Horn of Africa

Impact of Early Warning
Early Action

Protecting pastoralist livelihoods ahead of drought
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There's evidence that the intensity and frequency of climate-driven natural disasters and conflicts is increasing. Natural disasters now occur nearly five times as often as 40 years ago. The impact on local economies, on peoples' livelihoods and lives has similarly grown. In some of the worst-hit places, it can seem unrelenting. One drought will follow another, every time stripping away at the limited assets of poor and vulnerable people, robbing them of their self-reliance and wounding their humanity and dignity. Globally, expanding needs, competing priorities and limited resources mean that new tools are essential to make interventions as wise and effective as possible, to ensure that the impacts of crises are limited before they can grow into even more costly humanitarian disasters.

Carefully-timed support also protects and empowers people the most, giving them the confidence to keep going or to resume their livelihoods. Investing in early action means FAO can help shelter longer-term development gains and increase resilience.

Working with national governments and humanitarian, development and scientific partners, FAO’s Early Warning Early Action approach monitors risk information systems and translates warnings into anticipatory actions. Every quarter, FAO’s Early Warning Early Action report on food security and agriculture ranks risks by their likelihood and potential impact and identifies the best interventions. Then, FAO’s Special Fund for Emergency and Rehabilitation Activities, known as SFERA, can release money from its Early Action window. The funds back tailored plans which are rapidly put into place, drawing on FAO’s greatest asset: its technical knowledge and expertise in supporting rural livelihoods.

Early actions are varied and flexible, ranging from cash transfers for fishing communities to safely store their nets ahead of an impending cyclone, to livestock treatments for herders as a drought intensifies, or flood defences for farmers before a severe rainy season.

This study analyses the outcomes of early actions implemented in Kenya, Somalia and Ethiopia in 2017, evaluating how effective they were in mitigating the impact of severe drought on vulnerable pastoralist livelihoods and quantifying the benefits generated through acting early.
**Early Warning Early Action** approach

**Humanitarian response**
- Risk of disaster increasing
- Disaster strikes
- Funds are allocated for response and recovery efforts

**Preparedness efforts**
- Implemented to brace for impact and for quick response
- Livelihoods lost
- Food security impacted

**Funds allocated for response and recovery efforts**
- Implement early actions
- Warning trigger

**Risk monitoring**
- Early warning system

**Risk of disaster increasing**
- Conflicts
- Severe winters
- Pest and diseases
- Cyclones
- Floods
- Droughts

**Funds released**

**Implement early actions**
- Crop diversification, water resource management, food preservation, supply of fertilizers, tools and pesticides
- Cash transfer
- Work within existing social protection mechanisms to distribute cash to vulnerable households

**Disaster strikes**
- Fisheries
- Storage containers for fishing gear, distribute fisheries kits, early warning information distribution to safeguard fishers at sea
- Forestry
- Prune trees, collect harvest, reinforce structures, install fire breaks

**Value added**
- Livelihood assets and long-term development gains protected
- Cost-effective and reduces the cost of humanitarian response
- Allows households to keep their livelihoods and dignity intact

**Crop production**

**Animal health and livestock management**
- Vaccinations, value chain support, distribute fodder and nutritional supplements

**Work within existing social protection mechanisms to distribute cash to vulnerable households**

**Crop diversification, water resource management, food preservation, supply of fertilizers, tools and pesticides**

**Storage containers for fishing gear, distribute fisheries kits, early warning information distribution to safeguard fishers at sea**

**Prune trees, collect harvest, reinforce structures, install fire breaks**

**Vaccinations, value chain support, distribute fodder and nutritional supplements**

**Work within existing social protection mechanisms to distribute cash to vulnerable households**
In September 2016, FAO and Kenya’s National Drought Management Authority set up ways to work together to better use risk analysis to trigger early interventions. In 2017, when the rains failed again, FAO was piloting its new Early Warning Early Action system, developing a flexible funding process to enable rapid action when early warnings flagged up a crisis.

The monitoring of livestock movements, vegetation and rainfall in Kenya all warned that a major drought was likely, so USD 400,000 was quickly released from the SFERA Early Action window to mitigate the impact on the most vulnerable households, which are pastoralists.

Feed for key breeding animals was distributed to families whose situations were most precarious. The aim was to help them keep their animals healthy, reproducing and producing milk. This would avoid forced sales when livestock were in a poor condition and worth little in an overcrowded market.
Due to FAO’s interventions, pastoralist families went from herding their weak and exhausted livestock vast distances in search of water and grazing, to accessing livestock feed, water and veterinary care. The potential for conflict over scarce resources was also reduced. But the recurrent droughts, which are worsened by climate change, means this is still a concern amongst pastoralists.

At the peak of the drought in northern Kenya in March and April 2017, herds assisted by FAO were not only surviving, but were strong, producing three times the usual amount of milk. Key breeding animals had been saved, protecting in turn their owners’ assets and their hopes for the future. In addition to animal feeds, FAO provided training on livestock best practices to government officers. FAO also gave training on managing livestock markets which helped the markets to remain open and operating as important economic and community meeting places.
The elders all agreed that this was the worst drought they had ever seen. My cows were emaciated and lost all their strength.

Alice Katiwe

In all her 46 years, Alice Katiwe had never endured a drought of such intensity. Neither had the older folks of her village, Tsangatsini. When the drought began to bite hard in January 2017, Alice was consumed with worry about her 12 cows. She grows some maize, chickpeas and amaranth on her one and a quarter acre plot, but it is her livestock who support her four children and those of her eldest son. Alice’s cows pay the school fees.

Alice lost 4 to starvation and was forced to sell another as prices slumped from USD 80 to USD 30. Everyone was trying to sell their animals. The 4 bags of ranch cubes and 30 multi-nutrient blocks Alice received from FAO’s Early Action Emergency Livestock Feed Programme saved her core breeding herd – essentially her life savings.

Alice saw a distinct improvement in her cows’ health almost immediately and her main breeding cow recovered enough to become pregnant. “I expect her to generate a lot of milk,” Alice says. “Before, when she was healthy, she produced well.”

Without the early action from FAO, Alice would have lost more of her cows, plunging her and her family into the spiral of poverty, from which it’s very hard to escape.
“We would leave home at four in the morning, spend the entire day looking for water and pasture and return at ten at night. My uncle lost seven cows, but I not so many because I had started them on the food from FAO”

Nyamawi Nyenye

“I remember drought back in the 1970s when I was a young boy. And ones after. But these days, drought are more frequent and last longer.” Nyamawi Nyenye is down to 11 cows after losing and being forced to sell another. Nyamawi cultivates some maize and vegetables on his small plot. He’s trying to diversify into small businesses to protect his family from the plunge into poverty which drought can cause to pastoralists when their herds are devastated.

But Nyamawi says he had to give this up in order to walk 50 or 60 kilometres to find water for his cows. “The dilemma was the balance between providing food for my family and for my livestock. When I had to sell my cow, the price was down to USD 20, where a goat usually fetches USD 30. That’s a big loss for me.”

Nyamawi considers himself lucky though, as he received feed and vaccines from FAO in time to save the bulk of his herd. He began giving his cows a kilogramme of feed in the morning and evening, helping them overcome their unfamiliarity by mixing the feed with maize husks.

Nyamawi says he thinks some pastoralists should consider reducing the number of animals they have, as climate change is increasing the frequency and severity of droughts.
“My cow has a calf now because of the fodder from FAO. Before some of my animals couldn’t even stand up, they had so little to eat in this drought”

Mlongo Mwanyasi

“I need them to sell to educate my children, for ploughing and for food. I don’t have any other source of income, so I rear cattle to buy food and medicines.” Mlongo Mwanyasi is 46-yers-old and raising cattle is her traditional family way of life.

But when FAO staff went to her home, they found her livestock paddocks bare of fodder as little had grown in the preceding months because of one of the worst droughts in half a century.

Climate change is believed to have played a part in the suffering in Kenya. “A drought would rage for two to three months and then dissipate by the fourth month when the rains came,” says Mlongo. “But now, this one is very severe.”

Mlongo describes how her cattle start to fade away. “There was one female cow, which I would help to get up and walk to the forest so that she could graze. But she became too weak. I would forage for a few leaves for her. But it wasn’t enough.”

As a beneficiary of FAO’s Early Action Emergency Livestock Feeding Programme, Mlongo received 2 sacks of 70 kgs of livestock feed and 15 multi-nutrient blocks. She’s very happy that one of her key breeding cows has recovered enough to be able to give birth to a calf. “I am very grateful because if had it not been for this food, I think she would have died.”
**Kenya Early Warning Early Action approach**

**USD 1 → USD 3.5**

For every USD 1 spent on feed interventions, households had a return of USD 3.5. When the cost of avoided assistance and restocking are added, the ratio increases to 9.

- **Vegetation indices**
- **Livestock body condition**
- **Rainfall forecast**

**What was the return on investment?**

- **USD 44**
  - Each household gained money as milk production went up 3 fold

- **USD 309**
  - Gained by each household thanks to early livestock feed interventions

- **USD 42**
  - Each household also gained from reduced livestock mortality

- **USD 223**
  - Each household gained financially from better animal body conditions

- **0.6 litre**
  - Every child consumed an additional 0.6 litres of milk per day which represents 25% of daily calories and 63% of daily protein requirement for a 5-year-old child

**The project**

- **USD 400 000** was released through the SFERA Early Action Fund

- **1 493** households targeted for early action interventions

- **15 600** cattle received feed and veterinary care

- **25 400** smaller livestock received feed and veterinary care

- **140** livestock market association were trained on the livestock co-management model

- **12** training session on livestock Emergency Guidelines and Standards for 25 livestock officers

- **1 493** supplemental kits were distributed

- **15 600** tonnes of feed were distributed

- **2 500** livestock market association were trained on the livestock co-management model

- **50%** of the cost of the project covered by the value of the extra milk

- **USD 223**
  - Each household gained financially from better animal body conditions

- **98%** of the households said the improvement in the body conditions of livestock was visible

**Education**

- Beneficiaries told FAO what they spent their savings and additional income on:
  - **Savings**
  - **Food**
  - **Additional feed**
  - **Medicine**
  - **Education**

**What were the extra funds used for?**

- **USD 1**
- **USD 3.5**
- **USD 44**
- **USD 223**
- **USD 309**

- **2** on average two extra animals were saved in each beneficiary household compared to those which did not receive assistance
Evidence proves that early livelihood interventions have a significant and immediate return on investment. They are critical in promoting resilience and self-reliance.

FAO wanted to know exactly how effective the intervention had been in Kenya – to have very precise information and to learn lessons for future programming.

So, in July 2017, staff went door to door, collecting data and listening to the experiences of pastoralist families. Their villages had been chosen because they received no other external help and the data would not be blurred.

FAO’s outlay in northern Kenya was USD 90 per family. When extra milk, the cost of the animal saved and the value of its improved physical condition were calculated, the benefit-cost ratio was 3.5. That means every USD FAO spent brought a return of almost USD 3.5.

This return on investment was measured against a control group of pastoralist families who didn’t get assistance. These families sold double the number of animals and killed nearly triple the number, both to eat and to lessen the burden of feeding them.

For pastoralists, the depletion of their herds is like draining their bank accounts. It fuels a dangerous spiral of poverty and the reliance on much more expensive emergency humanitarian assistance. It batters their dignity and self-esteem. When the cost of avoided additional assistance and the expense of restocking herds are added into the return on investment calculation, the ratio increases to 8.9.

The Kenya household survey and analysis proved that targeted early action in response to an early warning can be extremely good value for money. It also highlighted that action must be taken on a large enough scale to have the proper impact. It’s a very good pointer for decision making, mobilising financial resources and focusing action on the ground.
In neighbouring Somalia, a nationwide drought was declared in November 2016 and an appeal launched for 3.9 million people enduring crisis and emergency levels of food insecurity. By the start of 2017, more than 700,000 people had been displaced by the drought.

The impact on rural communities was devastating. Poor households lost up to 40-60 percent of their livestock. Risk of animal disease, heightened by the constant movement of weak animals in search of pasture and water, made matters worse and livestock prices plummeted while those of cereals soared. Pastoralist communities faced very poor terms of trade and the near-impossible task of keeping their herds, which are their primary asset and an invaluable source of milk, healthy and alive.

FAO launched an Early Action initiative, allocating USD 400,000 to treat over 1 million animals, belonging to almost 28,000 households. Working with government ministries in Somaliland and Puntland, 60 veterinary teams held community meetings to identify the most vulnerable families. Collapsible water tanks, which each held 10,000 litres, were brought and installed at 64 strategic sites in Puntland. A donor partner funded the complementary training of community animal care workers.

FAO’s focus on pastoralists’ animals was encouraged by the cost effectiveness of keeping livestock alive compared to restocking. In Somalia, it costs approximately USD 0.4 to provide supportive veterinary treatment as opposed to USD 40 to buy a goat. A potential USD 44 million was saved by treating such a large number of animals and their milk was enough to nourish 80,000 vulnerable mothers and children.

Funding arrived within two weeks of the first Famine Alert, issued by FAO Somalia’s Food Security and Nutrition Analysis Unit and its partners in January 2017. Because the reaction was so rapid, it helped to kick-start a large-scale and effective famine-prevention programme costing USD 137 million. Overall, FAO’s Famine Prevention and Drought Response assisted more than 7 million Somalis. Around 1.3 million people received cash transfers, livelihood support, or both. A further 5.7 million people were helped with veterinary care for their livestock. A major animal health campaign vaccinated and treated more than 38 million animals.
The failure of the deyr rains in Ethiopia at the end of 2016 came on the back of several punishing years of poor and erratic rainfall, threatening to spark a massive humanitarian emergency. Depleting pastures and water sources meant livestock-dependent pastoralists living in the driest areas faced severe risk as they struggled to keep their animals alive and part of their assets. Selling at the peak of a drought in poor condition and when the market is flooded means taking a big financial hit.

Back in September 2016, early warning signs of drought had begun emerging, alerting FAO to act quickly and decisively. Its new Early Action Fund released USD 400 000 under the Special Fund for Emergency and Rehabilitation Activities, SFERA. Animal feed was distributed to 9 600 households in the worst hit areas of Ethiopia’s strongly pastoralist Somali Region. Feed and treatments reached over 105 400 animals, enabling pastoralists to keep their remaining livestock alive, healthy and of financial value. Their animals are pastoralists’ lifelines, their best defences against hunger, malnutrition and the humiliation and indignity of abject poverty.

Secondary data analysis using historical baselines for mortality and body conditions as well as project data found that the early actions helped households accrue over USD 206 of benefits. When compared to the relatively low project costs, the cost to benefit ratio was found to be 1:7.

The Early Action Fund contribution allowed FAO to carry out a strong response in pastoral areas of south and southeastern Ethiopia. Just under 200 000 households received supplementary feed and veterinary care for their animals, were supported in destocking their herds or had their water points rehabilitated. The total drought response funding was USD 7.9 million.
“Our animals died from common diseases. They were malnourished and had no immunity. Without FAO’s support, more animals – maybe even people – would have died”

Mahabo Hassen Hared

In Ethiopia’s south-eastern Somali region, animals are essential to the survival of people. Mahabo Hassen Hared is one: a pastoralist who raises camels, goats and sheep and whose livelihood was perilous.

“We are following the water and grass for our livestock,” says Mahabo outside her tukul, a circular, grass roofed house, common to pastoralist communities. Animals give their owners milk for drinking and for making butter and yoghurt. Camels fetch water and provide transport. Sheep and goat hides, as well as rope made from camel skins, generate income. But at the end of 2016, Mahabo’s animals were dying.

So Mahabo walked for 4 days with her husband, 7 children and their dwindling herd to a camp for people displaced from their traditional way of life by the recurrent failure of the rains. They had heard that there was support there from the Ethiopian government and humanitarian agencies, including FAO.

Under FAO’s Early Warning Early Action programme, Mahabo’s family received feed for their 35 goats for 2 months and treatment for parasites and diseases. The complementary interventions got the animals back to health and producing milk again. Mahabo is all too aware how serious the situation was. “Without FAO’s support, more animals – maybe even people – would have died.”
“FAO’s support meant that animals could survive – we didn’t think we would have any left, as this drought has been so bad. But, we also need help to restock”

Mahumed Ali Awil

Even with FAO’S rapid intervention in Ethiopia, the cumulative effect of years of drought means some people were hit very hard. Mahumed Ali Awil, a 48 year-old pastoralist father of 10 children, lost around half of his camels. He says they had never fully recovered from the previous drought and hunger.

FAO supported Mahumed with livestock feed – grass, molasses and urea – and with veterinary care and treatments. It helped his other animals. But the wider impact on his pastoralist community is great.

“We need more help now with restocking,” says Mahumed. “When we lose our animals, we also lose out on the work they do for us. The camels transport goods and water and donkeys pull carts. It gives us income when they move soil, sand and stones and firewood.”

People also used to buy small amounts of tea, oil and sugar, and some pastoralists could make some extra income from this trade. But now people are poorer than they were and this sideline has all but dried up, Mahmud explains.

Water has been so scarce it has had to be trucked in from Warder, about 50 kilometres away on a poor road. So FAO has helped to build and rehabilitate boreholes as part of its Early Action interventions.
“Drought means an increased workload for women, such as walking further to collect firewood and water. After a bit of rain, there is some grass, but without FAO’s help, my animals would not have survived to eat it”

Hany Abdullahi Aaden

The soil in Hany Abdullahi Aaden’s village had turned a baked, vibrant red with no grass for the 100 goats, cows and donkeys which provide essential income and nutrition for Hany, her husband, their six sons and two daughters.

“Drought impacts women and children much differently to men,” says Hany. “It means more work for women, such as walking further to collect firewood and water.” Hany is reluctant to use her limited income to buy powdered milk for her children, but sometimes she has no choice. The nutrition of the young, and that of pregnant and breastfeeding mothers, plummets as there is less access to milk and meat proteins.

Under FAO’s Early Warning Early Action programme, Hany was given 480 kg of supplementary feed and nutritional blocks. This stopped the crisis becoming an emergency for Hany and her family. Like many pastoralists, they already live close to the poverty line and can quickly be pushed under it by a shock. Getting back above the line is not at all easy.
In the Somali language, there’s a well-used phrase – *cano la’an* – or “the suffering due to lack of milk.” After it, all too frequently, comes another common saying – *nafaqo-darro* – “the weight loss which follows.”

Fresh milk is a blessing to pastoralist communities in Africa, who rely on the nutrient-dense food to nourish small children. Dried milk is an expensive and desperate last resort, bought only when drought has decimated herds. Pastoralists rely on their goats, which produce milk for longer when it’s dry, and their cows as lifelines. Camels are especially prized in some communities. Their milk is seen as richer and they can lactate for much longer than other stock.

Small children in Africa’s pastoralist communities are however also some of the most nutritionally vulnerable in the world. That’s because of the vulnerability, in turn, of their family livestock. In Ethiopia’s Somali Region, the acute child malnutrition rate regularly rises above 15 percent – the World Health Organization’s definition of a nutritional emergency.

In its Early Warning Early Action work in the Horn of Africa, FAO has prioritised keeping pastoralists’ herds alive and healthy so as to secure the milk supply. The benefits are great. Adults also eat milk as yoghurt and a paste which is stirred into meals. Milk products generate income and strengthen community bonds: the tradition of *irmaansi* – a better off person lending a milking animal to a poorer one in hard times – is deeply rooted.

When pastoralists are asked directly what targeted interventions benefit them most, they focus on their livestock. Animals with good nutritional status produce lots of milk full of high quality protein, fatty acids and micronutrients. They reproduce well, making money, and help with transportation.

Support to pastoralist communities with fodder, water, re-stocking and veterinary care are investments which pay back well. At the end of a drought year in which animals perish, the milk intake of a small child will have fallen by 90 percent.

**Why milk matters**

Milk is vital for children’s nutrition. Just half a litre a day gives a 5 year-old 25 percent of the calories they need and 65 percent of the protein.
Acting early is not only possible, it is a responsibility, as solid evidence is now increasingly available as a trigger. Combining monitoring systems gives FAO a deeper picture of emerging threats which it can mitigate if it acts at the optimum time, such as before a drought has peaked.

A number of other lessons were learned from the Horn of Africa pilot programmes.

- Disaster patterns can provide lessons. The Horn of Africa’s weather has become increasingly unpredictable because of climate change, which means forecasts are critical. If we take this on board, we can plan and be ready. In Somalia, FAO had tanks for rapid placing where there was pasture but no water.
- Having a financial system which is flexible and fast, allowing the rapid procurement of supplies before the peak of drought is hugely beneficial. This allows a quick start when the return on investment will be greatest.
- Intervening early helps build people’s resilience to shocks. FAO helped pastoralists in the Horn of Africa to protect their core breeding herds, which in turn allowed them to keep their children in school, an important investment in the future.
- Listening very carefully to beneficiaries is an important skill which can always be improved. It complements broader resilience goals, such as...
addressing what drives chronic food insecurity. In Kenya, pastoralists told FAO that they would benefit from learning about better herd management and fodder production methods as well as destocking before animals grew weak.

- Early action must be planned jointly by partners who are working closely together, such as international, national and regional institutions. In Kenya, FAO’s early action would not have been possible without the information from the National Drought Management Authority as well as local government capacities.
- Early actions should protect vulnerable households, particularly in exposed areas. Mindful targeting is essential to ensure the most needy receive the relevant inputs at the right time.
- Preserving livestock assets alone is not enough. It has to run alongside encouraging livestock owners to produce and sell animals for the market, and to sell early whilst prices are still high.
- There will always be a variable degree of inherent risk when early action is based on early warnings. They are projections of future events. But risk can be managed by taking a highly rigorous approach to forecasts, evidence and targeting. FAO takes a ‘no regrets’ approach, believing that early action is crucial. It shifts the focus from response to prevention and mitigation.
Acting early safeguards lives and livelihoods, builds resilience to future shocks, and eases pressure on strained humanitarian resources.
FAO’s Early Warning Early Action uses risk analysis and forecasts to trigger interventions before a crisis escalates into a humanitarian emergency.

With the financial support of