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Linking Agriculture, Nutrition, and WASH: Exposure and Knowledge Among Health Workers and FCHVs in Nepal:

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Outline

- Background
- Survey details
- Research question
- Survey sampling
- Measurement and methods
- Results
- Implications

Background: Suaahara II

Implementation Summary

- 2016-2021 (Suaahara I, 2011-2016)
- Aligned with and supporting the Multi-sector Nutrition Plan (MSNP)
- 42 districts, 900,000 households (1.5 million women & children)
- Multi-sectoral: nutrition, health and family planning, water, sanitation and hygiene (WASH), agriculture/homestead food production, and Gender Equality and Social Inclusion (GESI)

Aims

- o To reduce the prevalence of stunting, wasting and underweight among children <5 years
- o To reduce the prevalence of anemia among women of reproductive age and children 6-59 months

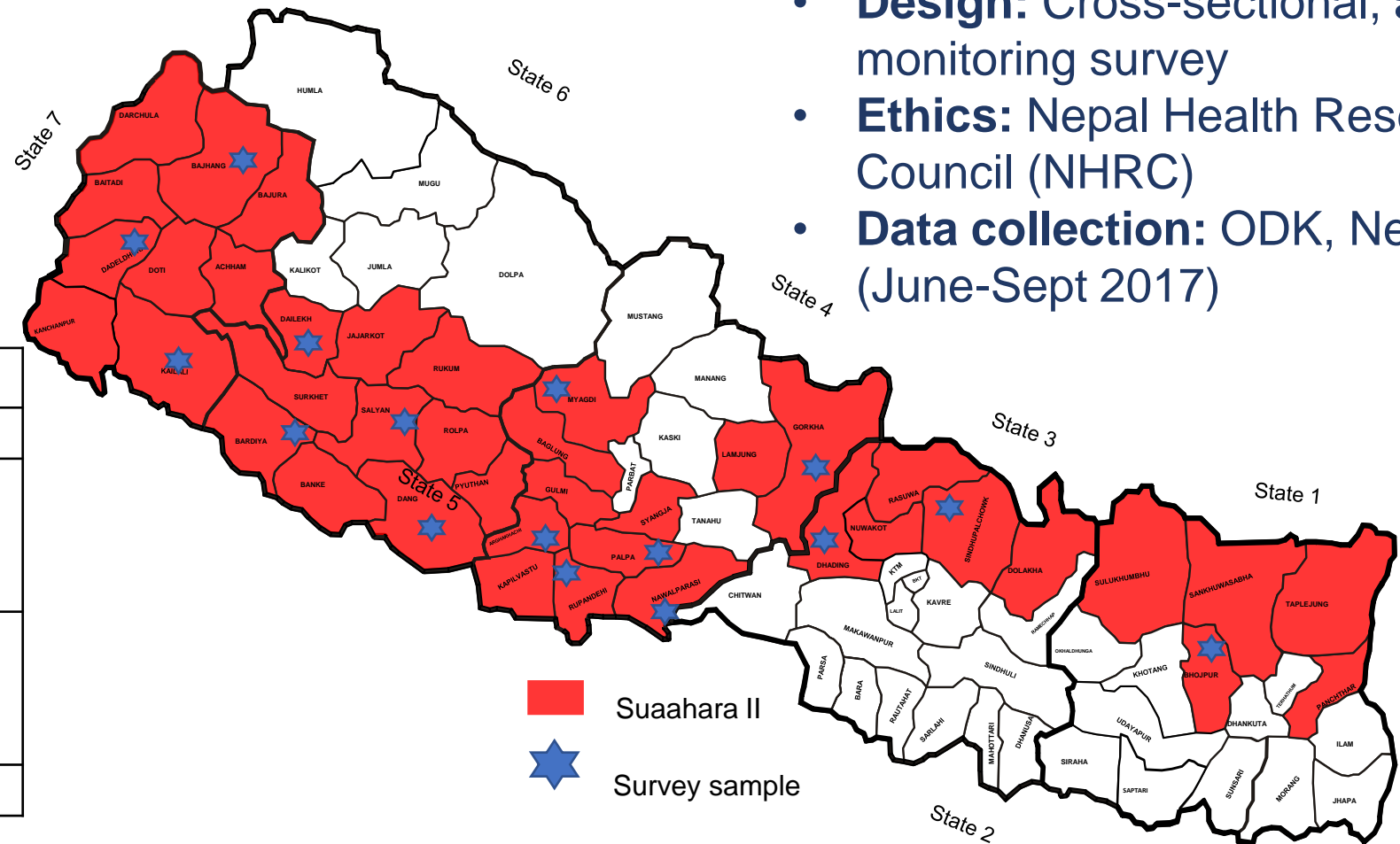
Background: Suaahara II and GoN Frontline Workers

	Agriculture/ Livestock	Nutrition/ Health	WASH
Government FLWs	In SII , we train extension workers on nutrition, and link to agriculture/livestock. FLWs provide integrated nutrition messages to community	FCHVs and HWs receive training on Suaahara. FLWs provide integrated nutrition messages SII helps in functioning of nutrition committees	SII works in coordination with FCHVs, HWs, social mobilizers on WASH issues SII helps in functioning of WASH committees.
Suaahara II FLWs	VMFs- received training on homestead food production, receive physical inputs (improved seeds/ chicken), adopt good practices and encourage/teach 1000-day mothers	FSs and CNFs- receive training, conduct home visits to provide nutrition and health related information, support FCHVs in nutrition/health programs, such as HMG meetings, PHC/ORC clinics.	WASH triggerer receives training, conducts triggering events in the community on WASH issues, works with government in the ODF and healthy home campaign

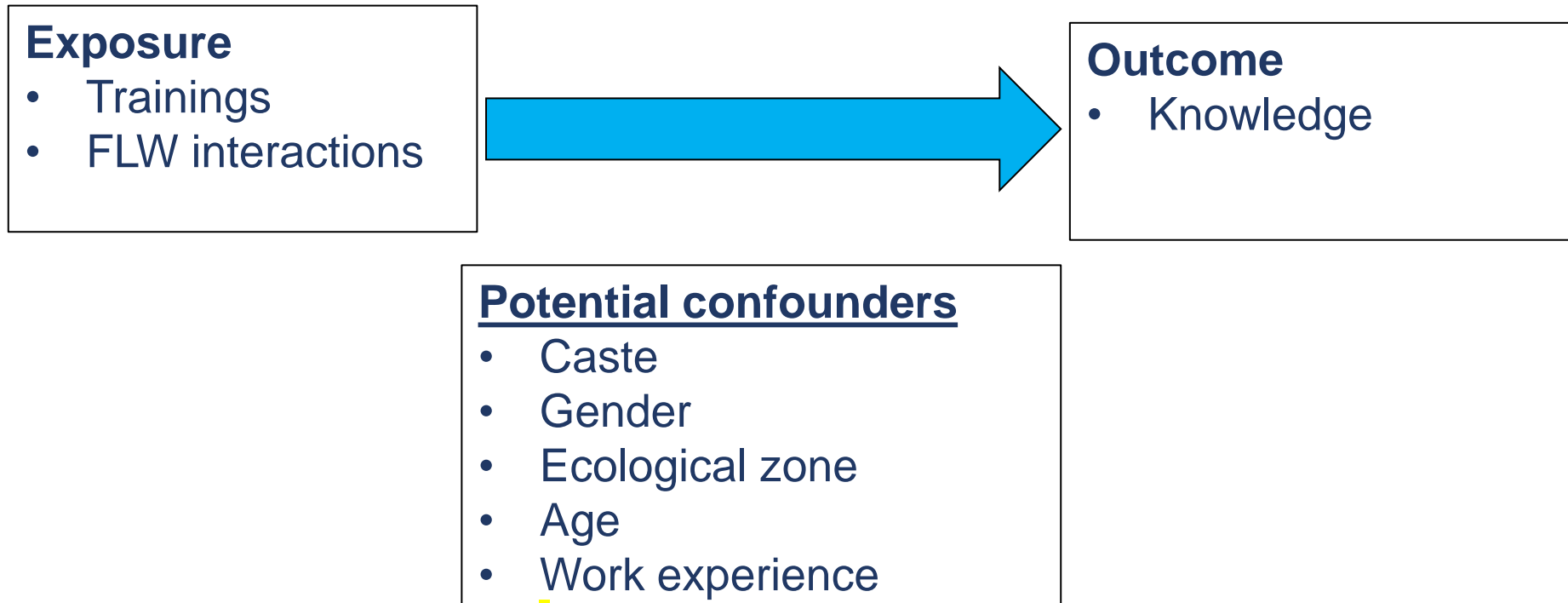
Survey Details

- **Design:** Cross-sectional, annual monitoring survey
- **Ethics:** Nepal Health Research Council (NHRC)
- **Data collection:** ODK, New ERA (June-Sept 2017)

I: District (PPS)	16
II: Municipality (PPS; 2)	32
III: Ward (PPS; 3) (for health facility survey)	96
IV: Sub-ward (old) (PPS; 2) (for FCHV survey)	192
V: Households	3648



Research Question: How is exposure to another sector associated with knowledge about that sector, among health workers and FCHVs in Nepal?



Data Analysis: Stata 14; Descriptive analysis; linear and logistic regression models adjusted for confounders and clustering

Measurement: Exposure

Training: number of topics

- Agriculture: Gardening, poultry-rearing including immunization (2)
- Nutrition: Vitamin A, child feeding, anemia, breastfeeding, nutritional care of sick child, measuring height and weight of children (6)
- WASH (1)

FLW interactions: number of interactions

- Agriculture: Government agriculture/livestock/fisheries extension worker, NGO agriculture/food security worker (2)
- Nutrition: Health Worker/Government Health Worker, NGO health/nutrition worker (2)
- WASH: Social mobilizer, Suaahara (e.g. field supervisor, WASH triggerer) (2)

Measurement: Outcome

Knowledge: Agriculture (Scale of 6)

- Benefits of homestead gardening (3)
- Benefits of small animal production (3)

Knowledge: Maternal nutrition (Scale of 3)

- 180 days of iron/folic acid (IFA) for pregnant woman
- 45 IFA for post partum woman
- Diet during pregnancy: more than usual

Knowledge: Child nutrition (Scale of 8)

- Breastfeeding initiation: within 1 hour
- Exclusive breastfeeding (not even water)
- Appropriate age for liquids/foods: 6-8.9 months
- Exclusively breastfeeding appropriate age: 6 months
- Sick child feeding: more or continued/increased breastfeeding
- Colostrum to baby within 1 hour
- Advice to caregiver (Child 0-6 months not eating well)
- Advice to caregiver (Child 6-23 months not eating well)

Knowledge: WASH

- All six critical times caretaker should wash hands
- Appropriate ways to treat drinking water and no incorrect method named

Results: Descriptive analysis

EXPOSURE

- FCHVs received more trainings than HWs:
- No. of training topics ever exposed
- Agriculture: 0.7 vs 0.2; $P < 0.001$
- Nutrition: 4.6 vs. 3.9; $P: 0.02$
- WASH: 0.7 vs. 0.3; $P < 0.001$
- No significant difference in exposure to other FLWs (except FCHVs and HWs) for both FCHVs and HWs.

OUTCOME (Knowledge)

- Agriculture: HWs scored higher (5.3 vs. 4.5 of 6; $P < 0.001$)
- Maternal nutrition: No significant difference
- Child nutrition: HWs scored higher (5.8 vs 6.6 of 8; $P < 0.001$)
- WASH (handwashing): More HWs reported correctly (21% vs. 11%; $P: 0.02$)
- WASH (drinking water): More FCHVs reported correctly (72% vs. 59%; $P: 0.03$)

Results: Associations between exposure and agriculture/livestock knowledge

		Beta (95% CI)	<i>p</i>
No. of training topics ever in agriculture/ livestock	FCHV	0.08	0.486
	HW	1.09	<0.001
Number of training topics in last 12 months in agriculture/ livestock	FCHV	0.12	0.285
	HW	1.11	<0.001
Number of interactions with agricultural/ livestock workers	FCHV	0.21	0.013
	HW	1.19	<0.001
Number of interactions with social mobilizers	FCHV	0.16	0.019
	HW	1.10	<0.001

Results: Associations between exposure and nutrition knowledge

		Child Nutrition Knowledge		Maternal Nutrition Knowledge	
		Beta	<i>p</i>	Beta	<i>p</i>
Number of training topics trained in nutrition	FCHV	0.15	0.003	0.00	0.954
	HW	0.72	0.100	0.00	1.000
Trained in last 12 months in nutrition	FCHV	0.22	0.137	-0.03	0.547
	HW	0.83	0.033	-0.03	0.816

No significant association between interaction with FLWs and nutrition knowledge

Results: Associations between exposure and WASH Knowledge

		Handwashing knowledge		Water treatment knowledge	
		OR	<i>p</i>	OR	<i>p</i>
Ever received training in WASH	FCHV	6.62	0.014	1.89	0.073
	HW	2.76	0.061	1.85	0.234
Training received in last 12 months	FCHV	2.95	0.057	1.25	0.645
	HW	2.63	0.171	4.23	0.088

No significant association between interaction with FLWs and WASH knowledge

Implications-Program

- Findings promising for Nepal's Multi-Sector Nutrition Plan II (MSNP-II) efforts: more trainings and interactions with FLWs from other sectors plays a role in health workers and FCHVs cross-sectoral knowledge.
- Need to increase these exposures, as absolute levels of exposure to non-health sector trainings and FLWs remains low.
- Plans for post-training follow-up, onsite coaching, supportive supervision and M&E are needed.

Implications-Research

- While findings show association between exposure and outcome, similar studies need to be conducted that more accurately measures knowledge.
- More thematic areas (besides agriculture, nutrition and WASH) could be explored in further studies.
- The association between exposure and outcome could be studied among other type of frontline workers.

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Suaahara II thanks the Government of Nepal for their leadership. 15