An intersectionality evaluation of the reach and benefit of nutrition-sensitive agricultural programmes and their impact on intersectional inequalities in maternal diets in rural Odisha, India.
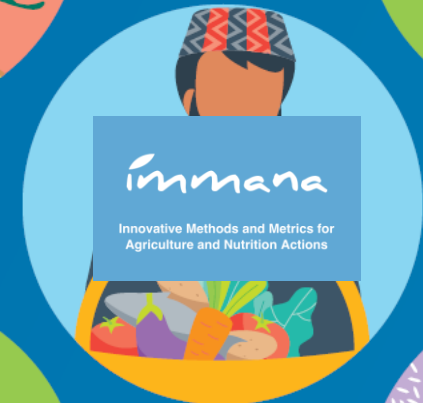
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Background & Research Question

- **Intersectionality** is a framework for understanding how multiple equity dimensions intersect and shape experiences and outcomes.

- **In India**, nutrition inequalities are observed along several intersecting hierarchical social stratifications, but research investigating how this affects nutrition is sparse.

- Intersectionality can help ensure impacts of nutrition programmes are equitable and reach the most vulnerable.


How did differences in the reach and benefit of nutrition-sensitive agricultural (NSA) programmes impact intersectional inequalities in women's diets?

Differences were assessed along intersections of **caste, education, and wealth**.

Methods

- Data from UPAVAN endline evaluation.

- Programmes **improved the proportion of women achieving maternal minimum dietary diversity** by between 18 and 30%.
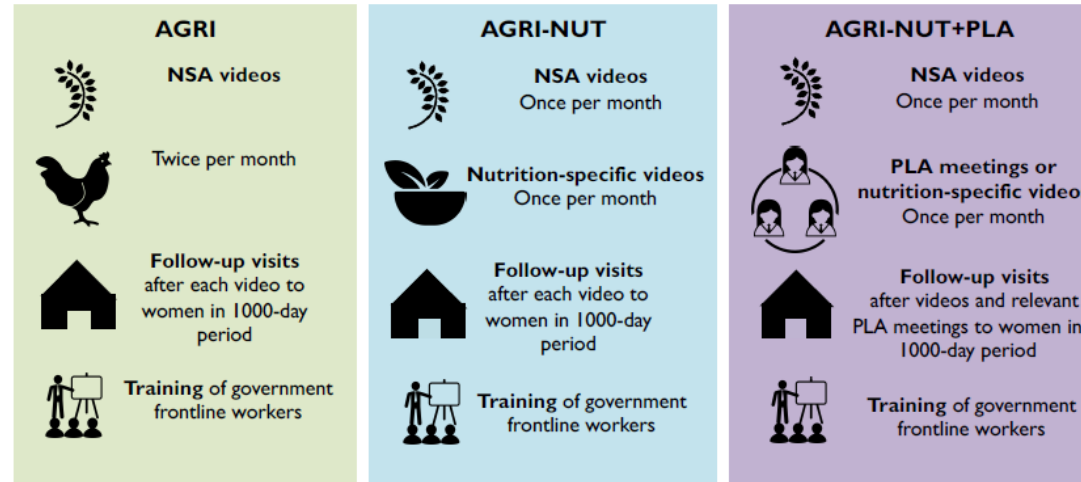
We used **counterfactual theory** to decompose caste-by-wealth and caste-by-education intersectional inequalities in **women's diets** that was due to:

1) **Differences in participation;**
2) **Differences in effects of participating on women's diets**
3) **Differences in effects of participating causes by differences in participation**

Based on VanderWeele's (2014) four-way decomposition of the total effect

Results I

- The nutritionally best-off cast-by-wealth intersection was wealthier other castes, and the worst-off was poorer Scheduled tribes.
  - ➢ Programmes were less effective among the best-off relative to the worst-off group, **narrowing diet inequalities by between 11 and 12%.**

- Programmes involving videos on agriculture and nutrition (AGRI & AGRI-NUT) were less effective among **the least disadvantaged** (e.g., high education other castes) relative to **singularly disadvantaged groups** (e.g., low education other castes), **reducing inequalities in dietary quality by up 15%,**

AGRI & AGRI-NUT	**High vs low education among other castes**			**Other caste vs Scheduled Tribes among high education**			**Other caste vs Scheduled Tribes among high wealth**			**High versus low wealth among other castes**		
Excess relative risk (ERR)	*N*	Effect	95% CI	*N*	Effect	95% CI	*N*	Effect	95% CI	*N*	Effect	95% CI
	1251			1498			1058			824		
Total effect (observed difference in diets)		0.29	-0.01, 0.70		0.08	-0.02, 0.22		0.19	0.04, 0.35		0.57	0.27, 0.94
No one participating counterfactual		0.40	0.06, 0.86		0.19	0.05, 0.37		0.34	0.16, 0.54		0.72	0.38, 1.11
Diff in effect of participating only		-0.12	-0.28, 0.04		-0.11	-0.19, -0.02		-0.14	-0.23, -0.05		-0.15	-0.31, 0.008
Both diff in participation and effect of participating		-0.04	-0.12, 0.04		-0.02	-0.05, 0.003		-0.03	-0.07, 0.002		-0.02	-0.06, 0.02
Diff in participation only		0.04	-0.007, 0.15		0.02	0.005, 0.05		0.03	0.009, 0.07		0.02	-0.007, 0.07

Results III

However, programmes involving videos on agriculture and nutrition (AGRI & AGRI-NUT) were more effective among **singularly disadvantaged** (e.g., high education Scheduled tribe), relative to **multiply disadvantaged groups** (e.g., low education Scheduled tribe),

AGRI & AGRI-NUT	High vs low education among Scheduled Tribes			Other caste v Scheduled tribes among low education			High v low wealth among Scheduled tribes		
Excess relative risk (ERR)	N	Effect	95% CI	N	Effect	95% CI	N	Effect	95% CI
Videos only	1329			655			1329		
Total effect (observed difference in diets)		1.09	0.76, 1.53		0.76	0.3, 1.44		0.50	0.29, 0.74
No one participating counterfactual		0.91	0.57, 1.34		0.60	0.09, 1.26		0.40	0.18, 0.64
Diff in effect of participating only		0.13	-0.003, 0.26		0.13	-0.13, 0.4		0.07	-0.04, 0.2
Both diff in participation and effect of participating		0.04	-0.01, 0.09		0.02	-0.06, 0.1		0.008	-0.01, 0.03
Diff in participation only		0.02	-0.009, 0.06		0.008	-0.01, 0.07		0.01	-0.004, 0.04

Results III

When programmes incorporated **Participatory Learning and Action** (AGRI-NUT+PLA) programmes were **equally as effective among multiply disadvantaged** relative to **singularly disadvantaged** groups.

Except among poorer women: Other castes had greater dietary benefits from participating and they participated more than Scheduled tribes:
- ➢ Caste disparity in diets among poorer women widened by 23%.

Nutritionally better-off women tended to participate more, but had small to no contribution to diet inequalities

Takeaway

NSA programmes of the UPAVAN trial reduced several inequalities in maternal diets
➢ This occurred due to participation being most beneficial for several nutritionally worse-off groups

Better-off groups often participated more but had a minimal effect on diet inequalities
➢ Equalising and increasing participation would further improve diets and narrow diet inequalities
➢ Need to understand participation barriers and facilitators of participation for the most disadvantaged women

PLA approaches can help achieve equal dietary benefits for women who face multiple levels of marginalisation.
➢ Programmes targeting the diets of multiply disadvantaged groups should consider incorporating PLA.

However, among the poorest women, other caste groups benefit more than Scheduled Tribes.
➢ There is a need to develop and test PLA strategies that inclusively benefit the diets of Scheduled tribes among the most socioeconomically vulnerable women.

Diet inequality at endline
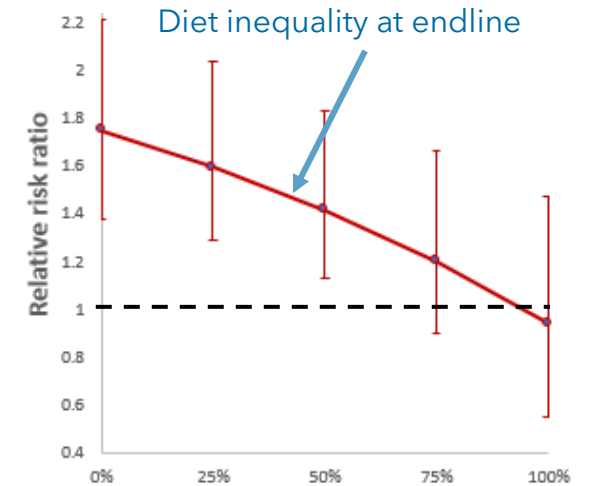
How diet inequality would decrease between wealthier vs poorer other caste women if participation were to equally increase (AGRI-NUT+PLA).

THANK YOU

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