



Pastoralist children drinking milk Ethiopia. Flintan, SOS Sahel

Milk Matters

The Impact of Dry Season Livestock Support on Milk Supply and Child Nutrition in Somali Region, Ethiopia





Overview

- Summary of the project and findings from recent applied research (30 mins)
- Breakout (25 mins):
 - How could an intervention/policy familiar to you be adapted to include a ‘Milk Matters’ type objective (i.e. Improving access to animal milk for women and children during critical times)
 - Next steps
- Feedback and discussion in plenary (35 mins)



Why Focus on Milk: Background (1)

- Milk makes a critical contribution to dietary quality of women and children in pastoralist communities.
 - Children in pastoralist areas consistently referred to as some of the most nutritionally vulnerable in the world
- Timing of ‘hungry’ or ‘lean’ season is linked to dry season and a reduction in availability of pasture and milk
- Pastoralists perceive an important association between reduced milk intake and weight loss.
 - *Cano la’an* describes ‘the suffering due to lack of milk’



“We like all milk. It satisfies hunger, we become strong and healthy and playful and happy. During Hagaa and Jilaal we get soor, tea with milk and ambula. When milk becomes less we get less playful and weak.”



Why Focus on Milk: Background (2)*

- Little work has specifically aimed to improve milk supply to pastoral children. Where programs have had this aim there is no evidence of the impact on nutritional status.
- A need to continue to support those livestock interventions for which there is some evidence of improved production and food security.
 - Design interventions with explicit child nutrition objectives
 - Invest in better M&E to understand the possible benefits of these projects on child nutrition.



* See full reports at: <http://sites.tufts.edu/feinstein/program/milk-matters>



Milk Matters II: Objectives

- **Objective:** To evaluate the impact of community-defined livestock interventions on child nutritional status during the dry season
- **Research questions:**
 1. What is the impact of livestock interventions on children's consumption of animal milk over one calendar year, particularly during the dry season?
 2. What is the impact of livestock interventions on children's nutritional status over one calendar year, particularly during the dry season?
 - i. What is the cost benefit of early livestock interventions vs. the treatment of acute malnutrition in children



Study Sites

- Two sites targeted for intervention and one for control in each Zone:
 - PSNP (Liben) & RAIN (Shinile)
 - >200 households with purely pastoral livelihoods
 - Vulnerable to child malnutrition
 - Similar level of access to basic resources

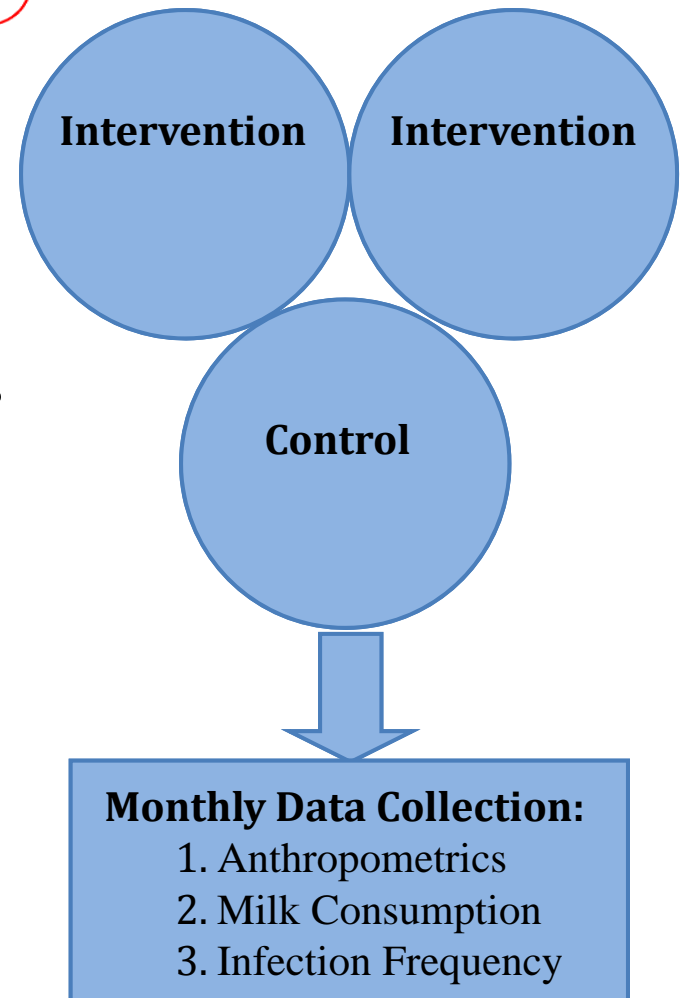




Cohort Study Design

- Intervention types:
 - Animal feed and animal health care
- Targeted animals:
 - Milking animals around pastoral homesteads
 - One cow plus calf or 3-4 goats plus kids per household
- Nutrition surveillance system
 - 13 months, July 2010 – July 2011
 - 940 children enrolled – 610 in intervention sites, 330 in control sites
 - 3 Questionnaires administered monthly

In each Zone:





Interventions



- **Intervention Design**

- Participatory approach:
 - Communities participate fully in all stages of the study
- Animal Feed:
 - Sudan grass in Liben
 - Rhodes grass & wheat bran in Shinile
- Animal Health:
 - Vaccination and prophylactic/curative treatments
- Duration:
 - Length of the dry season: approx. 4 months



Evaluation

- **Participatory Impact Assessments (PIAs) & FGDs**
 - Evaluate change in animal milk production vs. previous year
 - Assess intervention implementation and evaluate if other factors contributed to change in milk production
 - Gather participant feedback on impact of interventions
 - Clarify observations from analysis of surveillance data





Milk Matters II: Findings

- Case study, Washaqabar, Liben Zone:
 - Impact on milk off-take during the dry season
 - Impact on milk consumption by young children during the dry season
 - Impact on nutritional status of young children during the dry season
- Summary of key findings including:
 - A discussion of cost benefit vs. selective feeding of young children
 - Challenges in Implementation





Washaqabar, Dollo: Milk Off-Take

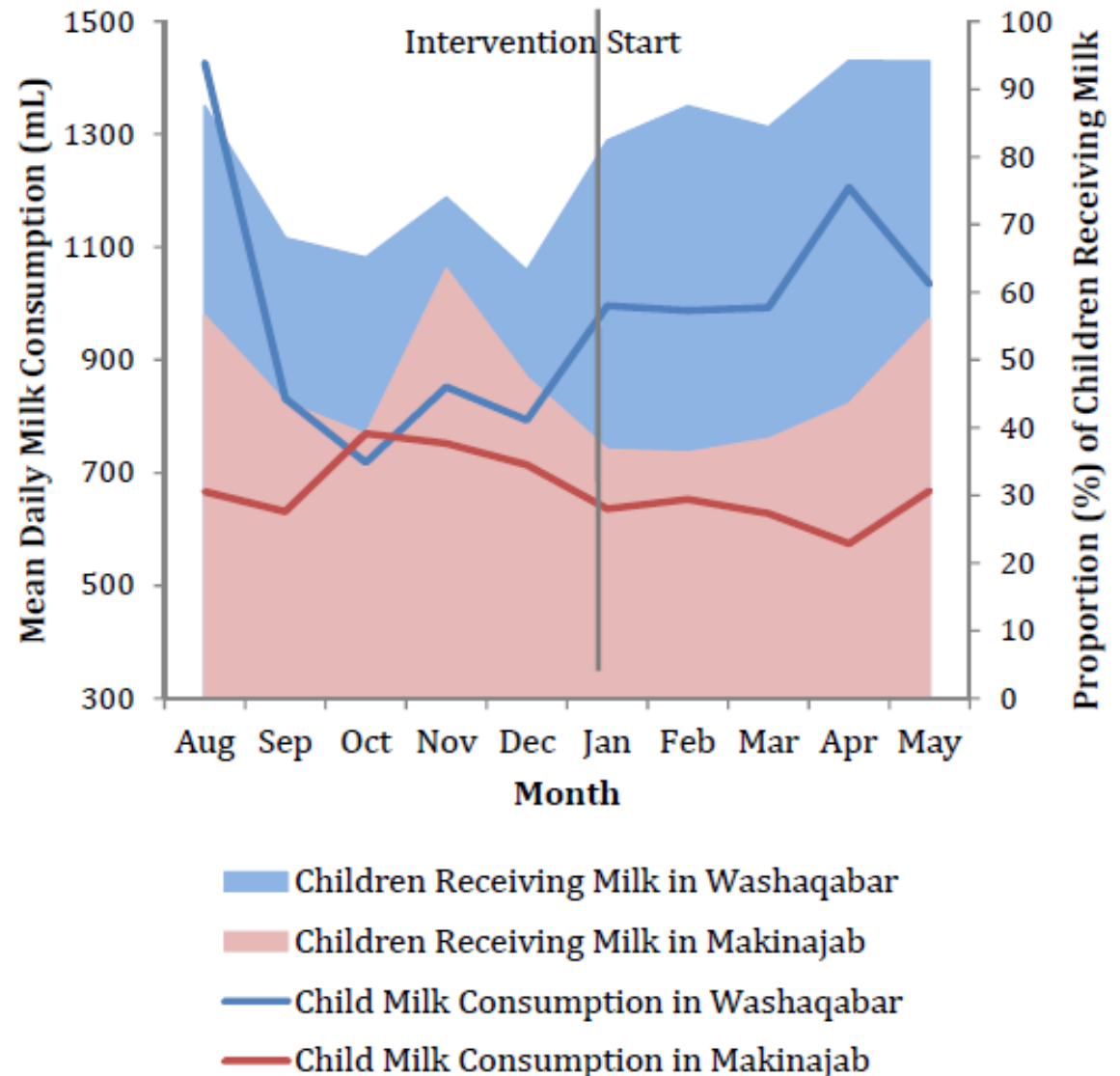
- Milk off-take in Washaqabar was substantially greater during this dry season (with intervention) as compared to last year (no intervention).
 - Increases of, on average, 2000% as compared to last year.
 - Participants in FGDs attributed increase to the intervention
 - Consider rainfall and private purchase of feed

Livestock Type	Stage of Lactation	Mean milk off-take (mL)				Percent change
		Last dry season with no intervention		This dry season with intervention		
Goat	Early	224		628		280
	Middle	54		567		1050
	Late	8		382		4775



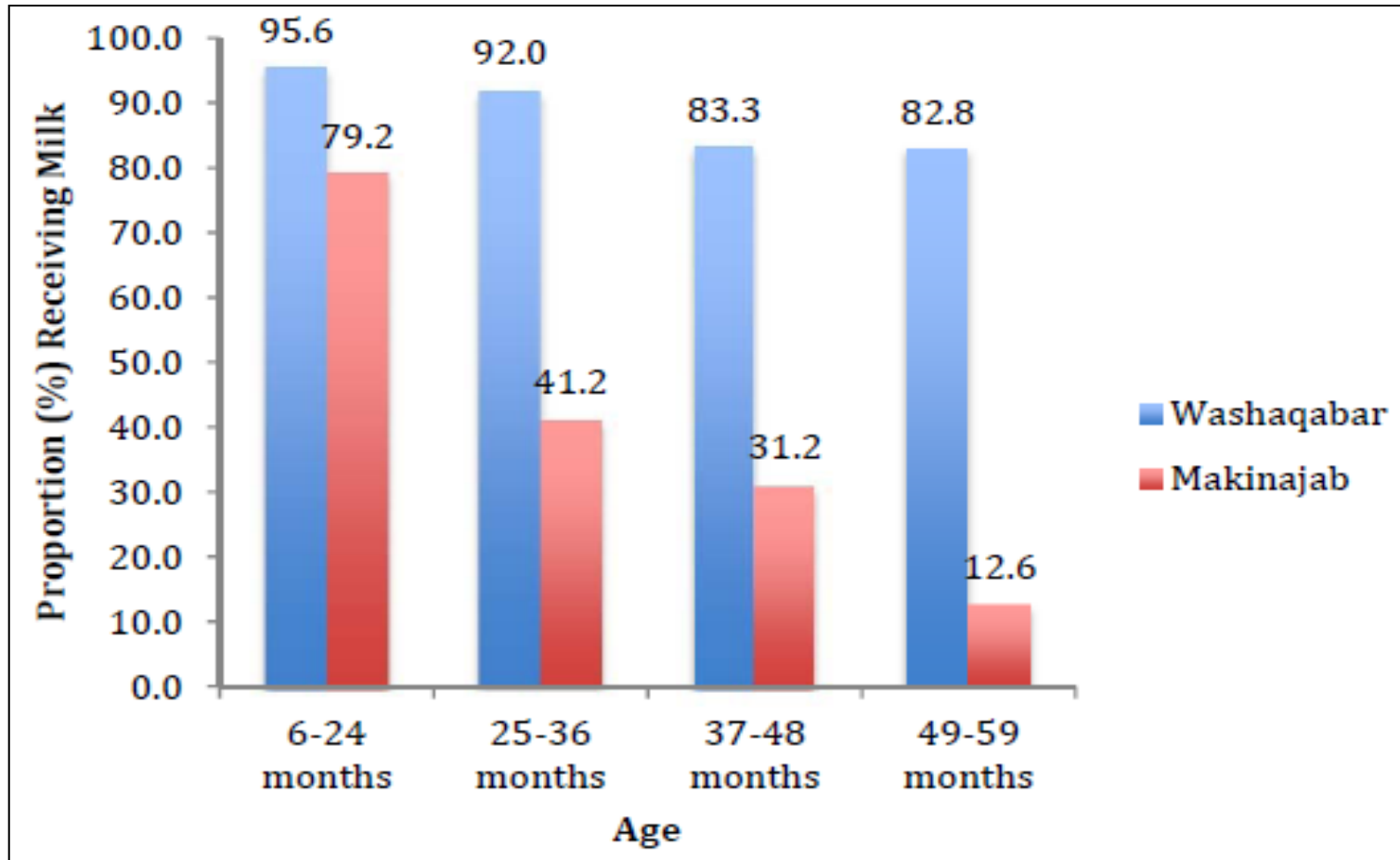
Washaqabar, Dollo: Milk Availability

- % of children receiving milk over the intervention rises (by 31%) more steeply than in the control.
- Milk consumed by children rises (by 250ml) more steeply than in the control





Washaqabar, Dollo: Milk Availability by Age Group



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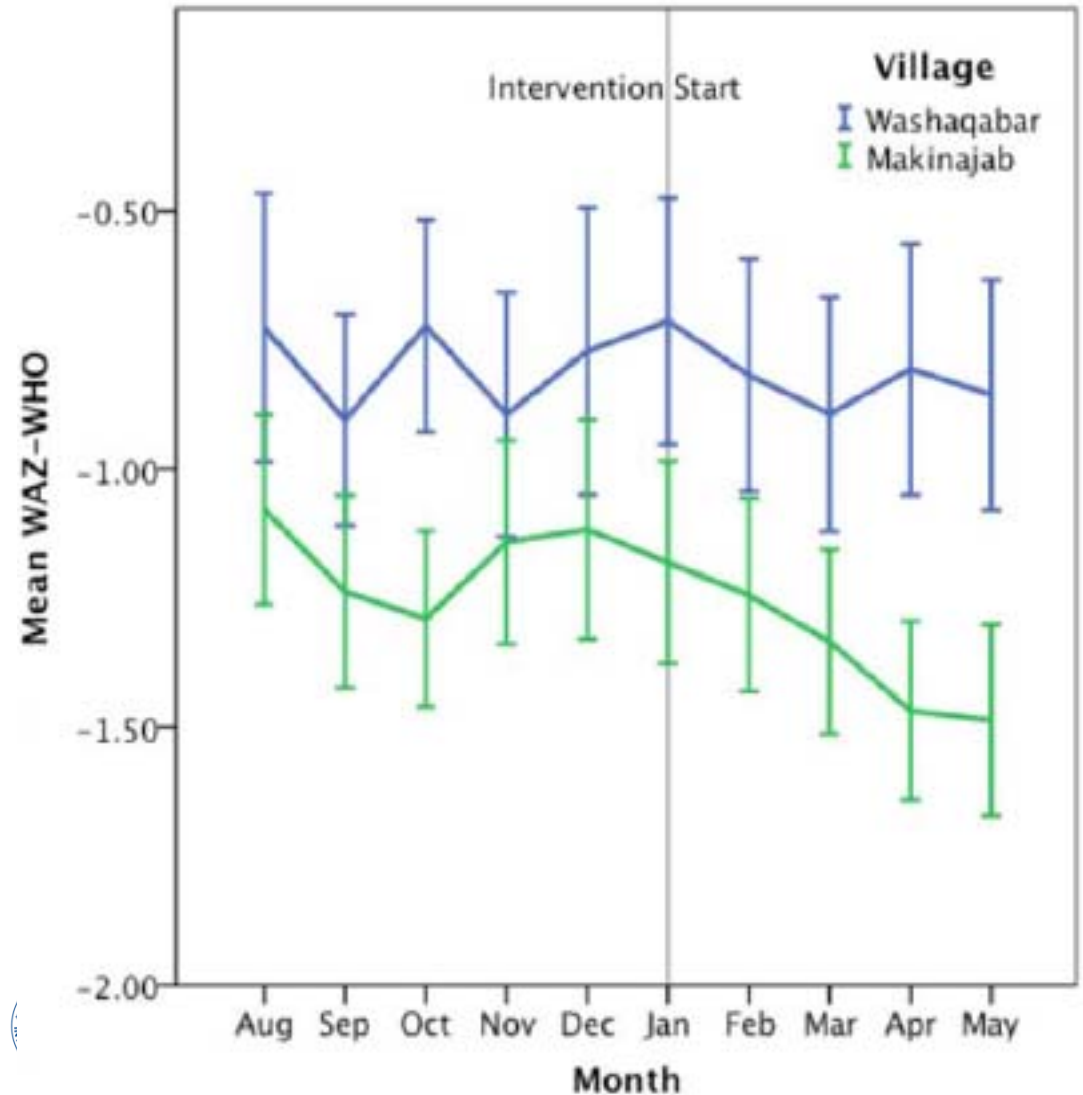


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Washaqabar, Dollo: Nutritional Status

- Nutritional status of all children remains stable compared to the control
- The difference in mean WAZ between the two sites increases from 0.4 points to > 0.6 points during the intervention.

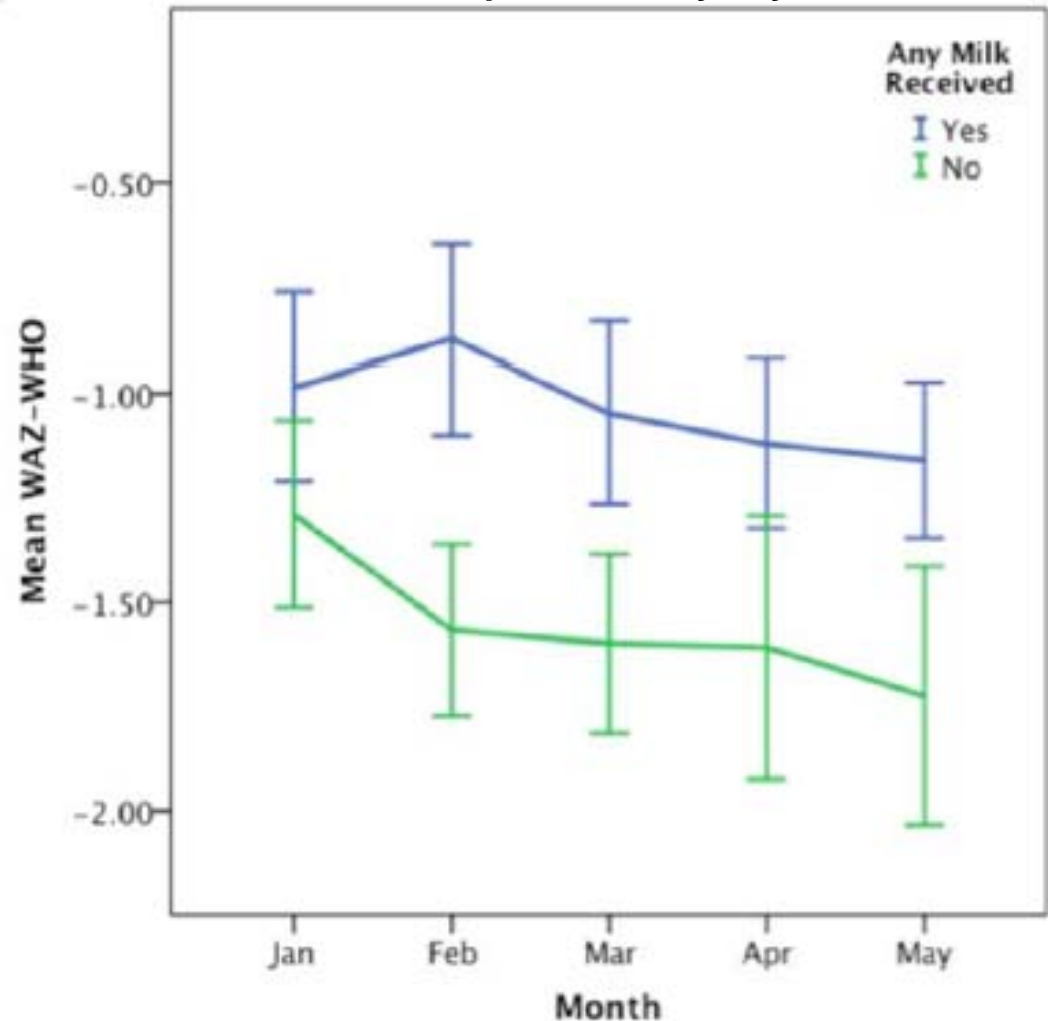




Nutritional Status of children that consumed milk, Dollo

Nutritional status of children that received any milk in Washaqabar and Biyoley

- Nutritional status of children that received milk in the intervention sites is significantly higher than for those who did not for all 5 months of the intervention.





Findings: summary (1)

- Significant increase in daily milk-off-take through the dry season for animals that stay close to women and children
- Positive benefits for children:
 - Allocated and consumed more milk
 - Increase can make significant contribution to daily nutrient requirements:
 - Washaqabar: an additional 400ml milk/child = 264 kcal/day (**26% of E requirements**) and 12.8g protein/day (**98% of protein requirements**)
 - General pattern of stabilized and improved nutritional status:
 - compared with children in control areas
 - and of children that receive milk vs those that don't
 - Preventing weight loss means prevention of acute malnutrition and of the need for programs like community-based management of acute malnutrition (CMAM).



Findings: summary (2) - Costs

- And prevention costs less than treatment:
 - Scenario 1: based on actual costs of Sudan grass plus transportation costs, with both costs being incurred by an NGO implementer.
 - Scenario 2: based on cost of the price of Sudan grass alone, and assumes that a cash or voucher scheme allows households to buy feed directly from private suppliers.
 - Scenario 3: assumes that the project purchased livestock feed at higher than normal costs.

Costs of Milk Matters' Interventions vs. Therapeutic Feeding for SAM, in USD

	Scenario 1	Scenario 2	Scenario 3	Therapeutic Feeding
Direct cost/cow/day	2.21	1.32	0.93	N/A
Cost/cow for duration of intervention	161.16	96.62	67.63	N/A
Cost/child for duration of intervention	80.58	48.31	33.82	145-200



Findings: summary (3)

“It gave us great advantages not only to children but also to households and communities. It saved the money that we usually spend on feeding animals during the dry season and eased the hard work for women of collecting feed for animals. This intervention protected the livestock, particularly the milking cows, from the negative consequence of the drought” Female participant, Waruf





Findings: summary (4) - Challenges

- Factors that impacted milk produced and milk consumed by children
 - Intervention challenges that reduced the amount (and quality?) of milk available to households/children:
 - Capacity of local suppliers to provide quantity needed on timely basis
 - Feed quality – outside procurement made it difficult to control this
 - Feed distribution - long distances between feeding sites and homesteads
 - Drought, frost and high transportation costs led to breaks in fodder supply
 - Water shortages (Biyoley)
 - Low intervention coverage in some sites led to sharing of milk with non-project households: fewer project children received milk (Biyoley) and pronounced prioritization of milk to young children (Ayiliso)

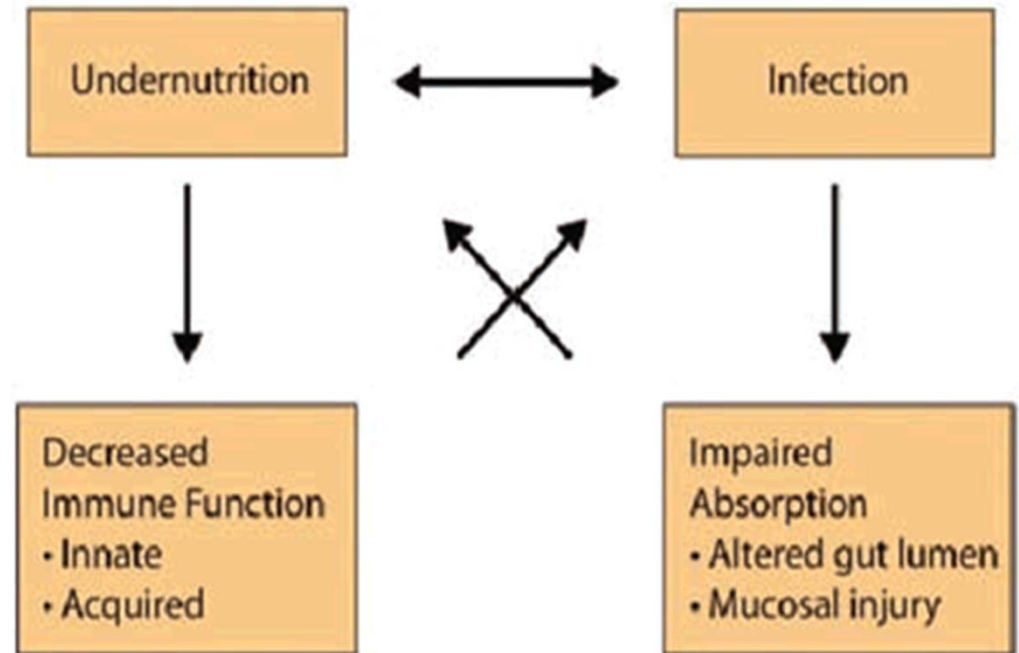


Findings: summary (4) - Challenges

- Factors that changed the relationship between milk consumed by children and nutritional status:

- Infection

- Diarrhea, fever, & cough are the most common childhood illnesses in regions
- Similar patterns across intervention and control
- High prevalence during dry season likely to have reduced impact of these interventions





Conclusions

- First study to *document* link between livestock interventions and child nutrition.
- Nutrition actors continue to focus on feeding programs and preparing to treat acute malnutrition
- These interventions provide opportunity to reconnect food/livelihood security interventions and nutrition outcomes





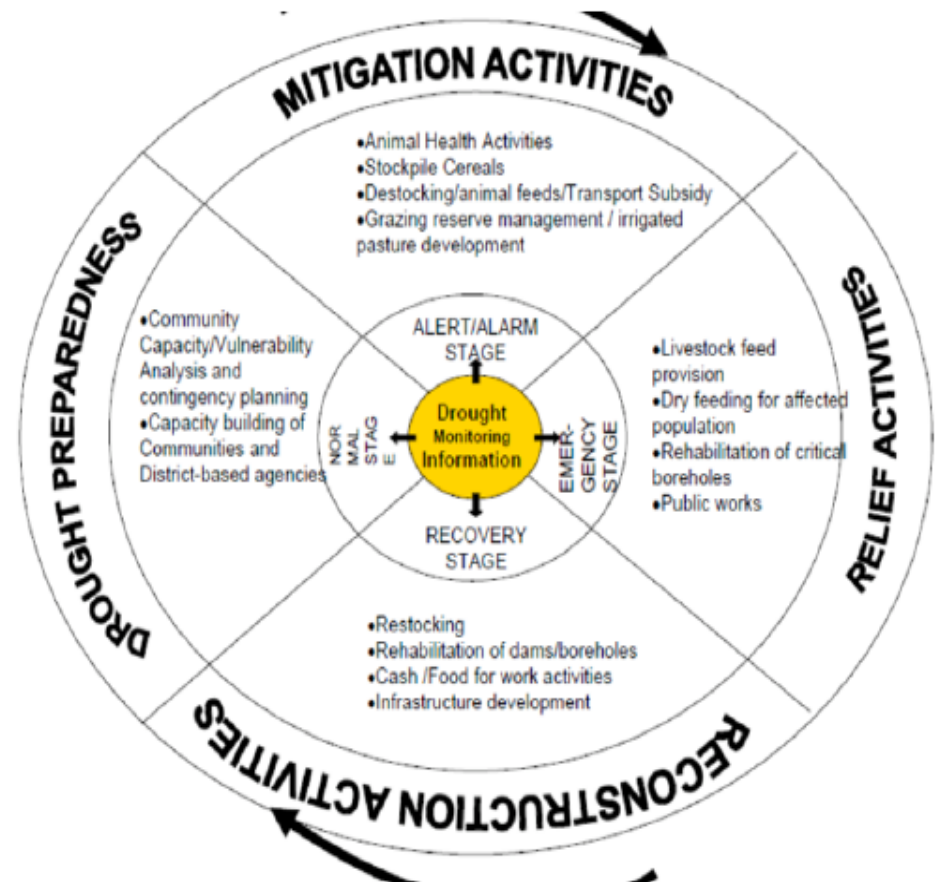
Over to You ...

- Based on what you've heard about the Milk Matters project, discuss the following questions:
 1. Identify one intervention and/or policy that has been implemented by an agency represented within your group and that has focused on improving food security in pastoralist populations.
 2. How could this intervention/policy be adapted to include a 'Milk Matters' type objective (i.e. Improving access to animal milk for women and children during the dry season). During discussion of adaptations consider some of the 'challenges' related to delivery of the interventions and achieving impact on child nutrition discussed here?
 3. What is the next step for getting some/all of the adaptations you discussed integrated into ongoing programming/policy?



Conclusions (2)

- Apply a 'nutritional lens' to common food security analysis and response in pastoralist areas. E.g.:
 - Drought preparedness: community-level feed production and storage and actions to preserve milk surplus
 - Mitigation: focus animal health and feeding interventions on reproductive/milking stock
 - Relief: ensure cash/food for work does not negatively impact on women's time and ability to maintain their own or their children's nutritional status.



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Conclusions (3)

- To overcome challenges with delivery of similar interventions:
 - Support to households for local feed purchase for milking animals where supply is sufficient
 - Nutritional value
 - Local sourcing of feed from cooperatives
 - Feed quotas allocated to all households in target communities and based on number of young children/household
 - Delivery mechanism: home-based or at feeding centers?





Conclusions (4)

- Build evidence-base on potential for nutrition benefits of ‘milk matters’ type interventions through monitoring of nutrition outcomes.
 - PIAs
 - Dietary diversity index
 - Use of simple surveys/nutritional assessments adapted to pastoralist areas for before/after interventions (ideally with control)





THANK YOU

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