

## Report on the CELEP webinar

### “HOW PASTORALISM ADDS TO IMPROVED FOOD SECURITY AND NUTRITION”

15 December 2020

On 15 December 2020, a webinar entitled “How pastoralism adds to improved food security and nutrition” was organised by Concern Worldwide as part of their engagement in the Coalition of European Lobbies for Eastern African Pastoralism (CELEP). The aim of the webinar was to provide an overview of the critical linkages between livestock production and human nutrition outcomes in pastoral contexts by presenting the *Milk Matters* study and the preliminary results of the *Livestock for Health* operational research.

If you would like to watch the webinar again, you can find it [here](#).

The webinar was facilitated by Koen Van Troos (Policy and Education Manager, VSF-Belgium; & Regional Focal Point, CELEP) and the speakers were:

- Regine Kopplow, Senior Adviser for Food and Nutrition Security and leader of the Livelihood Team with Concern Worldwide
- Dr Thumbi Mwangi, Associate Professor at the Washington State University, Paul G Allen School for Global Animal Health, and Director of the Feed the Future Innovation Lab for Animal Health
- Dr Edwin Mbugua Maina, Coordinator for Health and Nutrition Programmes with Concern Worldwide Kenya.

**Ms Regine Kopplow** [presented the results](#) of the second phase of the [Milk Matters study](#), carried out in 2012, which evaluated the impact of dry-season support to livestock production on milk supply and child nutrition in the Somali Region of Ethiopia. The research was conducted by the Feinstein International Center at Tufts University, Save the Children, and USAID.

An analysis of the context in which the second (meta-)study was carried out shows that milk – and animal products in general – is fundamental for pastoralists’ nutrition: it is estimated that about 50% of the energy intake of pastoralists is provided by milk coming from their own livestock. Pastoralist households generate additional revenue by selling milk and other animal products and, in many communities, livestock is used as a form of savings. The availability of animal products varies greatly, depending on the area and season – it is usually lower during the dry season – and there are differences in control over and distribution of animal products within the households. Sometimes, animal products become too expensive, obliging consumers to resort to cheaper (but also less nutritious) starch-based products. All these factors are causes of malnutrition, mostly among children. Development and relief agencies tend to make reactive rather than proactive responses to human malnutrition, focusing on treating it rather than preventing it through livelihood

programmes. Only a few pastoral projects aim at increasing the milk production of livestock, and the human nutritional outcomes of the projects are rarely assessed.

The objective of the second phase of the operational research was to evaluate the impact of community-defined livestock interventions on child nutritional status during the dry season, by assessing the impact of such interventions over one calendar year on children's consumption of animal milk and on their nutritional status. The study also attempted to understand whether it is more or less expensive to intervene to prevent rather than to treat malnutrition.

The study involved six communities in the Somali Region of Ethiopia, whose households had some common characteristics, e.g. mobile household members, diets including a relatively high consumption of animal products. A total of 610 children were in the intervention group that received an additional provision of milk, and 330 children in the control group received no additional milk. Data were collected to assess the children's nutritional and health status and their milk consumption; in addition, animals belonging to the households of the intervention group received an additional supply of feed, together with vaccinations and deworming during the year of study. Qualitative data were also collected through various inquiry methodologies.

The key findings of the study showed that supplementing the feed of milking animals kept close to women and children during the dry season led to improved milk production and consumption among children, who benefited in terms of nutritional status. Milk availability was higher in the intervention sites, along with increased milk consumption by young children. The nutritional status of children receiving milk stabilised over the dry season, and the cost of the interventions was significantly less than therapeutic feeding programmes. It was also interesting to note that some households spent their own money to buy additional feed for their livestock; also, milk offtake increased significantly in some households (up to 4000%) and this in local breeds of cattle. Despite the drought, milk consumption increased in the intervention households, and young children (less than 3 years old) were generally prioritised. The intervention resulted in reduced workload for women, protection of critical household assets and a higher rate of animal survival and reproduction.

Conducting the study presented some challenges. The 2011 drought prevented the researchers from having control over external factors. Moreover, some households' supplementary feeding reduced the control over the control group. Furthermore, milk was sometimes shared between the intervention and non-intervention households. Finally, data collection was complicated by the fact that households sometimes moved, making it difficult to trace them, which had a negative effect on the quality of the data.

From this study we can derive a number of recommendations: firstly, we should invest in order to prevent malnutrition; secondly, pastoral programmes for food security should be nutrition-sensitive and focus on preserving the milk surplus in the wet season, building community-level feed production/storage and also trying to minimise the negative impact

on women's time; thirdly, we should promote the purchase of animal feed from local sources, creating demand through mechanisms like vouchers and supporting local production; finally, it is important that all households in a community are targeted to prevent impact dilution and that nutritional outcomes are monitored in a more systematic way through dietary surveys and/or participatory approaches.

### **Q&A session**

*In the context of the study, which are the specificities of pastoralist communities that make them different with respect to other social groups?*

In pastoralist communities, children heavily rely on milk produced by the household's livestock, causing malnutrition spikes during the dry season when milk production (and availability) decreases. Studies evaluating the impact of additional fodder on milk production and daily milk intake of children are possible only where milk constitutes a large part of the daily diet and nutrition.

*What about the problems related to fodder provision during the dry season?*

In the study, fodder was provided that had been purchased elsewhere; fodder production was not part of the research. Future programmes should take this aspect into consideration: depending on the local context, this could focus on a good supply by the private sector, thus adopting a market approach (supported through vouchers, etc.) or local production could also be considered.

*Which kind of milk was analysed in the study? Did the control group receive resources by sharing them with the intervention group?*

The type of milk depends on the type of animals that are kept – in the communities under study, it was mostly cows and goats. There are no indications in the study report referring to this type of challenges: there were problems with the intervention group concerning the availability of milk/fodder – if anything, they would share resources with other households that were not part of the research (i.e. not the control group).

**Dr Thumbi Mwangi** presented the [Livestock for Health \(L4H\) operational research](#), measuring the impact of interventions providing feed during the dry season on malnutrition prevention. Data from the monthly Forage Condition Index show that, in recent years, forage deficits are becoming more frequent because of the increasing and less predictable cycles of drought; this directly impacts pastoralist communities, as they are heavily dependent on milk for their nutrition.

The evaluation was carried out through a cluster randomised control trial design and involved 1800 households in 36 different villages in Marsabit County. The selected households had at least one child less than three years old, a pregnant/lactating woman and lactating animals. The households were divided in three groups of 600 households each: the first intervention arm received additional livestock feed; the second, both livestock feed and

nutrition education and counselling; the third arm constituted the control group. The research studied the impact of these interventions on four main elements: the quantity and availability of milk at household level; milk consumption by children under five and lactating women; the risk of malnutrition among children under five years and lactating women; and whether supplementary feeding of lactating animals is a cost-effective way of preventing seasonal spikes in human malnutrition.

The families in the intervention arms could choose the kind of animal receiving supplementary feed; the quantity of fodder provided depended on the type of animal and on the period (before or during the dry season). The main idea behind this type of intervention is that additional fodder would allow pastoralists to leave some animals with women and children when migrating during the dry season, thus increasing the availability of milk and decreasing malnutrition.

The L4H project involved three data-collection phases. At the beginning, a malnutrition Participatory-Epidemiology (PE) study was carried out to understand community livelihood strategies, which factors are associated with malnutrition in children and women, and community perspectives on strategies to reduce malnutrition. This phase showed that: animal source foods (ASFs) are the main source of food; peaks in community-described malnutrition are inverse to the rainfall peaks; the drivers of malnutrition are poverty and inability to purchase ASFs, the migration of animals, asset ownership precluding women, and livestock and human diseases. A second phase was aimed at collecting, through a baseline survey, nutritional data, socio-economic data, data on human and animal health, production, and livestock dynamics in general. Finally, a routine follow-up (6-weekly and quarterly) was used to obtain panel data to analyse changes over the seasons.

Dr Mwangi then presented some preliminary results and data of the research. The preliminary results of monitoring milk consumption and malnutrition show that children tend to consume milk in a more consistent way compared to their mothers; as a result, there is a larger percentage of women at risk of malnutrition than children. Comparing preliminary data on milk yield across the different study arms shows that households in the treatment arms have higher weekly milk yield compared to households in the control arm; on the other hand, data on milk consumption present no statistical difference among the study arms on milk intake (yes or no), no difference in the frequency of milk intake but a statistically significant difference with respect to average milk intake – participants of the second arm have a higher milk intake. Finally, in the long run, children in the control group are more malnourished.

From the preliminary results of this study, it is evident that seasonal spikes in cases of acute malnutrition are associated with low milk availability. To best tackle this problem, nutrition-focused interventions should build upon local coping mechanisms. The L4H study will continue for one additional year (2021) to cover four dry seasons in total and to provide a better measure of the impact of intervention and its marginal benefits.

**Dr Edwin Mbugu** commented on the nutrition counselling component of the L4H project. This service is part of the functions of healthcare workers at the community level (level one service provision) and it is regulated by a number of national policies. Seventy-one community healthcare workers volunteered to participate in the study: they performed a number of activities, including one-to-one nutrition counselling sessions; these sessions are held at least four times per month and, together with a general training on the best usage of milk, women receive counselling according to the household's specific needs.

### **Q&A session**

*Between men or women, who makes the decisions about: feeding livestock (which animals to feed); how much milk is taken for the family or sale and how much milk is left for the calf/kid; how much milk is sold and how much is kept for the household; and which household members are prioritised for drinking milk? These decisions can all have an impact along the path between animal feed and child nutrition – and could explain some of the findings.*

**Dr Mbugu:** Communities are generally led by men who are also those who make decisions on livestock, on who remains, etc...; the use of milk is usually guided by women, but men decide how to allocate the income coming from milk sales. We work on an initiative to make men and women balance their agendas as men's decisions highly impact women's workload.

*Some households were already purchasing fodder during the dry season; were any particular techniques to collect wild fodder observed?*

**Ms Kopplow:** In the Milk Matters study, we find only reference to pastoralists using their own financial resources to purchase fodder on their own; there was no mention of other fodder material.

*Intervening to fight malnutrition should focus on local coping mechanisms, could you elaborate on this?*

**Dr Mwangi:** The practice of leaving animals behind in the care of the household – balancing between preserving animals and/or families – can be considered as one. Coping mechanisms already in use should definitely be taken into consideration when designing programmes for malnutrition prevention.

**Dr Mbugu:** These communities have a long period of experience in processing animal products employing coping mechanisms that can be encouraged – some of them are traditionally used; others are new and can be introduced within the communities.

*How is migration taken into account in the studies, considering that it constitutes a form of specialisation?*

**Ms Kopplow:** Depending on the kind of animals (those migrating and those remaining behind are generally different) and whether the whole family is moving or not, we need to differentiate the coping mechanisms to employ. For instance, we need to keep in mind that, if women staying at home with the animals struggle to find food for themselves, they may take less care of the children.

*Changing land use and climate change heavily affect milk production; culture also plays an important role in this sense: young women tend to have lots of children, but they lack the milk for everyone – what can we use instead of milk to save children from malnutrition, when we do not have money to buy other types of food? Also, men’s choices on how to spend money and on which animals are leaving constitute a problem for women that needs to be effectively addressed.*

**Ms Kopplow:** During the dry season, households need to sell the products they have in surplus; this all comes down to the problem of milk conservation, and the need to find ways to preserve it to generate more income and make a living throughout the year, in particular during dry season.

*This research was focused on cattle, while overlooking camels that are used very often as a coping mechanism – suggestion to focus on research and development of camels as well.*

**Dr Mwangi:** For the work we are doing as part of the L4H project, we are focusing on all species of animals.

*How is this nutrition counselling done? Which counties are you covering?*

**Dr Mbugu:** The counselling is done by community health workers. It is done through individual house-to-house sessions, four times a month (each session lasts 30–35 minutes), to discuss topics specific to the needs of the household. The beneficiaries are mothers or healthcare takers.

*How can local initiatives of livestock keepers for fodder production be supported?*

**Ms Kopplow:** The study I analysed did not look into this, but future programmes should take this into consideration.

**Dr Mwangi:** We need to find solutions to standardise the nutritional value of local fodder production; this is not the focus of the L4H study but it will be fundamental to do so in the future.

**Dr Mbugu:** In this regard, Concern has already implemented a rangeland conservation project to support fodder production. Other interventions aimed at increasing fodder availability for the livestock not migrating during the dry season are being implemented or they will be in the future.