	14.2%
	Often	13.7%	9.4%	11.4%	12.4%	13.0%	4.8%		7.3%	9.6%
	NA	43.8%	60.4%	37.1%	46.6%	56.2%	66.7%	70.0%	62.5%	55.4%
In the past four weeks, at least a household member goes a whole day and night without eating anything because there was not enough food		40.4%	26.4%	60.0%	40.2%	37.7%	33.3%	26.0%	33.0%	36.2%
Frequency	Rarely	13.0%	3.8%	34.3%	14.1%	13.0%	7.1%	19.0%	14.2%	14.2%
	Sometimes	13.7%	15.1%	20.0%	15.0%	13.7%	16.7%	6.0%	11.5%	13.0%
	Often	13.7%	7.5%	5.7%	11.1%	11.0%	9.5%	1.0%	7.3%	9.0%
	NA	59.6%	73.6%	40.0%	59.8%	62.3%	66.7%	74.0%	67.0%	63.8%
<b>Livestock and Pets</b>										
Household owns a dog		29.5%	32.1%	20.0%	28.6%	9.6%	14.3%	12.0%	11.1%	19.0%
Dogs from the neighborhood ringer around the compound		89.7%	100.0%	80.0%	90.6%	78.1%	95.2%	90.0%	84.7%	87.4%
Household owns a cat		11.0%	11.3%	5.7%	10.3%	20.5%	23.8%	16.0%	19.4%	15.3%
Household keeps goats/sheep		32.2%	28.3%	45.7%	33.3%	41.8%	45.2%	35.0%	39.9%	37.0%
Goats/ sheep from the neighborhood ringer around the compound		90.4%	94.3%	94.3%	91.9%	91.1%	100.0%	90.0%	92.0%	92.0%
Household keeping poultry		35.6%	47.2%	42.9%	39.3%	47.3%	50.0%	61.0%	52.4%	46.6%
Household keeping domesticated animals in the house or kitchen	Yes	24.0%	18.9%	45.7%	26.1%	30.1%	28.6%	39.0%	33.0%	29.9%
	No	56.8%	52.8%	34.3%	52.6%	45.9%	54.8%	46.0%	47.2%	49.6%
	NA	19.2%	28.3%	20.0%	21.4%	24.0%	16.7%	15.0%	19.8%	20.5%
<b>Hand Washing Practice</b>										
Wash hands after using toilet	Always	70.5%	77.4%	88.6%	74.8%	90.4%	88.1%	91.0%	90.3%	83.3%
	Often	8.2%	3.8%		6.0%	4.1%	4.8%	7.0%	5.2%	5.6%
	Sometimes	9.6%	15.1%	2.9%	9.8%	4.1%	7.1%	2.0%	3.8%	6.5%
	Occasionally	10.3%	3.8%	8.6%	8.5%	1.4%			.7%	4.2%
	Never	1.4%			.9%					.4%
Wash hands with soap after using toilet	Always	12.3%	13.2%	5.7%	11.5%	13.7%	4.8%	6.0%	9.7%	10.5%
	Often	8.9%	5.7%	8.6%	8.1%	11.0%	19.0%	11.0%	12.2%	10.3%
	Sometimes	34.2%	39.6%	45.7%	37.2%	50.7%	38.1%	54.0%	50.0%	44.3%
	Occasionally	16.4%	26.4%	22.9%	19.7%	15.1%	23.8%	22.0%	18.8%	19.2%
	Never	28.1%	15.1%	17.1%	23.5%	9.6%	14.3%	7.0%	9.4%	15.7%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Wash hands after changing babies' nappies/ diapers	Always	55.5%	49.1%	68.6%	56.0%	69.9%	61.9%	76.0%	70.8%	64.2%
	Often	.7%	3.8%		1.3%	4.1%	7.1%	13.0%	7.6%	4.8%
	Sometimes	4.1%	7.5%	11.4%	6.0%	12.3%	14.3%	5.0%	10.1%	8.2%
	Occasionally	11.6%	5.7%	5.7%	9.4%	1.4%		4.0%	2.1%	5.4%
	Never	4.1%	5.7%	8.6%	5.1%	3.4%	7.1%	2.0%	3.5%	4.2%
	NA	24.0%	28.3%	5.7%	22.2%	8.9%	9.5%		5.9%	13.2%
Wash hands with soap after changing babies' nappies/ diapers	Always	10.3%	13.2%	11.4%	11.1%	19.9%	4.8%	7.0%	13.2%	12.3%
	Often	6.8%	3.8%	2.9%	5.6%	4.8%	14.3%	4.0%	5.9%	5.7%
	Sometimes	24.7%	18.9%	31.4%	24.4%	43.2%	38.1%	51.0%	45.1%	35.8%
	Occasionally	15.8%	22.6%	22.9%	18.4%	14.4%	19.0%	25.0%	18.8%	18.6%
	Never	17.8%	13.2%	25.7%	17.9%	8.9%	14.3%	13.0%	11.1%	14.2%
	NA	24.7%	28.3%	5.7%	22.6%	8.9%	9.5%		5.9%	13.4%
Wash hands before cooking	Always	47.3%	37.7%	42.9%	44.4%	49.3%	52.4%	47.0%	49.0%	46.9%
	Often	29.5%	35.8%	37.1%	32.1%	27.4%	23.8%	33.0%	28.8%	30.3%
	Sometimes	7.5%	11.3%	8.6%	8.5%	13.7%	19.0%	16.0%	15.3%	12.3%
	Occasionally	9.6%	9.4%	8.6%	9.4%	5.5%	2.4%		3.1%	5.9%
	Never	6.2%	5.7%	2.9%	5.6%	4.1%	2.4%	4.0%	3.8%	4.6%
Wash hands with soap before cooking	Always	3.4%	5.7%	8.6%	4.7%	7.5%	4.8%		4.5%	4.6%
	Often	6.2%	5.7%	2.9%	5.6%	.7%	7.1%	5.0%	3.1%	4.2%
	Sometimes	34.9%	30.2%	37.1%	34.2%	42.5%	28.6%	31.0%	36.5%	35.4%
	Occasionally	13.7%	20.8%	14.3%	15.4%	21.9%	16.7%	27.0%	22.9%	19.5%
	Never	41.8%	37.7%	37.1%	40.2%	27.4%	42.9%	37.0%	33.0%	36.2%
Wash hands after house cleaning work	Always	35.6%	39.6%	37.1%	36.8%	45.9%	33.3%	43.0%	43.1%	40.2%
	Often	15.8%	15.1%	8.6%	14.5%	16.4%	4.8%	25.0%	17.7%	16.3%
	Sometimes	20.5%	28.3%	45.7%	26.1%	24.0%	38.1%	19.0%	24.3%	25.1%
	Occasionally	12.3%	5.7%	8.6%	10.3%	5.5%	7.1%	10.0%	7.3%	8.6%
	Never	15.8%	11.3%		12.4%	8.2%	16.7%	3.0%	7.6%	9.8%
Wash hands with soap after house cleaning work	Always	.7%		2.9%	.9%	3.4%	2.4%		2.1%	1.5%
	Often	4.1%	1.9%	2.9%	3.4%	.7%		1.0%	.7%	1.9%
	Sometimes	31.5%	34.0%	28.6%	31.6%	35.6%	31.0%	33.0%	34.0%	33.0%
	Occasionally	17.1%	26.4%	31.4%	21.4%	25.3%	21.4%	21.0%	23.3%	22.4%
	Never	46.6%	37.7%	34.3%	42.7%	34.9%	45.2%	45.0%	39.9%	41.2%
Wash hands after disposing/handling of garbage	Always	31.5%	37.7%	25.7%	32.1%	32.2%	35.7%	32.0%	32.6%	32.4%
	Often	17.8%	13.2%	17.1%	16.7%	26.0%	7.1%	30.0%	24.7%	21.1%
	Sometimes	21.9%	28.3%	45.7%	26.9%	27.4%	40.5%	31.0%	30.6%	28.9%
	Occasionally	15.1%	7.5%	11.4%	12.8%	6.8%	9.5%	4.0%	6.2%	9.2%
	Never	13.7%	13.2%		11.5%	7.5%	7.1%	3.0%	5.9%	8.4%
	Always	4.8%	1.9%	2.9%	3.8%	2.7%	2.4%		1.7%	2.7%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Wash hands with soap after disposing/handling of rubbish	Often						2.4%	2.0%	1.0%	.6%
	Sometimes	31.5%	22.6%	28.6%	29.1%	34.9%	26.2%	28.0%	31.2%	30.3%
	Occasionally	13.7%	32.1%	28.6%	20.1%	26.0%	26.2%	32.0%	28.1%	24.5%
	Never	50.0%	43.4%	40.0%	47.0%	36.3%	42.9%	38.0%	37.8%	42.0%
Wash hands before eating	Always	87.7%	92.5%	94.3%	89.7%	90.4%	83.3%	90.0%	89.2%	89.5%
	Often	4.8%	7.5%	2.9%	5.1%	5.5%	14.3%	6.0%	6.9%	6.1%
	Sometimes	7.5%		2.9%	5.1%	4.1%	2.4%	4.0%	3.8%	4.4%
Wash hands with soap before eating	Sometimes	37.0%	39.6%	28.6%	36.3%	36.3%	23.8%	16.0%	27.4%	31.4%
	Occasionally	12.3%	9.4%	37.1%	15.4%	16.4%	9.5%	16.0%	15.3%	15.3%
	Never	50.7%	50.9%	34.3%	48.3%	47.3%	66.7%	68.0%	57.3%	53.3%
Wash hands in a bucket or basin using water that had been previously used by someone.	Always	30.1%	20.8%	5.7%	24.4%	32.9%	33.3%	20.0%	28.5%	26.6%
	Often	13.7%	5.7%	8.6%	11.1%	8.9%	9.5%	5.0%	7.6%	9.2%
	Sometimes	13.0%	17.0%	22.9%	15.4%	6.2%	14.3%	13.0%	9.7%	12.3%
	Occasionally	9.6%	13.2%	14.3%	11.1%	11.6%	9.5%	19.0%	13.9%	12.6%
	Never	33.6%	43.4%	48.6%	38.0%	40.4%	33.3%	43.0%	40.3%	39.3%
<b>Cleaning of food preparatory utensils</b>										
Washing utensils before use	Always	74.0%	92.5%	94.3%	81.2%	87.7%	81.0%	87.0%	86.5%	84.1%
	Often	8.9%	5.7%	2.9%	7.3%	6.8%	11.9%	10.0%	8.7%	8.0%
	Sometimes	17.1%	1.9%	2.9%	11.5%	5.5%	7.1%	3.0%	4.9%	7.9%
Washing utensils with soap before use	Always	4.1%	13.2%	8.6%	6.8%	11.6%		3.0%	6.9%	6.9%
	Often	13.7%	20.8%	11.4%	15.0%	10.3%	11.9%	14.0%	11.8%	13.2%
	Sometimes	46.6%	50.9%	48.6%	47.9%	63.7%	57.1%	58.0%	60.8%	55.0%
	Occasionally	18.5%	13.2%	25.7%	18.4%	8.9%	28.6%	25.0%	17.4%	17.8%
	Never	17.1%	1.9%	5.7%	12.0%	5.5%	2.4%		3.1%	7.1%
Dry utensils on the rack	Always	13.0%	43.4%	45.7%	24.8%	15.1%	9.5%	15.0%	14.2%	19.0%
	Often		3.8%		.9%	1.4%	2.4%	1.0%	1.4%	1.1%
	Sometimes	2.1%	1.9%		1.7%	.7%	2.4%	1.0%	1.0%	1.3%
	Occasionally	.7%		2.9%	.9%	.7%			.3%	.6%
	Never	84.2%	50.9%	51.4%	71.8%	82.2%	85.7%	83.0%	83.0%	78.0%
Dry utensils on the rack not accessible to pets	Always	12.3%	32.1%	28.6%	19.2%	8.9%	4.8%	10.0%	8.7%	13.4%
	Often		1.9%		.4%					.2%
	Sometimes	.7%	3.8%		1.3%		2.4%	1.0%	.7%	1.0%
	Occasionally					2.7%		1.0%	1.7%	1.0%
	Never	2.7%	11.3%	20.0%	7.3%	5.5%	7.1%	5.0%	5.6%	6.3%
	NA	84.2%	50.9%	51.4%	71.8%	82.9%	85.7%	83.0%	83.3%	78.2%
Clean surfaces and equipment	Always	54.8%	73.6%	80.0%	62.8%	76.0%	54.8%	58.0%	66.7%	64.9%
	Often	5.5%	7.5%	2.9%	5.6%	6.2%	16.7%	17.0%	11.5%	8.8%



Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
used for preparation before re-using for subsequent foods	Sometimes	26.7%	17.0%	11.4%	22.2%	13.0%	26.2%	17.0%	16.3%	19.0%
	Occasionally	13.0%	1.9%	5.7%	9.4%	4.8%	2.4%	8.0%	5.6%	7.3%
Cleaning/washing of utensils/containers in which drinking water is kept	Always	84.2%	90.6%	91.4%	86.8%	93.2%	90.5%	93.0%	92.7%	90.0%
	Often	6.2%	3.8%	2.9%	5.1%	2.7%	2.4%	6.0%	3.8%	4.4%
	Sometimes	9.6%	5.7%	5.7%	8.1%	4.1%	7.1%	1.0%	3.5%	5.6%
Keeping of water in the same container/bucket used for other household chores	Always	33.6%	26.4%	20.0%	29.9%	22.6%	11.9%	11.0%	17.0%	22.8%
	Often	2.7%	1.9%	2.9%	2.6%	1.4%		1.0%	1.0%	1.7%
	Sometimes	3.4%	5.7%	8.6%	4.7%	4.8%	2.4%	8.0%	5.6%	5.2%
	Occasionally	4.1%	1.9%		3.0%	2.7%		2.0%	2.1%	2.5%
	Never	56.2%	64.2%	68.6%	59.8%	68.5%	85.7%	78.0%	74.3%	67.8%
<b>Illness and food handling</b>										
Handler preparing food while having diarrhea	Always	17.1%	18.9%	8.6%	16.2%	13.7%	16.7%	16.0%	14.9%	15.5%
	Often	2.7%	3.8%		2.6%	6.2%	9.5%	5.0%	6.2%	4.6%
	Sometimes	70.5%	67.9%	80.0%	71.4%	76.7%	66.7%	73.0%	74.0%	72.8%
	Occasionally	9.6%	9.4%	11.4%	9.8%	3.4%	7.1%	6.0%	4.9%	7.1%
Handler preparing food while having hand lesions/open wound	Always	17.8%	13.2%	11.4%	15.8%	18.5%	19.0%	22.0%	19.8%	18.0%
	Often	4.8%	1.9%		3.4%	6.2%	9.5%	12.0%	8.7%	6.3%
	Sometimes	68.5%	77.4%	80.0%	72.2%	71.9%	64.3%	61.0%	67.0%	69.3%
	Occasionally	8.9%	7.5%	8.6%	8.5%	3.4%	7.1%	5.0%	4.5%	6.3%
Handler preparing food while having fever	Always	13.0%	17.0%	11.4%	13.7%	20.5%	28.6%	20.0%	21.5%	18.0%
	Often	12.3%	11.3%	14.3%	12.4%	7.5%	16.7%	11.0%	10.1%	11.1%
	Sometimes	65.8%	52.8%	65.7%	62.8%	65.8%	50.0%	66.0%	63.5%	63.2%
	Occasionally	8.9%	18.9%	8.6%	11.1%	6.2%	4.8%	3.0%	4.9%	7.7%
Handler preparing food while having sore throat/flu	Always	29.5%	20.8%	17.1%	25.6%	24.7%	19.0%	29.0%	25.3%	25.5%
	Often	18.5%	3.8%	5.7%	13.2%	11.0%	14.3%	21.0%	14.9%	14.2%
	Sometimes	52.1%	75.5%	77.1%	61.1%	64.4%	66.7%	50.0%	59.7%	60.3%
Prepare food in a kitchen with a proper door	Always	41.1%	37.7%	28.6%	38.5%	2.7%	2.4%	4.0%	3.1%	19.0%
	Often	1.4%			.9%	.7%		1.0%	.7%	.8%
	Sometimes	1.4%			.9%	.7%			.3%	.6%
	Occasionally	3.4%			2.1%	.7%			.3%	1.1%
	Never	.7%			.4%					.2%
	NA	52.1%	62.3%	71.4%	57.3%	95.2%	97.6%	95.0%	95.5%	78.4%
	Always	3.4%		5.7%	3.0%	4.8%	2.4%	1.0%	3.1%	3.1%
	Often					.7%	2.4%	1.0%	1.0%	.6%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Preparing food on surfaces above knee high	Sometimes	2.1%	9.4%		3.4%	5.5%		3.0%	3.8%	3.6%
	Occasionally	1.4%		2.9%	1.3%	.7%	2.4%	5.0%	2.4%	1.9%
	Never	93.2%	90.6%	91.4%	92.3%	88.4%	92.9%	90.0%	89.6%	90.8%
Use separate utensils and cutting boards when preparing raw and cooked food	Sometimes	52.7%	81.1%	71.4%	62.0%	58.2%	42.9%	56.0%	55.2%	58.2%
	Occasionally	15.8%	9.4%	11.4%	13.7%	8.9%	9.5%	7.0%	8.3%	10.7%
	Never	31.5%	9.4%	17.1%	24.4%	32.9%	47.6%	37.0%	36.5%	31.0%
Separate raw and cooked food during storage	Always	28.8%	37.7%	45.7%	33.3%	43.2%	31.0%	41.0%	40.6%	37.4%
	Often	8.2%	17.0%	11.4%	10.7%	13.0%	11.9%	8.0%	11.1%	10.9%
	Sometimes	33.6%	20.8%	22.9%	29.1%	22.6%	23.8%	29.0%	25.0%	26.8%
	Occasionally	29.5%	24.5%	20.0%	26.9%	21.2%	33.3%	22.0%	23.3%	24.9%
Checking that meats are cooked thoroughly by ensuring that the juices are clear	Always	73.3%	86.8%	88.6%	78.6%	91.8%	97.6%	82.0%	89.2%	84.5%
	Often	6.2%	3.8%		4.7%	2.7%	2.4%	9.0%	4.9%	4.8%
	Sometimes	12.3%	5.7%	5.7%	9.8%	3.4%		7.0%	4.2%	6.7%
	Occasionally	8.2%	3.8%	5.7%	6.8%	2.1%		2.0%	1.7%	4.0%
Reheat cooked foods until it is piping hot	Always	64.4%	83.0%	82.9%	71.4%	75.3%	78.6%	75.0%	75.7%	73.8%
	Often	25.3%	11.3%	5.7%	19.2%	14.4%	14.3%	14.0%	14.2%	16.5%
	Sometimes	10.3%	5.7%	11.4%	9.4%	10.3%	7.1%	11.0%	10.1%	9.8%
Eating cooked food within 2 hours of preparation	Always	33.6%	43.4%	57.1%	39.3%	45.2%	35.7%	31.0%	38.9%	39.1%
	Often	64.4%	56.6%	40.0%	59.0%	54.8%	64.3%	69.0%	61.1%	60.2%
	Sometimes	2.1%		2.9%	1.7%					.8%
Keeping drinking water covered	Always	65.1%	79.2%	80.0%	70.5%	87.7%	88.1%	87.0%	87.5%	79.9%
	Often	4.1%	5.7%		3.8%	1.4%	4.8%	8.0%	4.2%	4.0%
	Sometimes	30.1%	15.1%	20.0%	25.2%	11.0%	7.1%	5.0%	8.3%	15.9%
	NA	.7%			.4%					.2%
Touching drinking water while collecting	Often	8.9%	5.7%	14.3%	9.0%	13.0%	2.4%	7.0%	9.4%	9.2%
	Sometimes	24.7%	28.3%	28.6%	26.1%	31.5%	40.5%	43.0%	36.8%	32.0%
	Occasionally	11.0%	22.6%	20.0%	15.0%	19.2%	16.7%	16.0%	17.7%	16.5%
	Never	55.5%	43.4%	37.1%	50.0%	36.3%	40.5%	34.0%	36.1%	42.3%
Using for same cup for collecting and drinking water	Always	46.6%	39.6%	28.6%	42.3%	39.7%	35.7%	27.0%	34.7%	38.1%
	Often	.7%	1.9%		.9%	2.7%	11.9%	2.0%	3.8%	2.5%
	Sometimes	6.8%	9.4%	11.4%	8.1%	12.3%	9.5%	14.0%	12.5%	10.5%
	Occasionally	7.5%	5.7%		6.0%	2.1%		10.0%	4.5%	5.2%
	Never	38.4%	43.4%	60.0%	42.7%	43.2%	42.9%	47.0%	44.4%	43.7%
	Always	15.1%	20.8%	11.4%	15.8%	28.8%	28.6%	23.0%	26.7%	21.8%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Slaughter and eat sick animals	Often	2.7%	1.9%	2.9%	2.6%	2.7%	9.5%	10.0%	6.2%	4.6%
	Sometimes	10.3%	1.9%	8.6%	8.1%	13.0%	23.8%	13.0%	14.6%	11.7%
	Occasionally	7.5%	5.7%	11.4%	7.7%	2.7%	4.8%	3.0%	3.1%	5.2%
	Never	63.0%	69.8%	62.9%	64.5%	48.6%	33.3%	51.0%	47.2%	55.0%
	NA	1.4%		2.9%	1.3%	4.1%			2.1%	1.7%
<b>Cockroach Prevention</b>										
Covering food after preparation	Always	83.6%	92.5%	88.6%	86.3%	90.4%	78.6%	78.0%	84.4%	85.2%
	Often	6.2%	3.8%		4.7%	2.7%	7.1%	10.0%	5.9%	5.4%
	Sometimes	10.3%	3.8%	11.4%	9.0%	6.8%	14.3%	12.0%	9.7%	9.4%
Applying pesticides to control cockroaches	Always	2.7%	3.8%		2.6%	4.1%			2.1%	2.3%
	Often					.7%		2.0%	1.0%	.6%
	Sometimes	5.5%	1.9%	8.6%	5.1%	6.2%	14.3%	7.0%	7.6%	6.5%
	Occasionally	6.8%	5.7%	31.4%	10.3%	8.9%	7.1%	17.0%	11.5%	10.9%
	Never	84.9%	88.7%	60.0%	82.1%	80.1%	78.6%	74.0%	77.8%	79.7%
Using drop hole covers in pit latrines	Always	15.8%	34.0%	42.9%	23.9%	33.6%	35.7%	35.0%	34.4%	29.7%
	Often		3.8%		.9%	4.8%	19.0%	14.0%	10.1%	5.9%
	Sometimes	6.8%	15.1%	11.4%	9.4%	15.8%	21.4%	11.0%	14.9%	12.5%
	Occasionally	3.4%	1.9%	5.7%	3.4%	4.8%		5.0%	4.2%	3.8%
	Never	74.0%	45.3%	40.0%	62.4%	41.1%	23.8%	35.0%	36.5%	48.1%
Keeping a waste basket in a kitchen	Always	11.0%	22.6%	17.1%	14.5%	6.8%	21.4%	5.0%	8.3%	11.1%
	Often					2.7%	2.4%	2.0%	2.4%	1.3%
	Sometimes	1.4%		2.9%	1.3%	1.4%	7.1%	1.0%	2.1%	1.7%
	Occasionally	3.4%			2.1%	1.4%			.7%	1.3%
	Never	71.9%	58.5%	74.3%	69.2%	45.2%	40.5%	58.0%	49.0%	58.0%
	NA	12.3%	18.9%	5.7%	12.8%	42.5%	28.6%	34.0%	37.5%	26.4%
<b>Knowledge regarding germs and food</b>										
It is not necessarily important to wash hands before handling food	True	26.0%	22.6%	17.1%	23.9%	11.0%	4.8%	4.0%	7.6%	14.9%
	False	73.3%	77.4%	82.9%	75.6%	88.4%	95.2%	96.0%	92.0%	84.7%
	Don't know/Not sure	.7%			.4%	.7%			.3%	.4%
Wiping cloth can spread microorganisms	True	34.9%	28.3%	11.4%	29.9%	25.3%	19.0%	30.0%	26.0%	27.8%
	False	32.9%	50.9%	71.4%	42.7%	47.9%	59.5%	53.0%	51.4%	47.5%
	Don't know/Not sure	32.2%	20.8%	17.1%	27.4%	26.7%	21.4%	17.0%	22.6%	24.7%
The same cutting board can be used for raw and cooked foods without washing	True	45.2%	35.8%	28.6%	40.6%	50.0%	38.1%	49.0%	47.9%	44.6%
	False	47.3%	54.7%	65.7%	51.7%	45.2%	59.5%	46.0%	47.6%	49.4%
	Don't know/Not sure	7.5%	9.4%	5.7%	7.7%	4.8%	2.4%	5.0%	4.5%	5.9%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMBU	KAMENYAGWAZA	CHAUMA	OVERALL	MAGANGA	PEMBA	NDINDI	OVERALL	
with soap so long as it looks clean										
Raw and cooked food can be stored together	True	8.9%	5.7%	8.6%	8.1%	13.0%	4.8%	8.0%	10.1%	9.2%
	False	89.0%	94.3%	91.4%	90.6%	87.0%	95.2%	92.0%	89.9%	90.2%
	Don't know/Not sure	2.1%			1.3%					.6%
It not a must that cooked food should always be reheated thoroughly	True	39.0%	11.3%	28.6%	31.2%	21.2%	28.6%	29.0%	25.0%	27.8%
	False	58.2%	88.7%	71.4%	67.1%	78.8%	71.4%	70.0%	74.7%	71.3%
	Don't know/Not sure	2.7%			1.7%			1.0%	.3%	1.0%
Reheating meats to lukewarm is an acceptable practice	True	38.4%	5.7%	11.4%	26.9%	16.4%	4.8%	16.0%	14.6%	20.1%
	False	58.2%	94.3%	88.6%	70.9%	81.5%	95.2%	84.0%	84.4%	78.4%
	Don't know/Not sure	3.4%			2.1%	2.1%			1.0%	1.5%
Cooked food should be served while it is hot	True	97.9%	96.2%	100.0%	97.9%	95.9%	100.0%	99.0%	97.6%	97.7%
	False	2.1%	3.8%		2.1%	3.4%		1.0%	2.1%	2.1%
	Don't know/Not sure					.7%			.3%	.2%
The safety of water can be by the way it looks	True	66.4%	47.2%	42.9%	58.5%	59.6%	73.8%	67.0%	64.2%	61.7%
	False	31.5%	52.8%	57.1%	40.2%	39.7%	26.2%	32.0%	35.1%	37.4%
	Don't know/Not sure	2.1%			1.3%	.7%		1.0%	.7%	1.0%
Un cooked fresh milk is healthier and more nutritious than pasteurized/boiled milk	True	37.0%	22.6%	28.6%	32.5%	28.8%	26.2%	31.0%	29.2%	30.7%
	False	30.1%	56.6%	51.4%	39.3%	48.6%	52.4%	51.0%	50.0%	45.2%
	Don't know/Not sure	32.9%	20.8%	20.0%	28.2%	22.6%	21.4%	18.0%	20.8%	24.1%
There is no risk of disease from drinking fresh milk directly from an animal	True	31.5%	13.2%	28.6%	26.9%	22.6%	19.0%	20.0%	21.2%	23.8%
	False	30.8%	66.0%	45.7%	41.0%	53.4%	66.7%	61.0%	58.0%	50.4%
	Don't know/Not sure	37.7%	20.8%	25.7%	32.1%	24.0%	14.3%	19.0%	20.8%	25.9%
Raw eggs are healthier and more nutritious than cooked ones	True	28.1%	39.6%	48.6%	33.8%	41.8%	52.4%	35.0%	41.0%	37.7%
	False	32.9%	45.3%	20.0%	33.8%	23.3%	16.7%	29.0%	24.3%	28.5%
	Don't know/Not sure	39.0%	15.1%	31.4%	32.5%	34.9%	31.0%	36.0%	34.7%	33.7%
There is no risk of disease from drinking raw eggs	True	23.3%	24.5%	40.0%	26.1%	27.4%	42.9%	32.0%	31.2%	28.9%
	False	38.4%	45.3%	28.6%	38.5%	32.9%	26.2%	34.0%	32.3%	35.1%
	Don't know/Not sure	38.4%	30.2%	31.4%	35.5%	39.7%	31.0%	34.0%	36.5%	36.0%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
There is no risk of disease from eating uncooked pre-smoked meat of any livestock or fish	True	41.8%	15.1%	40.0%	35.5%	21.9%	16.7%	29.0%	23.6%	28.9%
	False	34.9%	64.2%	42.9%	42.7%	56.2%	59.5%	58.0%	57.3%	50.8%
	Don't know/Not sure	23.3%	20.8%	17.1%	21.8%	21.9%	23.8%	13.0%	19.1%	20.3%
Wiping vegetables or fruits make them safe to be eaten	True	39.7%	11.3%	28.6%	31.6%	18.5%	11.9%	14.0%	16.0%	23.0%
	False	58.9%	86.8%	68.6%	66.7%	80.8%	83.3%	83.0%	81.9%	75.1%
	Don't know/Not sure	1.4%	1.9%	2.9%	1.7%	.7%	4.8%	3.0%	2.1%	1.9%
There is no risk of disease from eating cooked food kept at room temperature for one day if covered	True	56.8%	20.8%	37.1%	45.7%	28.1%	31.0%	23.0%	26.7%	35.2%
	False	39.7%	77.4%	60.0%	51.3%	70.5%	69.0%	76.0%	72.2%	62.8%
	Don't know/Not sure	3.4%	1.9%	2.9%	3.0%	1.4%		1.0%	1.0%	1.9%
There is no risk of disease from eating unwashed vegetables and herbs picked up directly from the plant	True	22.6%	3.8%	11.4%	16.7%	12.3%	7.1%	8.0%	10.1%	13.0%
	False	75.3%	94.3%	80.0%	80.3%	86.3%	88.1%	87.0%	86.8%	83.9%
	Don't know/Not sure	2.1%	1.9%	8.6%	3.0%	1.4%	4.8%	5.0%	3.1%	3.1%
Baby feces is free from pathogenic microbes if he/she is not sick	True	24.7%	5.7%	8.6%	17.9%	17.8%	23.8%	11.0%	16.3%	17.0%
	False	61.6%	90.6%	85.7%	71.8%	71.9%	76.2%	85.0%	77.1%	74.7%
	Don't know/Not sure	13.7%	3.8%	5.7%	10.3%	10.3%		4.0%	6.6%	8.2%
Direct rainwater is safe to drink without any treatment	True	30.1%	13.2%	11.4%	23.5%	13.0%	9.5%	11.0%	11.8%	17.0%
	False	65.1%	81.1%	82.9%	71.4%	84.9%	90.5%	88.0%	86.8%	79.9%
	Don't know/Not sure	4.8%	5.7%	5.7%	5.1%	2.1%		1.0%	1.4%	3.1%
Food handlers without clinical symptoms, can contaminate food with pathogenic microbes which cause food poisoning	True	56.2%	66.0%	74.3%	61.1%	61.0%	50.0%	61.0%	59.4%	60.2%
	False	34.2%	34.0%	20.0%	32.1%	32.9%	40.5%	32.0%	33.7%	33.0%
	Don't know/Not sure	9.6%		5.7%	6.8%	6.2%	9.5%	7.0%	6.9%	6.9%
Extended hand wash even without soap is efficient	True	37.0%	20.8%	28.6%	32.1%	26.0%	26.2%	34.0%	28.8%	30.3%
	False	61.0%	75.5%	68.6%	65.4%	70.5%	73.8%	63.0%	68.4%	67.0%
	Don't know/Not sure	2.1%	3.8%	2.9%	2.6%	3.4%		3.0%	2.8%	2.7%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMBU	KAMENYAGWAZA	CHAUMA	OVERALL	MAGANGA	PEMBA	NDINDI	OVERALL	
Washing hands with soap before preparing food is necessary to prevent food poisoning	True	85.6%	92.5%	97.1%	88.9%	84.2%	88.1%	91.0%	87.2%	87.9%
	False	11.0%	7.5%		8.5%	13.7%	11.9%	5.0%	10.4%	9.6%
	Don't know/Not sure	3.4%		2.9%	2.6%	2.1%		4.0%	2.4%	2.5%
Hand washing is only effective if one uses soap and scrubs for at least 20 seconds	True	71.2%	86.8%	85.7%	76.9%	83.6%	81.0%	87.0%	84.4%	81.0%
	False	13.7%	11.3%	5.7%	12.0%	9.6%	2.4%	2.0%	5.9%	8.6%
	Don't know/Not sure	15.1%	1.9%	8.6%	11.1%	6.8%	16.7%	11.0%	9.7%	10.3%
It is necessary to separate water used for cooking and that meant for other household purposes	True	95.2%	94.3%	100.0%	95.7%	97.9%	100.0%	97.0%	97.9%	96.9%
	False	4.8%	5.7%		4.3%	2.1%		3.0%	2.1%	3.1%
Cooked foods should be separated from raw materials	True	93.8%	94.3%	94.3%	94.0%	95.9%	97.6%	98.0%	96.9%	95.6%
	False	4.1%	5.7%	2.9%	4.3%	2.7%	2.4%	2.0%	2.4%	3.3%
	Don't know/Not sure	2.1%		2.9%	1.7%	1.4%			.7%	1.1%
Keeping surfaces clean reduces the risk of illnesses	True	97.9%	98.1%	100.0%	98.3%	99.3%	100.0%	100.0%	99.7%	99.0%
	False	1.4%	1.9%		1.3%	.7%			.3%	.8%
	Don't know/Not sure	.7%			.4%					.2%
Cockroaches are a food safety risk	True	95.2%	100.0%	100.0%	97.0%	98.6%	100.0%	99.0%	99.0%	98.1%
	False					.7%		1.0%	.7%	.4%
	Don't know/Not sure	4.8%			3.0%	.7%			.3%	1.5%
Good personal hygiene is a prerequisite to health breast milk	True	98.6%	100.0%	100.0%	99.1%	100.0%	97.6%	100.0%	99.7%	99.4%
	False	.7%			.4%		2.4%		.3%	.4%
	NA	.7%			.4%					.2%
Hands which look clean are free from dirty and contaminants	True	54.1%	17.0%	28.6%	41.9%	24.7%	23.8%	20.0%	22.9%	31.4%
	False	41.8%	83.0%	71.4%	55.6%	74.0%	76.2%	80.0%	76.4%	67.0%
	Don't know/Not sure	4.1%			2.6%	1.4%			.7%	1.5%
Cooked foods are generally safer than raw foods	True	91.1%	96.2%	91.4%	92.3%	94.5%	90.5%	99.0%	95.5%	94.1%
	False	7.5%	1.9%	8.6%	6.4%	4.1%	9.5%	1.0%	3.8%	5.0%
	Don't know/Not sure	1.4%	1.9%		1.3%	1.4%			.7%	1.0%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Attitude regarding germs and food										
Frequent handwashing during food preparation is worth the extra time	Agree	89.7%	86.8%	97.1%	90.2%	91.8%	95.2%	95.0%	93.4%	92.0%
	Not Sure	.7%			.4%					.2%
	Disagree	9.6%	13.2%	2.9%	9.4%	8.2%	4.8%	5.0%	6.6%	7.9%
Using separate cutting boards for raw and cooked foods or ensuring that they are thoroughly washed with soap in between is worth the extra effort	Agree	92.5%	96.2%	97.1%	94.0%	97.3%	90.5%	93.0%	94.8%	94.4%
	Not Sure	2.7%	1.9%		2.1%	.7%	7.1%	5.0%	3.1%	2.7%
	Disagree	4.8%	1.9%	2.9%	3.8%	2.1%	2.4%	2.0%	2.1%	2.9%
Vegetables such as pumpkin leaves are not supposed to be washed	Agree	28.8%	32.1%	17.1%	27.8%	26.0%	28.6%	32.0%	28.5%	28.2%
	Not Sure	2.7%		2.9%	2.1%	1.4%			.7%	1.3%
	Disagree	68.5%	67.9%	80.0%	70.1%	72.6%	71.4%	68.0%	70.8%	70.5%
Inspecting food for freshness and wholesomeness is valuable	Agree	93.8%	98.1%	94.3%	94.9%	97.3%	100.0 %	100.0 %	98.6%	96.9%
	Not Sure	2.1%		2.9%	1.7%	.7%			.3%	1.0%
	Disagree	4.1%	1.9%	2.9%	3.4%	2.1%			1.0%	2.1%
Domestic animals such as chicken and goats are only safe if kept in the kitchen/houses	Agree	54.1%	35.8%	57.1%	50.4%	45.2%	52.4%	42.0%	45.1%	47.5%
	Not Sure	6.8%	3.8%	2.9%	5.6%	2.1%		3.0%	2.1%	3.6%
	Disagree	39.0%	60.4%	40.0%	44.0%	52.7%	47.6%	55.0%	52.8%	48.9%
Washing hands with soap is a waste of resources	Agree	10.3%	3.8%	2.9%	7.7%	7.5%	9.5%	7.0%	7.6%	7.7%
	Not Sure	1.4%	1.9%		1.3%					.6%
	Disagree	88.4%	94.3%	97.1%	91.0%	92.5%	90.5%	93.0%	92.4%	91.8%
Good hygiene practices are practically unachievable by the resource constrained	Agree	54.1%	35.8%	51.4%	49.6%	52.7%	31.0%	41.0%	45.5%	47.3%
	Not Sure	2.1%	1.9%		1.7%	.7%			.3%	1.0%
	Disagree	43.8%	62.3%	48.6%	48.7%	46.6%	69.0%	59.0%	54.2%	51.7%
Hands that look clean are not supposed to be washed	Agree	23.3%	1.9%	8.6%	16.2%	13.0%	9.5%	15.0%	13.2%	14.6%
	Not Sure	1.4%			.9%	.7%		1.0%	.7%	.8%
	Disagree	75.3%	98.1%	91.4%	82.9%	86.3%	90.5%	84.0%	86.1%	84.7%
	Agree	32.9%	22.6%	31.4%	30.3%	30.8%	26.2%	28.0%	29.2%	29.7%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Demanding to wash hands with running/pouring when everyone else is sharing the same bucket (batch) is culturally unacceptable	Not Sure	4.1%			2.6%					1.1%
	Disagree	63.0%	77.4%	68.6%	67.1%	69.2%	73.8%	72.0%	70.8%	69.2%
It is unethical to demand hand wash with soap at someone's place/house or in public	Agree	30.8%	9.4%	37.1%	26.9%	29.5%	42.9%	32.0%	32.3%	29.9%
	Not Sure	8.2%		2.9%	5.6%			3.0%	1.0%	3.1%
	Disagree	61.0%	90.6%	60.0%	67.5%	70.5%	57.1%	65.0%	66.7%	67.0%
Concerned about food borne illness related to germs	Agree	78.8%	96.2%	97.1%	85.5%	94.5%	95.2%	97.0%	95.5%	91.0%
	Not Sure	4.1%		2.9%	3.0%	1.4%			.7%	1.7%
	Disagree	17.1%	3.8%		11.5%	4.1%	4.8%	3.0%	3.8%	7.3%
Concerned about presence of germs in food	Agree	82.2%	96.2%	97.1%	87.6%	98.6%	100.0 %	97.0%	98.3%	93.5%
	Not Sure	5.5%		2.9%	3.8%					1.7%
	Disagree	12.3%	3.8%		8.5%	1.4%		3.0%	1.7%	4.8%
Willing to improve knowledge about management of germs in food	Agree	99.3%	100.0%	100.0 %	99.6%	99.3%	100.0 %	100.0 %	99.7%	99.6%
	Not Sure					.7%			.3%	.2%
	Disagree	.7%			.4%					.2%
Willing to change inappropriate practice regarding control and management of germs in food	Agree	99.3%	98.1%	100.0 %	99.1%	99.3%	97.6%	100.0 %	99.3%	99.2%
	Not Sure					.7%			.3%	.2%
	Disagree	.7%	1.9%		.9%		2.4%		.3%	.6%
<b>Pre-harvest handling practices regarding molds in foods</b>										
Plant seed with first good rains	Always	50.0%	67.9%	48.6%	53.8%	54.1%	50.0%	42.0%	49.3%	51.3%
	Often	6.8%	7.5%	2.9%	6.4%	6.8%	2.4%	14.0%	8.7%	7.7%
	Sometimes	43.2%	24.5%	48.6%	39.7%	39.0%	47.6%	44.0%	42.0%	41.0%
Weed your maize and groundnut fields	Always	76.7%	81.1%	82.9%	78.6%	80.8%	81.0%	87.0%	83.0%	81.0%
	Often	5.5%	3.8%	2.9%	4.7%	8.2%	11.9%	3.0%	6.9%	5.9%
	Sometimes	17.8%	15.1%	14.3%	16.7%	11.0%	7.1%	10.0%	10.1%	13.0%
Control pest and diseases	Often	3.4%	5.7%		3.4%	3.4%	4.8%	6.0%	4.5%	4.0%
	Sometimes	52.7%	62.3%	42.9%	53.4%	38.4%	57.1%	41.0%	42.0%	47.1%
	Occasionally	18.5%	18.9%	22.9%	19.2%	17.1%	2.4%	17.0%	14.9%	16.9%



Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
	Never	25.3%	13.2%	34.3%	23.9%	41.1%	35.7%	36.0%	38.5%	32.0%
Compelled to harvest your maize or groundnuts due to some social problems before the crop attains physiological maturity	Always	14.4%	11.3%	11.4%	13.2%	11.0%	7.1%	7.0%	9.0%	10.9%
	Often	1.4%		2.9%	1.3%	6.2%	4.8%	3.0%	4.9%	3.3%
	Sometimes	43.2%	41.5%	57.1%	44.9%	45.2%	35.7%	54.0%	46.9%	46.0%
	Occasionally	16.4%	13.2%	5.7%	14.1%	12.3%	7.1%	12.0%	11.5%	12.6%
	Never	24.7%	34.0%	22.9%	26.5%	25.3%	45.2%	24.0%	27.8%	27.2%
Leaves crop long (say months) in the field beyond physiological maturation	Often	1.4%			.9%		4.8%	1.0%	1.0%	1.0%
	Sometimes	26.7%	24.5%	17.1%	24.8%	23.3%	16.7%	14.0%	19.1%	21.6%
	Occasionally	13.7%	11.3%	14.3%	13.2%	5.5%		7.0%	5.2%	8.8%
	Never	58.2%	64.2%	68.6%	61.1%	71.2%	78.6%	78.0%	74.7%	68.6%
Systematically check for and remove moldy cobs (maize) during harvesting	Always	58.2%	64.2%	71.4%	61.5%	61.0%	50.0%	66.0%	61.1%	61.3%
	Often	4.1%	7.5%	2.9%	4.7%	4.8%	4.8%	4.0%	4.5%	4.6%
	Sometimes	11.0%	11.3%	11.4%	11.1%	13.0%	14.3%	19.0%	15.3%	13.4%
	Occasionally	12.3%	3.8%	11.4%	10.3%	3.4%	4.8%	4.0%	3.8%	6.7%
	Never	14.4%	13.2%	2.9%	12.4%	17.8%	26.2%	7.0%	15.3%	14.0%
Fate of moldy infested maize in the field	Letting it to decompose	55.5%	41.5%	60.0%	53.0%	45.2%	40.5%	42.0%	43.4%	47.7%
	Burning right in the field	3.4%	20.8%	5.7%	7.7%	7.5%	2.4%	8.0%	6.9%	7.3%
	Home use as fuelwood	4.8%	1.9%	5.7%	4.3%	1.4%	4.8%		1.4%	2.7%
	Mix with health maize	12.3%	15.1%	11.4%	12.8%	15.1%	19.0%	28.0%	20.1%	16.9%
	Others	19.2%	13.2%	17.1%	17.5%	19.2%	14.3%	17.0%	17.7%	17.6%
	NA	4.8%	7.5%		4.7%	11.6%	19.0%	5.0%	10.4%	7.9%
Ways of drying groundnuts	Heaped on bare ground with some pods touching soil	10.3%	1.9%	8.6%	8.1%	2.1%	4.8%	9.0%	4.9%	6.3%
	Heaped on bare ground with pods facing upwards	7.5%	1.9%	34.3%	10.3%	6.2%	2.4%	28.0%	13.2%	11.9%
	Ordinary windrow with some pods touching soil					.7%			.3%	.2%
	Inverted windrow	2.1%	1.9%		1.7%	.7%		4.0%	1.7%	1.7%
	Striped and dried on bare ground	4.8%	7.5%	2.9%	5.1%	8.2%		7.0%	6.6%	5.9%
	Striped and dried on platform or sheet/mat	25.3%	35.8%	28.6%	28.2%	21.9%	7.1%	16.0%	17.7%	22.4%
	NA	50.0%	50.9%	25.7%	46.6%	60.3%	85.7%	36.0%	55.6%	51.5%
	Always	14.4%	20.8%	14.3%	15.8%	12.3%	9.5%	20.0%	14.6%	15.1%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Drying maize cobs on bare soils	Often	9.6%	5.7%	8.6%	8.5%	12.3%	4.8%	4.0%	8.3%	8.4%
	Sometimes	30.1%	28.3%	20.0%	28.2%	25.3%	28.6%	28.0%	26.7%	27.4%
	Occasionally	6.2%	5.7%	8.6%	6.4%	4.8%		12.0%	6.6%	6.5%
	Never	39.7%	39.6%	48.6%	41.0%	45.2%	57.1%	36.0%	43.8%	42.5%
<b>Post-harvest handling practices regarding molds in foods</b>										
Store maize or groundnuts in bags	Yes	90.4%	79.2%	88.6%	87.6%	92.5%	92.9%	99.0%	94.8%	91.6%
	No	9.6%	20.8%	11.4%	12.4%	7.5%	7.1%	1.0%	5.2%	8.4%
Type of bags used	Polypropylene sack	88.4%	77.4%	82.9%	85.0%	89.7%	90.5%	98.0%	92.7%	89.3%
	Hematic bag	2.1%	1.9%	5.7%	2.6%	2.7%	2.4%	1.0%	2.1%	2.3%
	NA	9.6%	20.8%	11.4%	12.4%	7.5%	7.1%	1.0%	5.2%	8.4%
Use synthetic or botanicals to control pests if not using hematic bags	Always	44.5%	49.1%	48.6%	46.2%	37.0%	31.0%	28.0%	33.0%	38.9%
	Often	1.4%	1.9%	2.9%	1.7%	4.1%	2.4%	5.0%	4.2%	3.1%
	Sometimes	19.2%	20.8%	17.1%	19.2%	24.0%	23.8%	33.0%	27.1%	23.6%
	Occasionally	7.5%	3.8%	8.6%	6.8%	6.2%	2.4%	14.0%	8.3%	7.7%
	Never	27.4%	24.5%	22.9%	26.1%	28.8%	40.5%	20.0%	27.4%	26.8%
During storage of grains or groundnuts bags are elevated off the ground.	Always	63.0%	66.0%	51.4%	62.0%	72.6%	71.4%	71.0%	71.9%	67.4%
	Often		1.9%		.4%	2.7%	4.8%	6.0%	4.2%	2.5%
	Sometimes	6.8%	3.8%	11.4%	6.8%	4.8%	7.1%	9.0%	6.6%	6.7%
	Occasionally	5.5%	1.9%	8.6%	5.1%	2.1%		2.0%	1.7%	3.3%
	Never	15.1%	5.7%	17.1%	13.2%	11.0%	9.5%	11.0%	10.8%	11.9%
	NA	9.6%	20.8%	11.4%	12.4%	6.8%	7.1%	1.0%	4.9%	8.2%
Total		100.0 %	100.0%	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Store grains or groundnuts bags in a way that prevent them from touching walls during storage	Always	43.8%	43.4%	40.0%	43.2%	37.7%	31.0%	40.0%	37.5%	40.0%
	Often	2.1%	1.9%		1.7%	.7%		4.0%	1.7%	1.7%
	Sometimes	4.8%	5.7%	8.6%	5.6%	6.2%	7.1%	14.0%	9.0%	7.5%
	Occasionally	6.8%	1.9%	5.7%	5.6%	3.4%	7.1%	4.0%	4.2%	4.8%
	Never	32.2%	26.4%	34.3%	31.2%	45.2%	47.6%	37.0%	42.7%	37.5%
	NA	10.3%	20.8%	11.4%	12.8%	6.8%	7.1%	1.0%	4.9%	8.4%
Use rodent control techniques to control rodents during storage	Always	35.6%	41.5%	37.1%	37.2%	34.9%	35.7%	26.0%	31.9%	34.3%
	Often	2.1%	5.7%	2.9%	3.0%	6.2%	7.1%	5.0%	5.9%	4.6%
	Sometimes	17.1%	20.8%	8.6%	16.7%	24.0%	9.5%	31.0%	24.3%	20.9%
	Occasionally	9.6%	9.4%	22.9%	11.5%	9.6%	9.5%	9.0%	9.4%	10.3%
	Never	35.6%	22.6%	28.6%	31.6%	25.3%	38.1%	28.0%	28.1%	29.7%
	NA							1.0%	.3%	.2%
Winnow maize with the aim of reducing molds	Always	59.6%	54.7%	68.6%	59.8%	68.5%	47.6%	64.0%	63.9%	62.1%
	Often	3.4%	3.8%	2.9%	3.4%	3.4%	16.7%	8.0%	6.9%	5.4%
	Sometimes	14.4%	17.0%	11.4%	14.5%	13.0%	21.4%	9.0%	12.8%	13.6%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
before dehulling or milling	Occasionally	22.6%	24.5%	17.1%	22.2%	15.1%	14.3%	19.0%	16.3%	19.0%
Sort maize before dehulling/milling to reduce molds	Always	.7%	3.8%		1.3%	1.4%	4.8%	5.0%	3.1%	2.3%
	Often	4.8%	9.4%	11.4%	6.8%	9.6%	21.4%	12.0%	12.2%	9.8%
	Sometimes	50.7%	39.6%	51.4%	48.3%	50.0%	54.8%	56.0%	52.8%	50.8%
	Occasionally	24.0%	22.6%	22.9%	23.5%	29.5%	11.9%	18.0%	22.9%	23.2%
	Never	19.9%	24.5%	14.3%	20.1%	9.6%	7.1%	9.0%	9.0%	14.0%
Sort groundnuts before processing to reduce molds	Always	11.6%	26.4%	20.0%	16.2%	11.0%	14.3%	16.0%	13.2%	14.6%
	Often	24.7%	17.0%	34.3%	24.4%	26.0%	23.8%	30.0%	27.1%	25.9%
	Sometimes	46.6%	39.6%	25.7%	41.9%	47.3%	52.4%	38.0%	44.8%	43.5%
	Occasionally	11.0%	15.1%	11.4%	12.0%	11.6%	4.8%	12.0%	10.8%	11.3%
	Never	6.2%	1.9%	8.6%	5.6%	4.1%	4.8%	4.0%	4.2%	4.8%
Most important benefit of hand sorting maize, groundnuts and other foodstuffs	To reduce pests like weevils	44.5%	17.3%	53.1%	39.4%	22.1%	22.5%	26.0%	23.6%	30.6%
	Clean grains get a higher price	1.5%	1.9%	6.2%	2.3%	1.4%			.7%	1.4%
	Clean grains sell faster	.7%	1.9%		.9%	.7%			.4%	.6%
	Sorting of grains is a hygienic practice	32.1%	51.9%	31.2%	36.7%	57.9%	60.0%	56.2%	57.6%	48.3%
	It is traditional	8.0%	9.6%	3.1%	7.7%	6.4%	10.0%	10.4%	8.3%	8.0%
	Others	7.3%	5.8%	6.2%	6.8%	6.4%	7.5%	5.2%	6.2%	6.4%
	NA	5.8%	11.5%		6.3%	5.0%		2.1%	3.3%	4.6%
Soak groundnuts to aid shelling	Always	4.1%	1.9%	11.4%	4.7%	1.4%	2.4%	1.0%	1.4%	2.9%
	Often						2.4%	2.0%	1.0%	.6%
	Sometimes	2.7%	3.8%	11.4%	4.3%	3.4%	2.4%		2.1%	3.1%
	Occasionally	4.8%	1.9%	8.6%	4.7%			1.0%	.3%	2.3%
	Never	51.4%	67.9%	62.9%	56.8%	61.6%	64.3%	75.0%	66.7%	62.3%
	NA	37.0%	24.5%	5.7%	29.5%	33.6%	28.6%	21.0%	28.5%	28.9%
<b>Buying moldy foods</b>										
Check for molds before purchase of foodstuffs	Always	67.1%	73.6%	60.0%	67.5%	74.0%	66.7%	68.0%	70.8%	69.3%
	Often	3.4%	3.8%	2.9%	3.4%	6.8%	14.3%	11.0%	9.4%	6.7%
	Sometimes	11.6%	9.4%	25.7%	13.2%	10.3%	11.9%	14.0%	11.8%	12.5%
	Occasionally	17.8%	13.2%	11.4%	15.8%	8.9%	7.1%	7.0%	8.0%	11.5%
Check for insect infestation before purchase foodstuffs,	Always	66.4%	77.4%	77.1%	70.5%	73.3%	76.2%	68.0%	71.9%	71.3%
	Often	5.5%	5.7%	2.9%	5.1%	11.0%	7.1%	14.0%	11.5%	8.6%
	Sometimes	9.6%	7.5%	14.3%	9.8%	7.5%	9.5%	12.0%	9.4%	9.6%
	Occasionally	18.5%	9.4%	5.7%	14.5%	8.2%	7.1%	6.0%	7.3%	10.5%
	Always	13.7%	5.7%	5.7%	10.7%	13.0%	19.0%	11.0%	13.2%	12.1%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
Buy maize that is moderately mouldy (has a small fraction of molds)	Often	2.1%			1.3%	5.5%	2.4%	9.0%	6.2%	4.0%
	Sometimes	76.0%	83.0%	94.3%	80.3%	75.3%	64.3%	74.0%	73.3%	76.4%
	Occasionally	6.8%	9.4%		6.4%	5.5%	14.3%	6.0%	6.9%	6.7%
	Never	1.4%	1.9%		1.3%	.7%			.3%	.8%
Buy groundnuts that are moderately mouldy	Always	10.3%	5.7%	5.7%	8.5%	9.6%	16.7%	8.0%	10.1%	9.4%
	Often	1.4%	1.9%	2.9%	1.7%	3.4%	4.8%	5.0%	4.2%	3.1%
	Sometimes	78.1%	84.9%	85.7%	80.8%	73.3%	64.3%	74.0%	72.2%	76.1%
	Occasionally	4.8%	5.7%	2.9%	4.7%	6.8%	7.1%	6.0%	6.6%	5.7%
	Never	5.5%	1.9%	2.9%	4.3%	6.8%	7.1%	7.0%	6.9%	5.7%
Buy fruits that are moderately mouldy	Always	2.1%		2.9%	1.7%	.7%	2.4%	2.0%	1.4%	1.5%
	Often	2.1%			1.3%	2.1%		3.0%	2.1%	1.7%
	Sometimes	4.1%	7.5%	17.1%	6.8%	6.8%	11.9%	7.0%	7.6%	7.3%
	Occasionally	4.8%	1.9%	2.9%	3.8%	4.1%	2.4%	6.0%	4.5%	4.2%
	Never	87.0%	90.6%	77.1%	86.3%	86.3%	83.3%	82.0%	84.4%	85.2%
Buy fish that are moderately mouldy	Always					2.1%		1.0%	1.4%	.8%
	Often	1.4%			.9%	3.4%	2.4%	4.0%	3.5%	2.3%
	Sometimes	11.0%	11.3%	17.1%	12.0%	11.6%	28.6%	13.0%	14.6%	13.4%
	Occasionally	6.8%	7.5%		6.0%	4.8%	7.1%	2.0%	4.2%	5.0%
	Never	80.8%	81.1%	82.9%	81.2%	78.1%	61.9%	80.0%	76.4%	78.5%
Primary reason for purchasing foodstuffs that have signs of molds or other contamination	It is all that is available at that time	22.6%	22.6%	20.0%	22.2%	28.8%	73.8%	50.0%	42.7%	33.5%
	Molds are inevitably present in the food available at the market	4.1%		5.7%	3.4%	2.1%	2.4%	3.0%	2.4%	2.9%
	It is cheaper than better quality foodstuffs	8.2%	9.4%	5.7%	8.1%	9.6%	7.1%	12.0%	10.1%	9.2%
	Proper food preparation removes risks caused by mold or contamination	1.4%	1.9%	2.9%	1.7%	2.1%		2.0%	1.7%	1.7%
	NA	63.7%	66.0%	65.7%	64.5%	57.5%	16.7%	33.0%	43.1%	52.7%
<b>Knowledge regarding mouldy foodstuffs</b>										
Late planting promotes mold infestation	True	61.0%	62.3%	77.1%	63.7%	44.5%	52.4%	47.0%	46.5%	54.2%
	False	19.2%	17.0%	11.4%	17.5%	35.6%	33.3%	30.0%	33.3%	26.2%
	Don't know/Not sure	19.9%	20.8%	11.4%	18.8%	19.9%	14.3%	23.0%	20.1%	19.5%
Presence of weed have no	True	42.5%	41.5%	42.9%	42.3%	39.7%	45.2%	36.0%	39.2%	40.6%
	False	45.9%	37.7%	42.9%	43.6%	42.5%	45.2%	48.0%	44.8%	44.3%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMBU	KAMENYAGWAZA	CHAUMA	OVERALL	MAGANGA	PEMBA	NDINDI	OVERALL	
effect on mold infestation	Don't know/Not sure	11.6%	20.8%	14.3%	14.1%	17.8%	9.5%	16.0%	16.0%	15.1%
Field and storage pests contribute to mould infestation	True	68.5%	69.8%	88.6%	71.8%	75.3%	85.7%	79.0%	78.1%	75.3%
	False	15.8%	17.0%		13.7%	11.6%	11.9%	14.0%	12.5%	13.0%
	Don't know/Not sure	15.8%	13.2%	11.4%	14.5%	13.0%	2.4%	7.0%	9.4%	11.7%
Leaving a crop too long in a field aggravates moldy infestation	True	69.2%	75.5%	88.6%	73.5%	71.2%	81.0%	82.0%	76.4%	75.1%
	False	18.5%	11.3%		14.1%	19.9%	19.0%	11.0%	16.7%	15.5%
	Don't know/Not sure	11.6%	13.2%	11.4%	12.0%	8.9%		7.0%	6.9%	9.2%
	NA	.7%			.4%					.2%
Drought is a predisposing factor for mold infestation	True	54.8%	47.2%	68.6%	55.1%	50.7%	47.6%	53.0%	51.0%	52.9%
	False	28.1%	28.3%	14.3%	26.1%	29.5%	38.1%	32.0%	31.6%	29.1%
	Don't know/Not sure	17.1%	24.5%	17.1%	18.8%	19.9%	14.3%	15.0%	17.4%	18.0%
Removing and discarding a moldy section of a fruit makes it completely safe	True	41.1%	26.4%	14.3%	33.8%	30.8%	40.5%	22.0%	29.2%	31.2%
	False	51.4%	69.8%	82.9%	60.3%	66.4%	59.5%	77.0%	69.1%	65.1%
	Don't know/Not sure	7.5%	3.8%	2.9%	6.0%	2.7%		1.0%	1.7%	3.6%
Heat such as boiling, roasting or deep frying destroys poisons found in moldy food and make safe	True	45.2%	54.7%	37.1%	46.2%	49.3%	40.5%	46.0%	46.9%	46.6%
	False	45.2%	43.4%	62.9%	47.4%	41.8%	54.8%	47.0%	45.5%	46.4%
	Don't know/Not sure	9.6%	1.9%		6.4%	8.9%	4.8%	7.0%	7.6%	7.1%
Soaking maize for some days removes poisons in foods	True	38.4%	35.8%	42.9%	38.5%	33.6%	23.8%	30.0%	30.9%	34.3%
	False	50.0%	54.7%	42.9%	50.0%	56.8%	71.4%	57.0%	59.0%	55.0%
	Don't know/Not sure	11.6%	9.4%	14.3%	11.5%	9.6%	4.8%	13.0%	10.1%	10.7%
Food contaminated mold are not harmful to livestock	True	26.0%	15.1%	22.9%	23.1%	31.5%	19.0%	28.0%	28.5%	26.1%
	False	63.7%	75.5%	65.7%	66.7%	57.5%	71.4%	63.0%	61.5%	63.8%
	Don't know/Not sure	10.3%	9.4%	11.4%	10.3%	11.0%	9.5%	9.0%	10.1%	10.2%
Drinking milk from an animal feeding on mold infested feed is harmful	True	49.3%	66.0%	60.0%	54.7%	56.2%	66.7%	61.0%	59.4%	57.3%
	False	24.7%	13.2%	14.3%	20.5%	19.2%	16.7%	24.0%	20.5%	20.5%
	Don't know/Not sure	26.0%	20.8%	25.7%	24.8%	24.7%	16.7%	15.0%	20.1%	22.2%
Regularly/constantly feeding a child with meal made from maize	True	29.5%	17.0%	31.4%	26.9%	24.0%	19.0%	26.0%	24.0%	25.3%
	False	61.0%	69.8%	57.1%	62.4%	67.1%	76.2%	66.0%	68.1%	65.5%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMBU	KAMENYAGWAZA	CHAUMA	OVERALL	MAGANGA	PEMBA	NDINDI	OVERALL	
with a small fraction of molds can <b>not</b> affect child's growth	Don't know/Not sure	9.6%	13.2%	11.4%	10.7%	8.9%	4.8%	8.0%	8.0%	9.2%
Consuming moldy foods depresses immunity	True	58.2%	64.2%	77.1%	62.4%	67.8%	66.7%	71.0%	68.8%	65.9%
	False	32.2%	18.9%	14.3%	26.5%	20.5%	28.6%	23.0%	22.6%	24.3%
	Don't know/Not sure	9.6%	17.0%	8.6%	11.1%	11.6%	4.8%	6.0%	8.7%	9.8%
Consuming moldy foods can cause birth defects in children (mutagenic)	True	45.2%	47.2%	54.3%	47.0%	45.9%	61.9%	57.0%	52.1%	49.8%
	False	26.0%	20.8%	22.9%	24.4%	26.0%	21.4%	23.0%	24.3%	24.3%
	Don't know/Not sure	28.8%	32.1%	22.9%	28.6%	28.1%	16.7%	20.0%	23.6%	25.9%
Consuming a large amount of moldy foodstuff may lead to death instantly or within a week	True	45.2%	50.9%	54.3%	47.9%	40.4%	47.6%	38.0%	40.6%	43.9%
	False	30.8%	24.5%	22.9%	28.2%	32.9%	33.3%	40.0%	35.4%	32.2%
	Don't know/Not sure	24.0%	24.5%	22.9%	23.9%	26.7%	19.0%	22.0%	24.0%	23.9%
Food infested with molds presenting no sensory change indicate safety	True	24.0%	13.2%	11.4%	19.7%	14.4%	19.0%	15.0%	15.3%	17.2%
	False	67.8%	81.1%	77.1%	72.2%	76.7%	78.6%	82.0%	78.8%	75.9%
	Don't know/Not sure	8.2%	5.7%	11.4%	8.1%	8.9%	2.4%	3.0%	5.9%	6.9%
<b>Attitude regarding molds and foods</b>										
Sorting and removing moldy fraction in foods is worth the extra effort.	Agree	91.8%	88.7%	88.6%	90.6%	93.2%	97.6%	93.0%	93.8%	92.3%
	Not Sure	2.7%			1.7%	1.4%			.7%	1.1%
	Disagree	5.5%	11.3%	11.4%	7.7%	5.5%	2.4%	7.0%	5.6%	6.5%
It's not harmful to consume moldy food	Agree	17.1%	7.5%	14.3%	14.5%	15.1%	9.5%	16.0%	14.6%	14.6%
	Not Sure	5.5%	1.9%	8.6%	5.1%	2.7%		4.0%	2.8%	3.8%
	Disagree	77.4%	90.6%	77.1%	80.3%	82.2%	90.5%	80.0%	82.6%	81.6%
Sorting and discarding moldy foods lead to lose of food	Agree	23.3%	13.2%	11.4%	19.2%	18.5%	28.6%	23.0%	21.5%	20.5%
	Not Sure	3.4%	1.9%	5.7%	3.4%	.7%			.3%	1.7%
	Disagree	73.3%	84.9%	82.9%	77.4%	80.8%	71.4%	77.0%	78.1%	77.8%
Beverages made from moldy grains taste better than those made from non-moldy foods	Agree	8.2%	3.8%	8.6%	7.3%	6.2%	9.5%	13.0%	9.0%	8.2%
	Not Sure	12.3%	18.9%	8.6%	13.2%	12.3%	14.3%	8.0%	11.1%	12.1%
	Disagree	79.5%	77.4%	82.9%	79.5%	81.5%	76.2%	79.0%	79.9%	79.7%
When food starts developing some	Agree	4.1%			2.6%	4.1%	4.8%	6.0%	4.9%	3.8%
	Not Sure	9.6%	1.9%	11.4%	8.1%	4.8%	4.8%	8.0%	5.9%	6.9%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
molds becomes more nutritious	Disagree	86.3%	98.1%	88.6%	89.3%	91.1%	90.5%	86.0%	89.2%	89.3%
Leaving moldy infested maize in the field to decompose improves soil fertility	Agree	43.8%	34.0%	51.4%	42.7%	47.3%	57.1%	53.0%	50.7%	47.1%
	Not Sure	15.8%	9.4%	17.1%	14.5%	13.0%	16.7%	14.0%	13.9%	14.2%
	Disagree	40.4%	56.6%	31.4%	42.7%	39.7%	26.2%	33.0%	35.4%	38.7%
Shelling moldy maize is easier than shelling clean	Agree	80.1%	67.9%	91.4%	79.1%	85.6%	76.2%	82.0%	83.0%	81.2%
	Not Sure	1.4%	3.8%		1.7%		2.4%	3.0%	1.4%	1.5%
	Disagree	18.5%	28.3%	8.6%	19.2%	14.4%	21.4%	15.0%	15.6%	17.2%
It is unethical to discard mouldy foodstuff when others are starving	Agree	30.8%	24.5%	22.9%	28.2%	28.1%	31.0%	22.0%	26.4%	27.2%
	Not Sure	2.7%			1.7%					.8%
	Disagree	66.4%	75.5%	77.1%	70.1%	71.9%	69.0%	78.0%	73.6%	72.0%
When trading food commodities it wisdom to grade/sort and sell the premium and consume the inferior fraction	Agree	20.5%	3.8%	5.7%	14.5%	11.6%	4.8%	10.0%	10.1%	12.1%
	Not Sure	1.4%		5.7%	1.7%					.8%
	Disagree	78.1%	96.2%	88.6%	83.8%	88.4%	95.2%	90.0%	89.9%	87.2%
Concerned about food borne illness related to moulds	Agree	69.9%	86.8%	91.4%	76.9%	87.0%	85.7%	82.0%	85.1%	81.4%
	Not Sure	8.9%	3.8%	2.9%	6.8%	1.4%	4.8%	9.0%	4.5%	5.6%
	Disagree	21.2%	9.4%	5.7%	16.2%	11.6%	9.5%	9.0%	10.4%	13.0%
Concerned about presence of mold in food	Agree	78.1%	90.6%	97.1%	83.8%	92.5%	95.2%	90.0%	92.0%	88.3%
	Not Sure	4.8%	1.9%	2.9%	3.8%	.7%		5.0%	2.1%	2.9%
	Disagree	17.1%	7.5%		12.4%	6.8%	4.8%	5.0%	5.9%	8.8%
Willing to improve your knowledge about management of molds in food	Agree	99.3%	98.1%	100.0 %	99.1%	100.0 %	100.0 %	100.0 %	100.0 %	99.6%
	Disagree	.7%	1.9%		.9%					.4%
Willing to change inappropriate practice regarding control and management of mold in food	Agree	97.9%	98.1%	100.0 %	98.3%	100.0 %	100.0 %	100.0 %	100.0 %	99.2%
	Disagree	2.1%	1.9%		1.7%					.8%
<b>Behaviour regarding infant feeding and safety</b>										
	Always	52.1%	60.4%	71.4%	56.8%	71.9%	90.5%	64.0%	71.9%	65.1%

Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
When breast feeding a baby hands are washed and dried first	Often	3.4%	3.8%	2.9%	3.4%	4.1%	2.4%	5.0%	4.2%	3.8%
	Sometimes	4.8%	1.9%	2.9%	3.8%	2.7%		4.0%	2.8%	3.3%
	Occasionally	3.4%		2.9%	2.6%	2.7%		3.0%	2.4%	2.5%
	Never	24.0%	17.0%	17.1%	21.4%	15.1%	7.1%	22.0%	16.3%	18.6%
	NA	12.3%	17.0%	2.9%	12.0%	3.4%		2.0%	2.4%	6.7%
Wash utensils used when feeding the child with soap	Always	4.8%	11.3%	2.9%	6.0%	9.6%		4.0%	6.2%	6.1%
	Often	28.1%	30.2%	42.9%	30.8%	30.8%	28.6%	23.0%	27.8%	29.1%
	Sometimes	47.9%	35.8%	42.9%	44.4%	52.1%	69.0%	63.0%	58.3%	52.1%
	Occasionally	8.9%	5.7%	8.6%	8.1%	3.4%	2.4%	9.0%	5.2%	6.5%
	Never	3.4%			2.1%	1.4%			.7%	1.3%
	NA	6.8%	17.0%	2.9%	8.5%	2.7%		1.0%	1.7%	4.8%
Put porridge in the mouth to cool it first before feed a baby	Always	19.2%	3.8%	11.4%	14.5%	13.0%	14.3%	12.0%	12.8%	13.6%
	Often	1.4%	3.8%		1.7%	1.4%		6.0%	2.8%	2.3%
	Sometimes	7.5%	5.7%	14.3%	8.1%	8.2%	9.5%	8.0%	8.3%	8.2%
	Occasionally	2.7%		2.9%	2.1%	2.7%		2.0%	2.1%	2.1%
	Never	62.3%	69.8%	68.6%	65.0%	71.9%	76.2%	71.0%	72.2%	69.0%
	NA	6.8%	17.0%	2.9%	8.5%	2.7%		1.0%	1.7%	4.8%
Use the finger, or hand to feed the child	Always	11.0%	3.8%	2.9%	8.1%	3.4%	2.4%	6.0%	4.2%	5.9%
	Often	3.4%		2.9%	2.6%	4.1%	7.1%	8.0%	5.9%	4.4%
	Sometimes	10.3%	5.7%	17.1%	10.3%	15.8%	23.8%	19.0%	18.1%	14.6%
	Occasionally	5.5%	1.9%	2.9%	4.3%	4.1%	2.4%	7.0%	4.9%	4.6%
	Never	63.0%	71.7%	71.4%	66.2%	69.9%	64.3%	59.0%	65.3%	65.7%
	NA	6.8%	17.0%	2.9%	8.5%	2.7%		1.0%	1.7%	4.8%
Use snail shells or sugarcane sheath to feed the child	Always					.7%		1.0%	.7%	.4%
	Often						2.4%	2.0%	1.0%	.6%
	Sometimes	1.4%	1.9%	5.7%	2.1%	4.1%	7.1%	6.0%	5.2%	3.8%
	Occasionally	.7%	1.9%	2.9%	1.3%	.7%	2.4%	4.0%	2.1%	1.7%
	Never	91.1%	79.2%	88.6%	88.0%	91.8%	88.1%	86.0%	89.2%	88.7%
	NA	6.8%	17.0%	2.9%	8.5%	2.7%		1.0%	1.7%	4.8%
Extra effort taken to sort groundnuts or maize to make infant foods safer than food for adults	Sometimes	64.4%	66.0%	80.0%	67.1%	65.1%	64.3%	65.0%	64.9%	65.9%
	Occasionally	6.8%	3.8%	8.6%	6.4%	10.3%	9.5%	10.0%	10.1%	8.4%
	Never	21.9%	13.2%	8.6%	17.9%	21.9%	26.2%	24.0%	23.3%	20.9%
	NA	6.8%	17.0%	2.9%	8.5%	2.7%		1.0%	1.7%	4.8%
<b>Knowledge regarding infant feeding and safety</b>										
Expressed breast milk put in a clean container can safely keep	True	14.4%	13.2%	25.7%	15.8%	16.4%	11.9%	18.0%	16.3%	16.1%
	False	32.2%	50.9%	31.4%	36.3%	47.9%	59.5%	50.0%	50.3%	44.1%
	Don't know/Not sure	53.4%	35.8%	42.9%	47.9%	35.6%	28.6%	32.0%	33.3%	39.8%



Aspect	Frequency/Response	DEDZA				SALIMA				GRAND OVERALL
		KASUMB U	KAMENYAGW AZA	CHAUM A	OVERALL	MAGAN GA	PEMBA	NDINDI	OVERALL	
for more than 4 hours										
Once feeding has begun, it is necessary to discard any unused breast milk after feeding a child	True	64.4%	69.8%	94.3%	70.1%	78.8%	88.1%	80.0%	80.6%	75.9%
	False	4.1%	7.5%	2.9%	4.7%	5.5%	11.9%	12.0%	8.7%	6.9%
	Don't know/Not sure	31.5%	22.6%	2.9%	25.2%	15.8%		8.0%	10.8%	17.2%
Children are more tolerant to moldy foods than adults	True	61.0%	64.2%	77.1%	64.1%	72.6%	90.5%	81.0%	78.1%	71.8%
	False	32.9%	28.3%	20.0%	29.9%	21.9%	7.1%	19.0%	18.8%	23.8%
	Don't know/Not sure	6.2%	7.5%	2.9%	6.0%	5.5%	2.4%		3.1%	4.4%
<b>Diarrhea incidence</b>										
Household member suffering from diarrhea in the past four weeks		34.9%	17.0%	17.1%	28.2%	33.6%	33.3%	28.0%	31.6%	30.1%
Watery stool with no blood and mucous discharge	Yes	19.9%	9.4%	14.3%	16.7%	22.6%	26.2%	18.0%	21.5%	19.3%
	No	15.1%	7.5%	2.9%	11.5%	11.0%	7.1%	10.0%	10.1%	10.7%
	NA	65.1%	83.0%	82.9%	71.8%	66.4%	66.7%	72.0%	68.4%	69.9%
Diarrhea with discharge of blood and mucous	Yes	15.1%	7.5%	2.9%	11.5%	11.0%	7.1%	10.0%	10.1%	10.7%
	No	19.9%	9.4%	14.3%	16.7%	22.6%	26.2%	18.0%	21.5%	19.3%
	NA	65.1%	83.0%	82.9%	71.8%	66.4%	66.7%	72.0%	68.4%	69.9%
<b>Information access and technical advice</b>										
Number of times messages about germs and food heard or seen on radio, tv, posters, billboards, or other channels	More than 10 times	.7%	1.9%	2.9%	1.3%	4.1%	7.1%	11.0%	6.9%	4.4%
	6-10 times	28.1%	28.3%	8.6%	25.2%	31.5%	21.4%	17.0%	25.0%	25.1%
	1-5 times	65.1%	60.4%	71.4%	65.0%	59.6%	71.4%	67.0%	63.9%	64.4%
	Zero	6.2%	9.4%	17.1%	8.5%	4.8%		5.0%	4.2%	6.1%
Talked to an extension worker about germs and on foodstuffs or moldy crops in the past three months		15.8%	34.0%	51.4%	25.2%	19.9%	19.0%	30.0%	23.3%	24.1%
Heard messages on germs and foodstuffs from an extension worker	At my home or farm	1.4%	5.7%		2.1%	1.4%	4.8%	2.0%	2.1%	2.1%
	At a group or association meeting	2.7%	3.8%	20.0%	5.6%	6.8%	7.1%	11.0%	8.3%	7.1%
	At the health facility	8.9%	18.9%	20.0%	12.8%	10.3%	7.1%	16.0%	11.8%	12.3%
	Somewhere else in the community	2.7%	5.7%	11.4%	4.7%	1.4%		1.0%	1.0%	2.7%



## Supplementary Table S2: Comparison of sanitary facilities and conditions among various social groups

Item	Response/category	Ordinary member (n,434)	Lead farmer (n,4)	Local leader (n,10)	Care group member (n, 29)	Promoter (n,31)	Cluster Leader (n,14)	Total (n, 522)	Asymp. Sig. (2-sided)*
Toilet available	Simple pit latrine – unimproved	354(82)*	4(100)	6(60)	23(79)	24(77)	10(71)	421(81)	0.019
	Simple pit latrine - improved	40(9)	0(0)	4(40)	2(7)	7(23)	3(21)	56(11)	
	No toilet / bush / field / river	40(9)	0(0)	0(0)	4(14)	0(0)	1(7)	45(9)	
Drop hole cover for a toilet	Yes	155(36)	3(75)	7(70)	12(42)	24(77)	10(71)	211(40)	0.000
	No	238(55)	1(25)	3(30)	14(48)	7(23)	3(21)	266(51)	
	Not Applicable	41(9)	0(0)	0(0)	3(10)	0(0)	1(7)	45(9)	
Functional hand washing facility around the toilet	Yes	33(8)	0(0)	2(20)	3(10)	18(58)	7(50)	63(12)	0.000
	No	360(83)	4(100)	8(80)	23(79)	13(42)	6(43)	414(79)	
	Not Applicable	41(9)	0(0)	0	3(10)	0(0)	1(14)	45(9)	
Refuse pit	Yes	104(24)	1(25)	3(30)	7(24)	18(58)	8(57)	141(27)	0.000
	No	330(76)	3(75)	7(70)	22(76)	13(42)	6(43)	381(73)	
Keep livestock in kitchen/house	Yes	155(36)	3(75)	6(60)	10(34)	16(52)	3(21)	193(37)	0.093
	No	279(64)	1(25)	4(40)	19(66)	15(48)	11(79)	329(63)	

\*Analysis based on Pearson Chi-Square, \* Figures in parenthesis are percentages

# Supplementary Material: Questionnaire

Personal Information to be Stored Separately from the rest of the responses.

	<b>Enumerator's Name</b>	>> <i>Will be coded</i>
	<b>Supervisor's Name</b>	>> <i>Will be coded</i>
	<b>Date of Interview</b>	___/___/___ (YY/MM/DD)
	<b>Start Time</b>	>> <i>Devise should record</i>
	<b>End Time</b>	>> <i>Devise should record</i>
	<b>Supervisor's Check Date (Completed by the supervisor)</b>	
	<b>Respondent's Name</b>	
	<b>Respondent Household Status</b>	1= Household head 2= Spouse 3= Child; 4= Relative; 88= Others (Specify) <i>To ensure that the respondent is the wife or an elderly female member</i>
	<b>Sex of the Head of Household</b>	1= M 2 = F
	<b>District</b>	>> <i>Will be coded</i>
	<b>Traditional Authority</b>	>> <i>Will be coded</i>
	<b>Village Name</b>	>> <i>Will be coded</i>
	<b>Household ID Number</b>	>> <i>coded as per enrollment ID</i>
	<b>GPS Coordinates</b>	>> <i>Devise should record</i>

### Household Demographics

	B.1	B.2	B.3	B.4	B.5	B.6
	Household Member Name	Relationship to household head	Sex 1= M 2= F	Age (years)	Marital status	Level of Education
1						
2						
3						
4....						
		<b>Codes for B.2</b>			<b>Codes for B.5</b>	<b>Codes for B.6</b>
		1= Wife/Female spouse 2= Child 3= Relative 88= Others (Specify)			1=Married 2=Divorced 3=Widow 4=Separated 5=Single	1= N/A too young 2= No formal education 3= Primary school incomplete 4= Primary school complete 5= Secondary school incomplete 6= Secondary school complete 7= Tertiary

Household wellbeing, the neighbourhood, income and assets

	What is the <i>main</i> material used in the construction of the floor of the house?	1 = earth 2 = cement 3 = tiles 4 = other (specify)	
	What is the <i>main</i> material used in the construction of the walls of the house?	1 = leaves, tree poles; bamboo 2 = mud and poles or stones 3 = mud bricks 4 = baked or burnt bricks 5 = concrete, cement, stone 6 = other (specify)	
	What is the main material used in the construction of the roof of the house?  <i>Researcher should check</i>	1 = grass, leaves, bamboo 2 = Mud and leaves 3 = concrete, cement 4 = galvanised metal sheets / iron sheets 5 = tiles 6 = other (specify)	
	Does the roof of your house leak?	1. Yes 2. No	
	What is the main type of toilet facility used by this household?  <i>Researcher should check</i>	1. Simple pit latrine – unimproved 2. Simple pit latrine - improved 3. Composting toilet/ecosan latrine 4. No toilet / bush / field / river 5. Ventilated improved pit latrine (VIP) 6. Other	
	Is your pit latrine equipped with a drop hole cover?  <i>Researcher should check</i>	1. Yes 2. No 3. N/A	
	Is your main toilet facility shared with other households?	1. Yes 2. No 3. N/A	
	Do you have a functional hand washing facility around the pit latrine?  <i>Researcher should check</i>	1. Yes 2. No 3. N/A	
	Is Soap available at the hand washing facility	1. Yes 2. No 3. N/A	

	around the pit latrine? <i>Researcher should check</i>		
	Do you have a refuse pit? <i>Researcher should check</i>	1. Yes 2. No	
	Do you have a kitchen? <i>Researcher should check</i>	1. Yes 2. No	
	Does your kitchen have a proper door <i>Supervisor should check</i>	1. Yes 2. No 3. N/A	
	What is the main source of drinking water for this household in the rainy season?	1. Piped water into dwelling 2. Piped water to yard/plot 3. Public tap or standpipe 4. Protected dug well 5. Protected spring* 6. Rainwater collection 7. Bottled water 8. Tube-well or borehole 9. Unprotected dug well 10. Unprotected spring 11. Cart with small tank or drum 12. Surface water: Stream / river 13. Surface water: Dam/ Pond 14. Surface water: Lake 15. Other surface water source 16. Other (specify) <i>*Note: Protected spring definition: The source and the place for fetching are protected from pollution, and fetching place normally features a short pipe, a pump or a tap.</i>	
	Time taken to fetch drinking water (go, fetch and return) in the rainy season	1. Less than 5 minutes 2. 5 – 10 minutes 3. 10 – 30 minutes 4. 30 minutes - 1 hour 5. 1 hour - 2 hours 6. 2 hours - 3 hours 7. 3 hours - 4 hours 8. 4 hours or more	
	What is the main source of drinking water for this household in the dry season?	1. Piped water into dwelling 2. Piped water to yard/plot 3. Public tap or standpipe 4. Protected dug well 5. Protected spring*	

		6. Rainwater collection 7. Bottled water 8. Tube-well or borehole 9. Unprotected dug well 10. Unprotected spring 11. Cart with small tank or drum 12. Surface water: Stream / river 13. Surface water: Dam/ Pond 14. Surface water: Lake 15. Other surface water source 16. Other (specify) <i>*Note: Protected spring definition: The source and the place for fetching are protected from pollution, and fetching place normally features a short pipe, a pump or a tap.</i>	
	Time taken to fetch drinking water (go, fetch and return) in the dry season	1. Less than 5 minutes 2. 5 – 10 minutes 3. 10 – 30 minutes 4. 30 minutes - 1 hour 5. 1 hour - 2 hours 6. 2 hours - 3 hours 7. 3 hours - 4 hours 8. 4 hours or more	

Household Food Insecurity Access Scale (HFIAS) Measurement Tool		
Q#	Question	Response Options
1	In the past four weeks, as a mother, did you worry that your household would not have enough food?	0 = No (skip to Q2) 1=Yes
1a	How often did this happen? ( <i>Frequency</i> )	1= Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)
2	In the past four weeks, were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	0 = No (skip to Q3) 1=Yes



2a	How often did this happen? ( <i>Frequency</i> )	1= Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3 Often (more than ten times in the past four weeks)
3	In the past four weeks, did you or any household member had to eat a limited variety of foods due to a lack of resources?	= No (skip to Q4) = Yes
3a	How often did this happen? ( <i>Frequency</i> )	1=Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)
4	In the past four weeks, did you or any household member had to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	= No (skip to Q5) = Yes
4a	How often did this happen? ( <i>Frequency</i> )	1=Rarely (once or twice past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)
5	In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	= No (skip to Q6) = Yes
5a	How often did this happen? ( <i>Frequency</i> )	1= Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)

6	In the past four weeks, did you or any other household member have to eat fewer meals (once or twice) in a day because there was not enough food?	= No (skip to Q7) = Yes
6a	How often did this happen? ( <i>Frequency</i> )	1= Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)
7	In the past four weeks, was there ever no food to eat of any kind in your household because of lack of resources to get food?	= No (skip to Q8) = Yes
7a	How often did this happen? ( <i>Frequency</i> )	1= Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)
8	In the past four weeks, did you or any household member go to sleep at night hungry because there was not enough food?	= No (skip to Q9) = Yes
8a	How often did this happen? ( <i>Frequency</i> )	1= Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)
9	In the past four weeks, at least a household member go a whole day and night without eating anything because there	= No (questionnaire is finished) = Yes

	was not enough food	
9a	How often did this happen? ( <i>Frequency</i> )	1= Rarely (once or twice in the past four weeks) 2= Sometimes (three to ten times in the past four weeks) 3= Often (more than ten times in the past four weeks)

### Livestock and pets

Q#	Do you have a dog?	1. Yes 2. No
	Are there dogs in the neighborhood that ring around your compound?	1. Yes 2. No
	Do you own a cat?	1. Yes 2. No
	Do you keep goats/sheep?	1. Yes 2. No
	Are there goats/sheep in the neighborhood that ring around your compound?	1. Yes 2. No
	Do you keep poultry?	1. Yes 2. No
	Do you keep domesticated animals in your house or kitchen?	1. Yes 2. No

### Hand washing practice

Q#	<b>Practice</b>	<b>Always</b>	<b>Often</b>	<b>Some Times</b>	<b>Occasionally</b>	<b>Never</b>
	Do you wash hands after using toilet?					
	Do you wash with soap after using toilet?					
	Do you wash hands after changing babies nappies/ diapers?					
	Do you wash hands with soap after changing babies nappies/ diapers?					
	Do you wash hands before cooking?					

	Do you wash hands with soap before cooking?					
	Do you wash hands after house cleaning work?					
	Do you wash hands with soap after house cleaning work?					
	Do you wash hands after disposing/handling of garbage?					
	Do you wash hands with soap after disposing/handling of rubbish?					
	Do you wash hands before eating?					
	Do you wash hands with soap before eating?					
	Do you wash hands in a bucket or basin using water that had been previously used by someone?					

#### Cleaning of food preparatory utensils

Q#	Practice	Always	Often	Someti mes	Occasionally	Never
	Do you wash utensils before use?					
	Do you wash utensils with soap before use?					
	Do you dry utensils on the rack?					
	Do you dry utensils on the rack not accessible to pets?					
	Do you clean surfaces and equipment used for preparation before re-using for subsequent foods?					
	Do you clean/wash utensils/containers in which drinking water is kept?					

	Do you keep water in the same container/bucket used for other household chores?					
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### Illness and food handling

Q#	Practice	Always	Often	Some Times	Occasionally	Never
	Do you prepare food while having diarrhea?					
	Do you prepare food while having hand lesions/wound?					
	Do you prepare food while having fever?					
	Do you prepare food while having sore throat/flu?					
	Do you prepare food in a kitchen with a proper door?					
	Do you prepare food on surfaces above knee high?					
	Do you use separate utensils and cutting boards when preparing raw and cooked food?					
	Do you separate raw and cooked food during storage?					
	Do you check that meats are cooked thoroughly by ensuring that the juices are clear?					
	Do you reheat cooked foods until it is piping hot?					
	Do you eat cooked food within 2 hours of preparation?					
	Do you keep drinking water covered?					

	Do you touch drinking water while collecting?					
	Do you use the same cup for collecting and drinking water?					
	Do you slaughter and eat sick animals?					

#### Cockroach prevention

Q#	Practice to prevent cockroaches	Always	Often	Some Times	Occasionally	Never
	Covering food after preparation					
	Applying pesticides to control cockroaches					
	Using drop hole covers in pit latrines					
	Keeping a waste basket in a kitchen					

#### Knowledge regarding germs and food

Q#	Aspect (For the following expressions indicate whether it is <b>True</b> , <b>False</b> , <b>Don't know /Not sure</b> )	True	False	Don't know/Not sure
	It is not necessarily important to wash hands before handling food			
	Wiping cloth can spread microorganisms.			
	The same cutting board can be used for raw and cooked foods without washing with soap so long as it looks clean.			
	Raw and cooked food can be stored together.			

	It is not a must that cooked food should always be reheated thoroughly			
	Reheating meats to lukewarm is an acceptable practice			
	Cooked food should be served while it is hot.			
	The safety of water can be by the way it looks			
	Uncooked fresh milk is healthier and more nutritious than pasteurized/boiled milk			
	There is no risk of disease from drinking fresh milk directly from an animal			
	Raw eggs are healthier and more nutritious than cooked ones			
	There is no risk of disease from drinking raw eggs			
	There is no risk of disease from eating uncooked pre-smoked meat of any livestock or fish			
	Wiping vegetables or fruits make them safe to be eaten			
	There is no risk of disease from eating cooked food kept at room temperature for one day if covered			
	There is no risk of disease from eating unwashed vegetables and herbs picked up directly from the plant			
	Baby feces is free from pathogenic microbes if he/she is not sick			
	Direct rainwater is safe to drink without any treatment			

	Food handlers without clinical symptoms, can contaminate food with pathogenic microbes which cause food poisoning			
	Extended hand wash even without soap is efficient			
	Washing hands with soap and water before preparing food is necessary to prevent food poisoning			
	Hand washing is only effective if one uses soap and scrubs for at least 20 seconds			
	It is necessary to separate water used for cooking and that meant for other household purposes			
	Cooked foods should be separated from raw materials			
	Keeping surfaces clean reduces the risk of illnesses			
	Cockroaches are a food safety risk			
	Good personal hygiene is a prerequisite to health breast milk			
	Hands which look clean are free from dirty and contaminants			
	Cooked foods are generally safe than raw foods			

#### Attitude regarding germs and food

Q#	Aspect	Agree	Not Sure	Disagree
	<i>(In the following expressions indicate whether you: <b>Agree, Not Sure, Disagree</b>)</i>			
	Frequent hand-washing during food preparation is worth the extra time.			



	Using separate cutting boards for raw and cooked foods or ensuring that they are thoroughly washed with soap in between is worth the extra effort			
	Vegetables such as pumpkin leaves are not supposed to be washed.			
	Inspecting food for freshness and wholesomeness is valuable.			
	Domestic animals such as chicken and goats are only safe if kept in the kitchen/houses			
	Washing hands with soap is a waste of resources			
	Good hygiene practices are practically unachievable by the resource constrained			
	Hands that look clean are not supposed to be washed			
	Demanding to wash hands with running/pouring when everyone else is sharing the same bucket (batch) is culturally unacceptable.			
	It is unethical to demand hand wash with soap at someone's place/house or in public			
	Concerned about food borne illness related to germs			
	Concerned about presence of germs in food			
	Willing to improve knowledge about management of germs in food			
	Willing to change inappropriate practice regarding control and management of germs in food			

#### Pre-harvest handling practices regarding molds in foods

Q#	Question	Responses	Directions
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	Do you plant seeds with first good rains?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you weed your maize and groundnut fields?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you control pest and diseases?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Are you compelled to harvest your maize or groundnuts due to some social problems before the crop attains physiological maturity?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you leave your crop long (say months) in the field beyond physiological maturation?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you systematically check for and remove mouldy cobs (maize) during harvesting?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	What is the fate of moldy infested maize in the field?	<ol style="list-style-type: none"> <li>1. Letting it to decompose</li> <li>2. Burning right in the field</li> <li>3. Home use as fuelwood</li> <li>4. Mix with health maize</li> <li>5. Others</li> <li>6. N/A</li> </ol>	
	What ways do you use to dry groundnuts?	<ol style="list-style-type: none"> <li>1. Heaped on bare ground with some pods touching soil</li> <li>2. Heaped on bare ground with pods facing upwards</li> <li>3. Ordinary windrow with some pods touching soil</li> <li>4. Inverted windrow</li> <li>5. Striped and dried on bare ground</li> </ol>	

		6. Striped and dried on platform or sheet/mat 7. N/A	
	Do you dry maize cobs on bare soils?	1. Always 2. Often 3. Sometimes 4. Occasionally 5. Never	

#### Post-harvest handling practices regarding moulds in foods

Q#	Question	Responses	Directions
	Do you store maize or groundnuts in bags?	1. Yes 2. No	
	What type of bags do you use?	1. Polypropylene sack 2. Hematic bag 3. N/A	
	Do you use synthetic or botanicals to control pests if you do not use hematic bags?	1. Always 2. Often 3. Sometimes 4. Occasionally 5. Never 6. N/A	
	During storage of grain or groundnut in bags, do you elevate them off the ground?	1. Always 2. Often 3. Sometimes 4. Occasionally 5. Never 6. N/A	
	During storage of grains or groundnuts do you store bags in a way that prevent them from touching walls?	1. Always 2. Often 3. Sometimes 4. Occasionally 5. Never 6. N/A	
	Do you use control techniques to control rodents during storage?	1. Always 2. Often 3. Sometimes 4. Occasionally 5. Never 6. N/A	

	Do you winnow maize with the aim of reducing molds before dehulling or milling?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you sort maize before dehulling/milling to reduce molds?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you sort groundnuts before milling to reduce molds?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	What is the most important benefit of hand sorting maize, groundnuts and other foodstuffs?	<ol style="list-style-type: none"> <li>1. To reduce pests like weevils</li> <li>2. Clean grains get a higher price</li> <li>3. Clean grains sell faster</li> <li>4. Sorting of grains is a hygienic practice</li> <li>5. It is traditional</li> <li>6. Others (specify)</li> <li>7. N/A</li> </ol>	
	Do you soak groundnuts to aid shelling?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> <li>6. N/A</li> </ol>	

#### Buying mouldy foods

Q#	Question	Responses	Directions
	Do you check for moulds before purchase of foodstuffs?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you check for insect infestation before purchase of foodstuffs?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you buy maize that is moderately mouldy (has a small fraction of molds)?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	

	Do you buy groundnuts that are moderately mouldy?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you buy fruits that are moderately mouldy?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	Do you buy fish that are moderately mouldy?	<ol style="list-style-type: none"> <li>1. Always</li> <li>2. Often</li> <li>3. Sometimes</li> <li>4. Occasionally</li> <li>5. Never</li> </ol>	
	What is the primary reason for purchasing foodstuffs that have signs of molds or other contamination?	<ol style="list-style-type: none"> <li>1. It is all that is available at that time</li> <li>2. Molds are inevitably present in the food available at the</li> <li>3. It is cheaper than better quality foodstuffs</li> <li>4. Mold or other contamination is harmless</li> <li>5. Proper food preparation removes risks caused by mold or contamination</li> <li>6. N/A</li> </ol>	

#### Knowledge regarding mouldy foodstuffs

Q#	Aspect (For the following expressions indicate whether it is <b>True</b> , <b>False</b> , <b>Don't know /Not sure</b> )	True	False	Don't know/Not sure
	Late planting promotes mold infestation.			
	Presence of weed have no effect on mold infestation.			
	Field and storage pests contribute to mould infestation.			
	Leaving a crop too long in a field aggravates moldy infestation.			
	Drought is a predisposing factor for mold infestation.			
	Removing and discarding a moldy section of a fruit makes it completely safe.			

	Heat such as boiling, roasting or deep frying destroys poisons found in moldy food and make it safe.			
	Soaking maize for some days removes poisons in foods			
	Food contaminated with mold are not harmful to livestock.			
	Drinking milk from an animal feeding on mold infested feed is harmful.			
	Regularly/constantly feeding a child with meal made from maize with a small fraction of molds cannot affect child's growth.			
	Consuming moldy foods depresses immunity.			
	Consuming moldy foods can cause birth defects in children (mutagenic).			
	Consuming a large amount of moldy foodstuff may lead to death instantly or within a week.			
	Food infested with molds presenting no sensory change indicate safety.			

#### Attitude regarding moulds and foods

Q#	Aspect	Agree	Not Sure	Disagree
	<i>(In the following expressions indicate whether you: <b>Agree, Not Sure, Disagree</b>)</i>			
	Sorting and removing moldy fraction in foods is worth the extra effort.			
	It's not harmful to consume moldy food			
	Sorting and discarding-moldy foods lead to lose of food			
	Beverages made from moldy grains taste better than those made from non-moldy foods			
	When food starts developing some molds becomes more nutritious			
	Leaving moldy infested maize in the field to decompose improves soil fertility			
	Shelling moldy maize is easier than shelling clean			
	It is unethical to discard mouldy foodstuff when others are starving			

	When trading food commodities it is wisdom to grade/sort and sell the premium and consume the inferior fraction			
	Concerned about food borne illness related to moulds			
	Concerned about presence of mold in food			
	Willing to improve your knowledge about management of molds in food			
	Willing to change inappropriate practice regarding control and management of mold in food			

#### Behaviour regarding infant feeding and safety

Q#	Behavior/practice	Always	Often	Some Times	Occasionally	Never
	When breast feeding a baby, do you wash hands and dry them first?					
	Do you wash utensils used when feeding the child with soap?					
	Do you put porridge in the mouth to cool it first before feeding the child?					
	Do you use the finger, or hand to feed the child?					
	Do you use snail shells or sugarcane sheath to feed the child?					
	Do you take extra effort to sort groundnuts or maize to make infant foods safer than food for adults?					

#### Knowledge regarding infant feeding and safety

Q#	Aspect (For the following expressions indicate whether it is <b>True</b> , <b>False</b> , <b>Don't know /Not sure</b> )	True	False	Don't know/Not sure
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	Expressed breast milk put in a clean container can safely be kept for more than 4 hours			
	Once feeding has begun, it is necessary to discard any unused breast milk after feeding a child			
	Children are more tolerant to moldy foods than adults			

#### Diarrhea incidence

Q#	Question	Responses	Directions
	Did any household member suffered from diarrhea in the past four weeks?	1. Yes 2. No	
	Was the diarrhea watery stool with no blood and mucous discharge?	1. Yes 2. No 3. N/A	
	Was the diarrhea with discharge of blood and mucous?	1. Yes 2. No 3. N/A	

#### Information access and technical advice

Q#	Question	Responses
	In the last three months, about how many times have you seen or heard messages about germs and food on the radio, tv, posters, billboards, or other channels?	1. More than 10 messages or adverts 2. 6-10 messages or adverts 3. 1-5 messages or adverts 4. Zero messages or adverts
	In the last three months, have you talked to agriculturist/health worker/nutritionist about molds and foodstuffs or moldy crops?	1. Yes 2. No
	Where did you hear (about molds and food) from the agriculturist health worker/ nutritionist?	1. At my home or farm 2. At a group or association meeting 3. At the health facility 4. Somewhere else in the community

**End of questions**