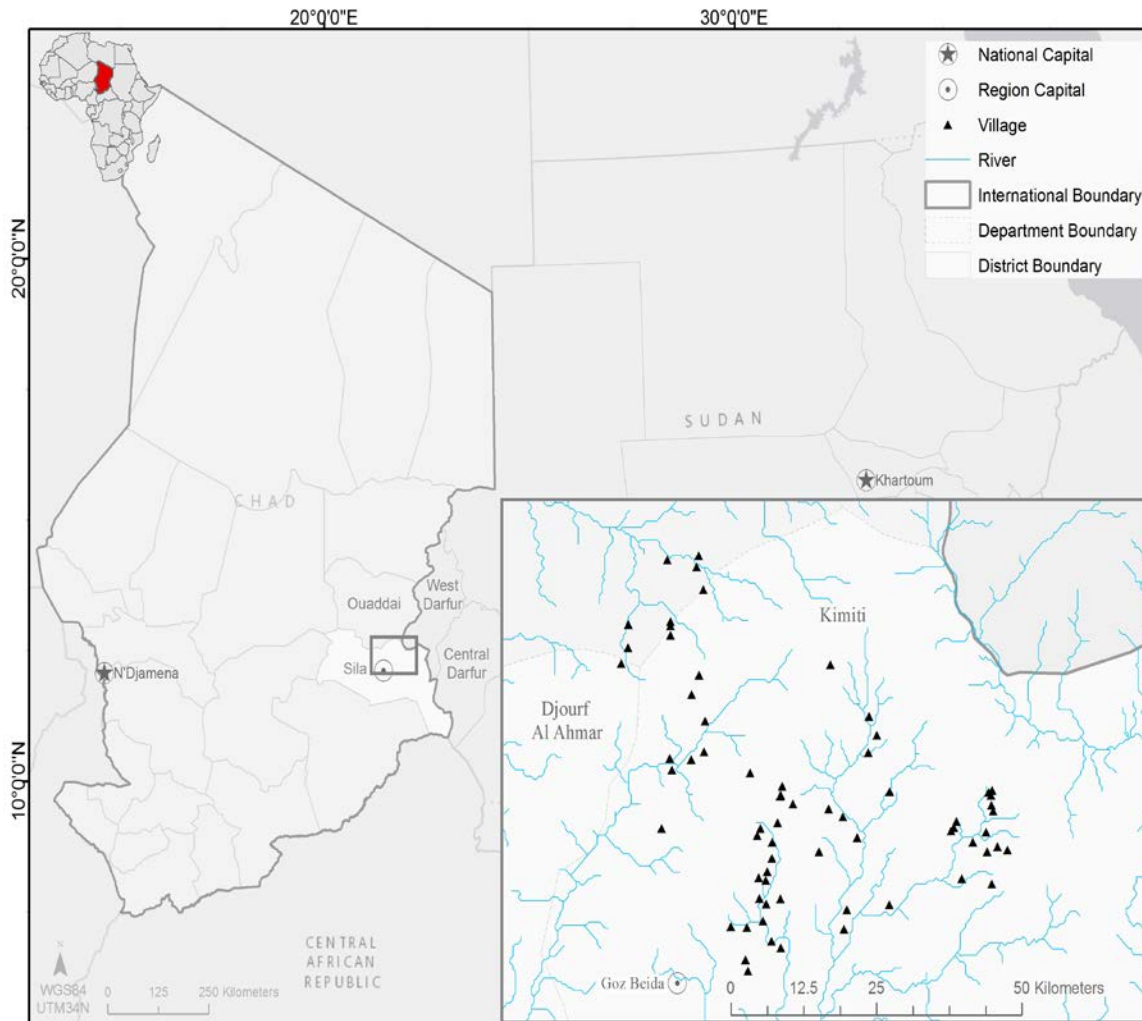# Integrated Package to Prevent Acute Malnutrition

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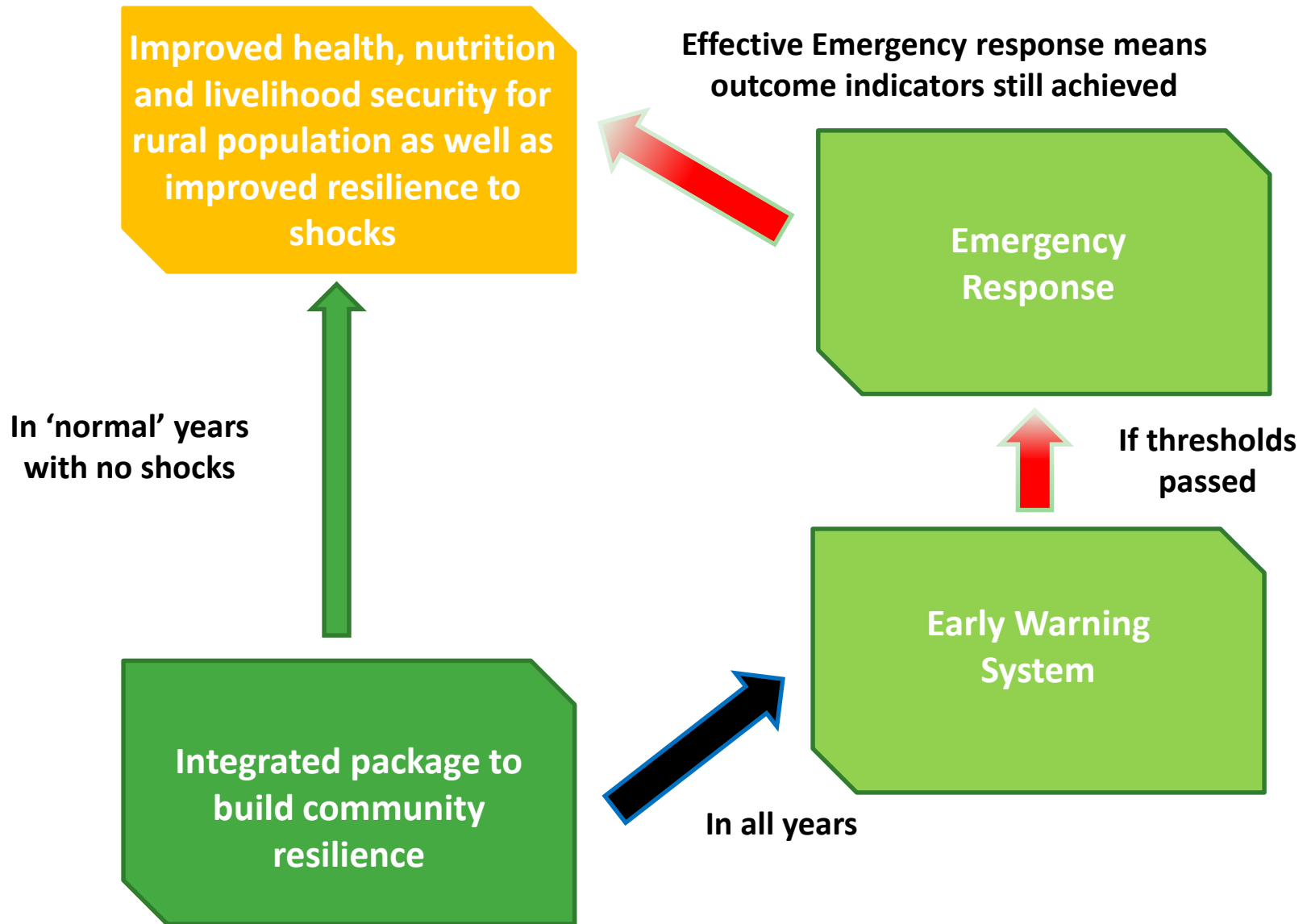
Context: Sila Region in eastern Chad

What is Community Resilience?

'*The ability of all vulnerable households or individuals that make up a community, to:*

- *anticipate, respond to, cope with, and recover from the effects of shocks,*

- *and to adapt to stresses in a timely and effective manner*

- *without compromising their long-term prospects of moving out of poverty.*'

Community Resilience to Acute Malnutrition

Improved health, nutrition and livelihood security for rural population as well as improved resilience to shocks

Effective Emergency response means outcome indicators still achieved

Emergency Response

In 'normal' years with no shocks

If thresholds passed

Integrated package to build community resilience

Early Warning System

In all years

Mixed methods

Quantitative

Randomized control trial:

- 35 treatment villages and 34 control villages
- 1420 households
- Baseline (2012), midline (2014), endline (2015)
  - November/December

Qualitative

Focus groups and key stakeholder interviews:

- February, 2013
- November 2014
- November 2015
- May, 2016

		Control	Treatment	Total
household	baseline	719	701	1420
	midline	638	609	1247
	endline	632	627	1259
children with anthropometric data	baseline	647	614	1,261
	midline	572	555	1,127
	endline	543	487	1,030

Program Impact (overall)

| Access to health and nutrition |
| --- |
| mothers exclusively breastfeeding infants <6 months |
| **Access to water and hygiene practices** |
| households with access to 15L per person per day |
| households utilizing a borehole for water for human consumption |
| households openly defecating |
| respondents know the 2 critical times for hand washing |
| households cleaned their storage container with soap/chlorine |
| households had a storage container that "looks" clean |
| households cleaned their transport container with soap/chlorine |
| households had a transport container that "looks" clean |
| **Agriculture** |
| households practice at least two conservation agriculture techniques |
| **Female participation and decision making** |
| respondents in female headed households involved in decision making about child health |
| respondents in female headed households involved in decision making about their health |

CRAM impact on chronic and acute malnutrition
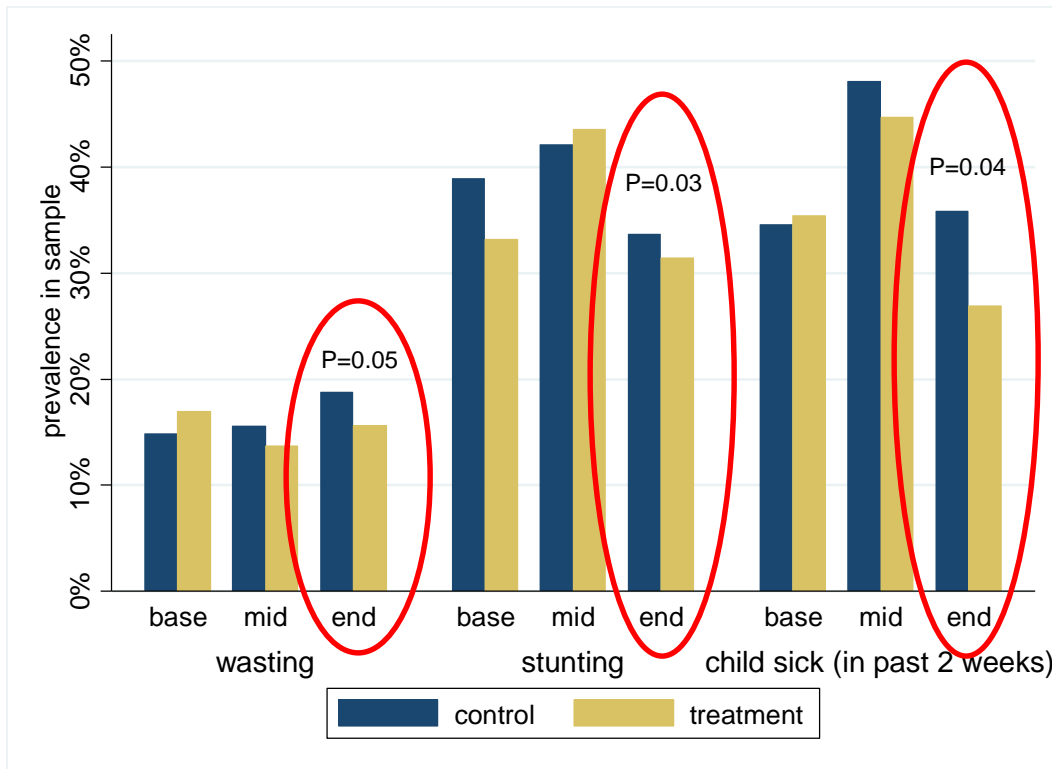
significant impact:

- Wasting (p<0.05)
- Weight for height z-score (p<0.05)
- Stunting (p<0.05)
- Height for age z-score (p<0.1)
- Having a child sick in the past two weeks (p<0.05)

|	full sample		control		treatment	
	fixed effects	random effects	fixed effects	random effects	fixed effects	random effects
female child		0.155***		0.149*		0.140*
child age in months (centered)		0.021**		0.022*		0.019
child age in months squared (centered)	-0.000*	-0.000**	0	-0.000*	0	0
number of children(age<5) (centered)	-0.033	-0.145***	-0.128	-0.188***	0.067	-0.101*
age of household head (centered)	-0.001	0	0.005	0.003	-0.008	-0.002
female household head	0.081	0.105	-0.128	0.035	0.247	0.183
hh head has at least some formal edu.	0.412*	0.343**	0.068	0.361	0.661**	0.414**
household size (centered)	-0.023	-0.007	-0.008	-0.025	-0.034	0.015
Coping Strategies Index (centered)	0	0.001	0	0.002	0	0
prop. children (age<14) working (cent.)	0.145	0.171**	0.233	0.275***	0.067	0.092
Morris Score Index (centered)	0.098	0.05	-0.004	0.001	0.189*	0.134*
Weighted Livestock Index (centered)	0	0.000*	0	0	0.001*	0.001**
water access (reference: surface water)						
traditional well	0.181	0.201**	0.048	0.02	0.268	0.367**
Borehole	0.083	0.225***	-0.247	0.037	0.384**	0.408***
household was displaced during conflict	0	0.215***	0	0.291***	0	0.119
village with 150 hh or more	0	0.093	0	0.162	0	0.013
Damre	0	0.292**	0	0.399*	0	0.327**
cattle in the village (centered)	0.009	0.037**	0.128	-0.110*	-0.092	-0.079*
Intervention	0.193*	0.120*	0	0	0.077	0.071
Constant	-1.457***	-1.594***	-1.164***	-1.418***	-1.670***	-1.764***
Number of observations	1348	1348	689	689	659	659
R squared	0.05		0.054		0.117	
Degrees of freedom	570		285		270	

Living in a damre and cattle ownership
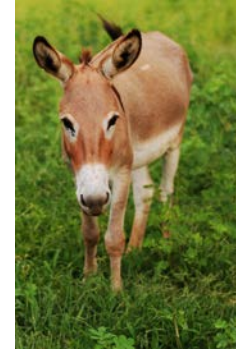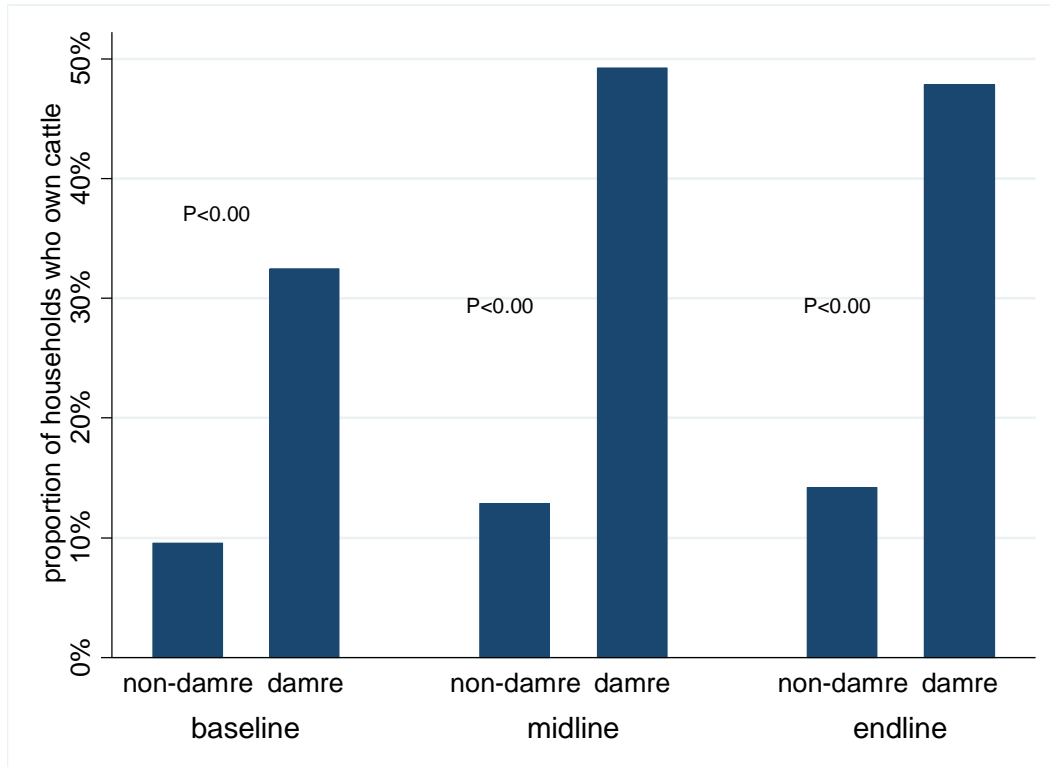
Putting it all together and a possible hypothesis

Linking research to practice

Future research

- Confirm C. *parvum* hypothesis (stool testing of children and calves)
- Improve learning about livestock water management practices
- Carry out impact evaluation to check if these strategies work

Programming post CRAM

- Expanded model into Sudan under BRACED
- Building on the CRAM approach to research and programming
- Gathering learning from several countries to improve approach to community resilience

Wider program and policy implications

- Importance of multi-sectoral approach and non-linear causal relationships
- Potential to learn culturally and textually appropriate responses from local communities