Better lives through livestock

Digital solutions for monitoring community health and nutrition status

Nathan Jensen
ILRI

Building Better and Resilient Agriculture and Food Systems
Agriculture - Nutrition Nexus Sub-Themes
21 October 2020

ILRI CGIAR FANRPAN IDRC CRDI

Challenge

Nutrition and health are some the most used indicators for tracking progress against benchmarks, such as the SDGs, and for assessing the impacts of development interventions.

Unfortunately, conventional methods for collecting indicators of nutrition and health status require considerable training, are slow, difficult, and expensive to collect accurately.

One outcome is that the available data are insufficient for many tracking, humanitarian and surveillance needs. For example, the need for better data is mentioned in the last 4 Global Nutrition Reports.

Such data is especially sparse among those for whom it is especially expensive or challenging to collect.

- Pastoral communities (Wild et al. 2019; Hassell et al. 2020)
- Conflict & emergency settings (Carrol et al. 2017)
- Pandemics (Griffith et al. 2020; Hassell et al. 2020)

Project Summary

Challenge: Conventional methods for collecting nutrition and health indicators require considerable training, are slow and difficult, and are expensive to collect accurately.

Proposed Solution: To develop a mobile-based platform by which caregivers can easily collect, submit, and access information on their and their children's nutritional and health status in near-real time and at extremely low cost.

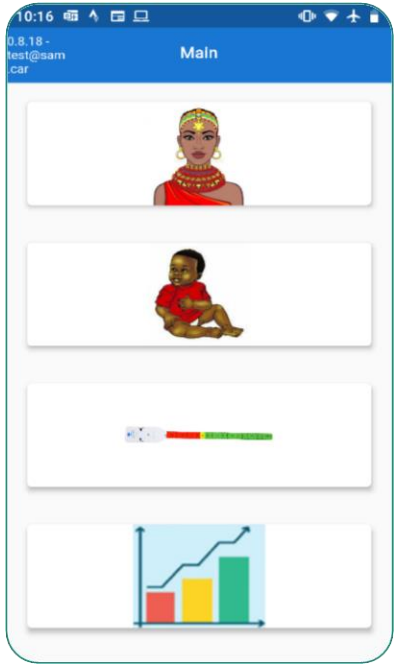
Value:

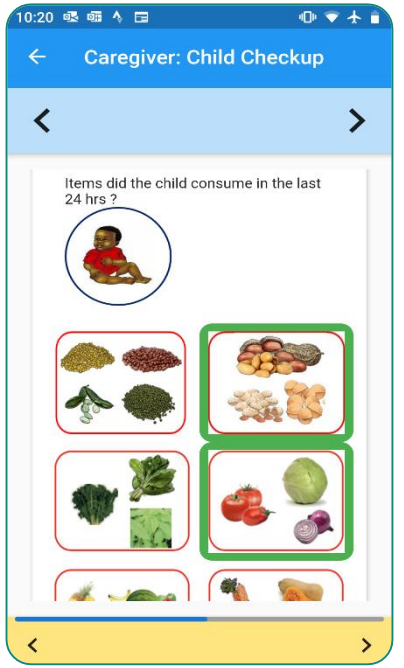
- This work has the potential to **reduce the cost of each data point** very dramatically with implications for the extent and frequency with which nutrition and health can be tracked.
- The application will provide caregivers with information on themselves and their children's nutrition status, **improving their access to information related to nutrition decisions**.

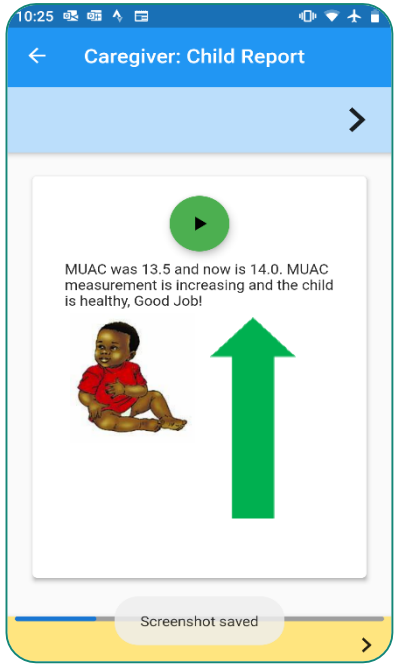
Tool

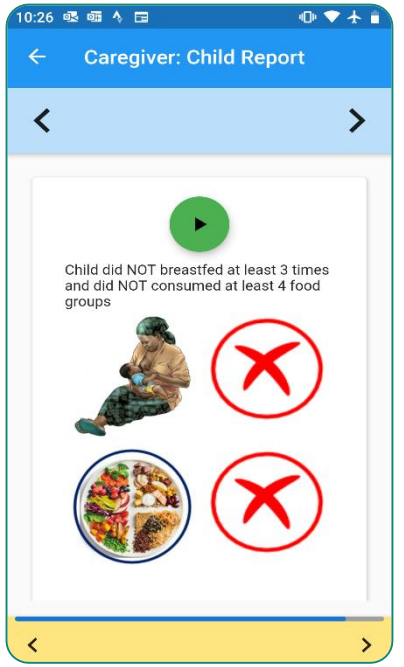
Main features:

- Targets caregivers and the children they care for
- Does not require literacy or numeracy
- Focuses on dynamics over time
- Collects MUAC as an indicator of child malnutrition
- Collects information on the immediate causes of malnutrition (UNICEF 1990)
  - Disease
    - Symptoms of sickness: cough, fever, diarrhea, vomiting
    - Health seeking behavior
  - Consumption:
    - Dietary diversity: DDS for children (MDDS) & caregiver (WDDS)
    - Supplements
- Other important variables: Food security (rCSI), water sources and treatment, nursing behavior
- Provides the caregiver with information on performance against benchmarks

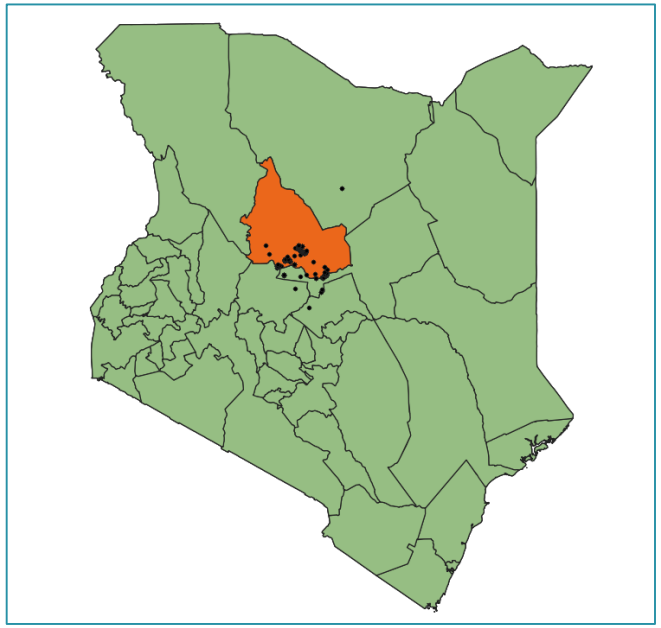








Pilot: November 2019 - November 2020



Sample

Pastoral regions of Samburu County, Kenya

192 caregivers, each with and index child

22 Community Health Volunteers (CHVs)

Logistics

Project provides phones, solar chargers, and data bundles

7-day iterative training process on phone, nutrition, and tool

Operations

Caregivers can participate as much* or as little as they like

* Max caregiver checkup: 1 every 24 hours
* Max child checkup: 1 every 24 hours
* Max child MUAC: Once every 6 days

20KSH token for each submission

CHVs visit each caregiver monthly, providing technical support and collecting her monthly-checkup of the caregiver and index child

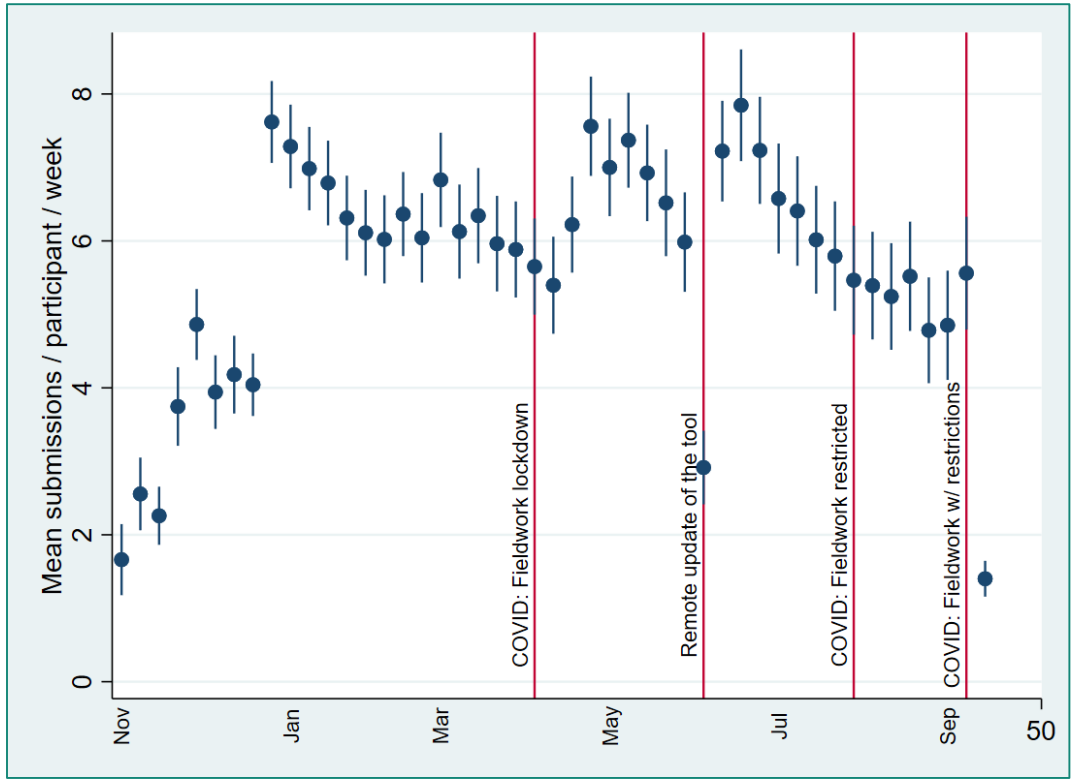
Pilot: Participation

Caregivers and CHVs have now been collecting data on health and nutrition for nearly 12 months.

Caregivers continued to record and submit data even when CHVs and field staff were restricted from visiting.

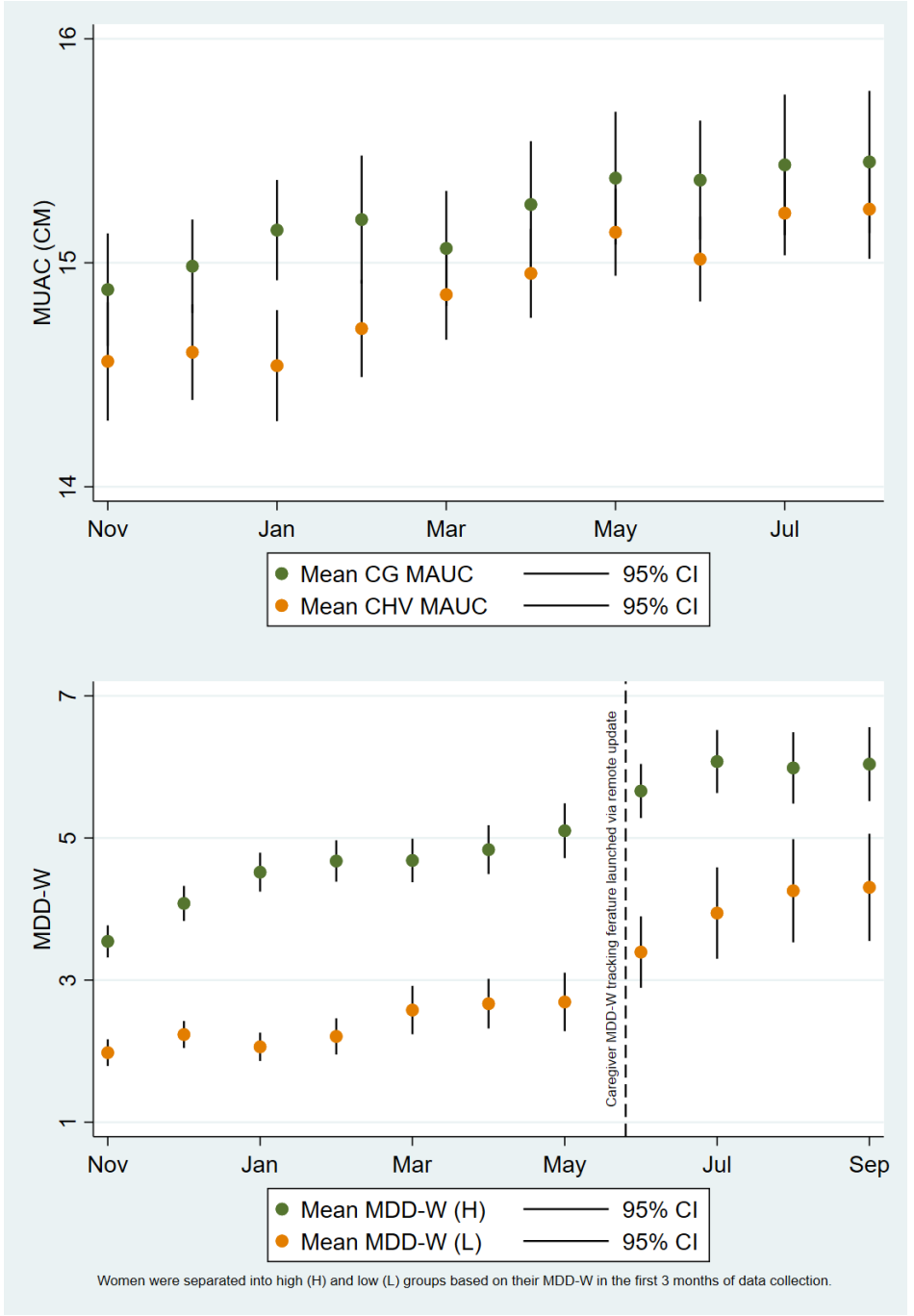
Caregiver tracking features required an update to the tool, which was preformed remotely, using video instructions and over the phone tech support.

- https://livestocksystems.ilri.org/2020/08/12/project-work-amid-the-covid-19-pandemic-updating-the-household-nutrition-data-collection-app-in-samburu



Pilot: Preliminary findings

- Caregiver data seems to track CVH-collected data well over time.
- Good rains in early 2020 were sufficient to offset disruptions to the food system caused by COVID and locusts in the region.
- Remote launch of the caregiver tracking feature seems to have been a success.
  - Caregivers have reported appreciation for the feature
  - Preliminary analysis shows that most of the increase between May and June came from an increase in consumption of groups included in the messaging, specifically dark green leafy vegetables (t-stat=8.21) orange fleshed fruits & vegetables (t-stat=14.05).



Summary

There is a great need for (safely collected) data from pastoral regions and this need is even more acute during market/food system/health disruptions (Griffith et al. 2020; Hassell et al. 2020).

Digital platforms can facilitate data collection & dissemination by data generators in pastoral settings.

Our tool provided a resilient two-way channel of communication, with opportunities for tracking event specific indicators or supporting responsive messaging campaigns.

CGIAR ILRI

The International Livestock Research Institute (ILRI) is a non-profit institution helping people in low- and middle-income countries to improve their lives, livelihoods and lands through the animals that remain the backbone of small-scale agriculture and enterprise across the developing world. ILRI belongs to CGIAR, a global research-for-development partnership working for a food-secure future. ILRI's funders, through the CGIAR Trust Fund, and its many partners make ILRI's work possible and its mission a reality. Australian animal scientist and Nobel Laureate Peter Doherty serves as ILRI's patron.

better lives through livestock

ilri.org

References

Carroll, G. J., Lama, S. D., Martinez-Brockman, J. L., & Pérez-Escamilla, R. (2017). Evaluation of nutrition interventions in children in conflict zones: a narrative review. *Advances in Nutrition*, *8*(5), 770-779.

Griffith, E. F., Pius, L., Manzano, P., & Jost, C. C. (2020). COVID-19 in pastoral contexts in the greater Horn of Africa: Implications and recommendations. *Pastoralism*, *10*(1), 1-12.

Hassell, J. M., Zimmerman, D., Fèvre, E. M., Zinsstag, J., Bukachi, S., Barry, M., ... & Maples, S. (2020). Africa's Nomadic Pastoralists and Their Animals Are an Invisible Frontier in Pandemic Surveillance. *The American journal of tropical medicine and hygiene*, tpmd201004.

Wild, H., Glowacki, L., Maples, S., Mejía-Guevara, I., Krystosik, A., Bonds, M. H., ... & Barry, M. (2019). Making Pastoralists Count: Geospatial Methods for the Health Surveillance of Nomadic Populations. *The American Journal of Tropical Medicine and Hygiene*, *101*(3), 661-669.

ILRI CGIAR