



Food and Agriculture
Organization of the
United Nations

Saving livelihoods saves lives



Saving livelihoods saves lives

2017

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Foreword

In 2017 famine reared its head, but the international community gave generously and mobilized rapidly to successfully prevent its spread.

The State of Food Security and Nutrition in the World 2017 reported both a rise in the absolute number of people affected by chronic hunger since 2014 and an increase in the global prevalence of undernourishment since 2016. Conflict is the main factor behind this rise in hunger, often exacerbated by severe climate events, like the continued drought in the Horn of Africa.



3 September 2017. From left to right: FAO Director-General José Graziano da Silva, the International Fund for Agricultural Development President Gilbert F. Houngbo and the World Food Programme Executive Director David Beasley in the Somali region of Ethiopia.

While old conflicts continued without any end in sight, new ones were sparked and millions of people fled their homes in a desperate search for safety, shelter and food. Yet, while we despaired of human capacity for violence, we admired the incredible generosity of neighbouring communities, themselves often struggling to survive, who welcomed them, shared their food and homes and did their best to provide immediate support to these displaced populations.

Across the globe, drought, floods, mudslides, hurricanes and wildfires placed more people at risk of hunger in 2017, as they lost their homes and their livelihoods.

The Food and Agriculture Organization of the United Nations (FAO) assisted crisis-hit populations in more than 50 countries. While the greater share of its humanitarian resources was directed to preventing famine in northeastern Nigeria, Somalia, South Sudan and Yemen, the Organization continued to respond to other major protracted crises, including those in Afghanistan, the Central African Republic, the Democratic Republic of the Congo and the Syrian Arab Republic.

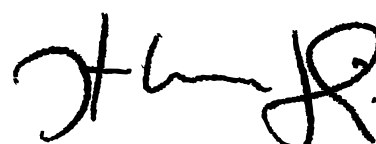
In 2017, FAO further rolled out its early warning – early action system, one of the building blocks of the Organization's resilience agenda, enabling a faster response to emerging crises, with real impact on the lives and livelihoods of vulnerable populations. By acting early and safeguarding livestock that were at risk, FAO enabled drought-affected livestock owners in Kenya to protect their key breeding animals throughout the peak of the drought. An FAO return on investment study in Kenya in July 2017 revealed that providing animal feed for key breeding stock – at a cost of USD 92 per family – saw a return of almost USD 3.5 (in the form of extra milk, value of the animal saved and value of improved body condition) on every USD 1 spent.

During the year, FAO played a crucial role in supporting governments and communities to prepare for, prevent and respond to food chain crises, which can threaten lives and livelihoods across the world and lead to major humanitarian emergencies. From improved forecasting and early detection to faster response, FAO has strengthened governments' capacity to address plant and animal pests and diseases like the fall armyworm and avian influenza. In 2018, FAO will continue working closely with governments across Africa to tackle the menace of the fall armyworm, which threatens food security and livelihoods throughout the continent and potentially beyond.

In 2017, we witnessed the immense capacity of the humanitarian system to respond to several simultaneous crises and avert even worse catastrophes, but we also recognized its failures in dealing with the root causes of these crises. Ultimately, not enough is being done to prevent the breakdown of livelihoods, which tips rural, agriculture-dependent communities into severe hunger. When addressing the immediate and longer-term needs of those affected by crisis, agriculture and local food production cannot be an afterthought.

Even in the most dire of circumstances, agricultural support can play a crucial role in fighting hunger. Agriculture remains the main source of food and income for the majority of those caught up in crises and rapidly restoring local food production is critical to tackling food insecurity. For families trapped by fighting or living in remote areas with limited humanitarian assistance delivery, agricultural support can provide them with the means to keep producing food at the peak of a crisis.

In 2018, FAO will continue to work with partners across the humanitarian-development-peace nexus to save lives, and to protect and restore livelihoods. As crises become more protracted and humanitarian needs rise, conducting business as usual is no longer feasible. Treating the root causes of hunger and malnutrition and investing in resilient livelihoods will have a lasting impact on vulnerable populations and ultimately bring millions of the world's poorest and most vulnerable back from the brink of starvation.



José Graziano da Silva

FAO Director-General

Snapshot

The year 2017 witnessed hunger on a scale not seen in decades. The *Global Report on Food Crises 2017* indicated that 108 million people were facing severe hunger by the end of 2016 – up from 80 million the previous year.

Millions of people in northeastern Nigeria, Somalia, South Sudan and Yemen faced the threat of starvation and, in February, famine was declared in two counties of South Sudan, affecting 100 000 people.

The **international community rallied fast, mobilizing more than USD 2 billion for the four countries** on the brink, containing famine in South Sudan and averting a famine declaration in the other three.

Despite these efforts, the number of **people severely food insecure** – in Crisis Integrated Food Security Phase Classification (IPC Phase 3) and Emergency (IPC Phase 4) – **continued to rise throughout the year.** Clearly, more needs to be done to address the steady rise in the number of people on the verge of catastrophe.

Continued conflict in Iraq, South Sudan, the Syrian Arab Republic and Yemen, among others, and new outbreaks of violence in the Central African Republic, the Democratic Republic of the Congo and Myanmar contributed to increased displacement. In the Caribbean, hurricanes Irma and Maria devastated lives and livelihoods, while continued drought further eroded livelihoods in the Horn of Africa, where vulnerable pastoral populations were particularly hard hit. Across Africa, millions of smallholders' crops have been threatened by the emergence of the fall armyworm.

Between **60 and 80 percent of these crises-affected people rely on agriculture for their livelihoods**, they are farmers, herders, fishers and forest-dependent communities. In Somalia, for example, 90 percent of those in Emergency (IPC Phase 4) by mid-2017 were rural populations.

Investing in agriculture from the onset of a crisis saves lives and enables people to rapidly resume local food production and earn an income. Despite this, agriculture was one of the least-funded sectors of the 2017 humanitarian appeals.

Contributions received in 2017

for resilience programmes,
including emergencies

(as of 31 December 2017)



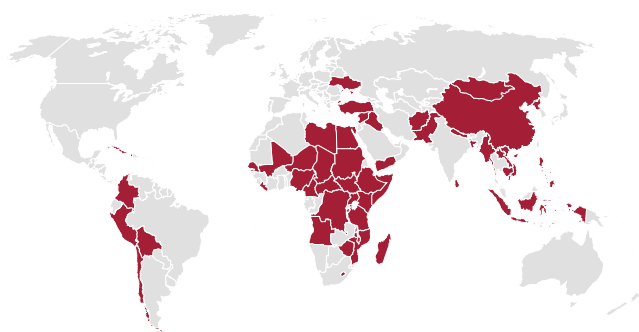
USD 535 million received

Resource partners
invested in

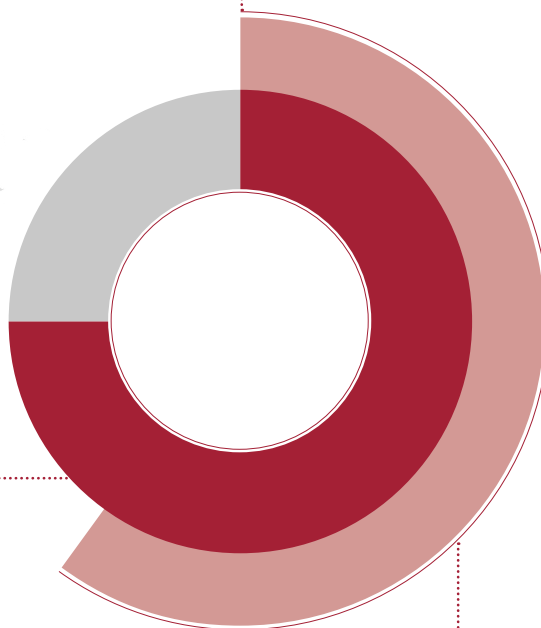


55

countries



75% went to
10 countries



- 1 Somalia***
USD 156.0 million
- 2 South Sudan***
USD 94.2 million
- 3 Yemen***
USD 41.3 million
- 4 Pakistan**
USD 25.6 million
- 5 Nigeria***
USD 23.1 million

- 6 Syrian Arab Republic**
USD 21.3 million
- 7 Democratic Republic of the Congo**
USD 21.2 million
- 8 Ethiopia**
USD 7.0 million
- 9 Burundi**
USD 6.9 million
- 10 Mali**
USD 6.4 million

*59%

went to
countries
fighting famine

Nigeria
Somalia
South Sudan
Yemen

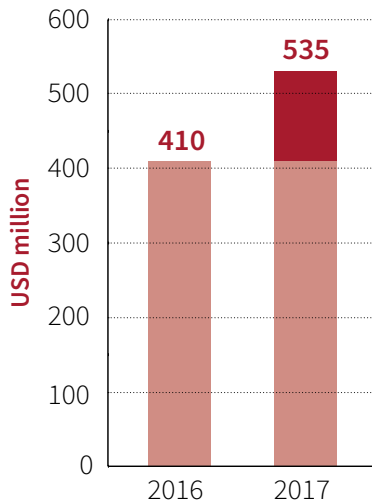
+30%

thanks to the continued support of
our resource partners,
resource mobilization
increased by 30 percent
from last year



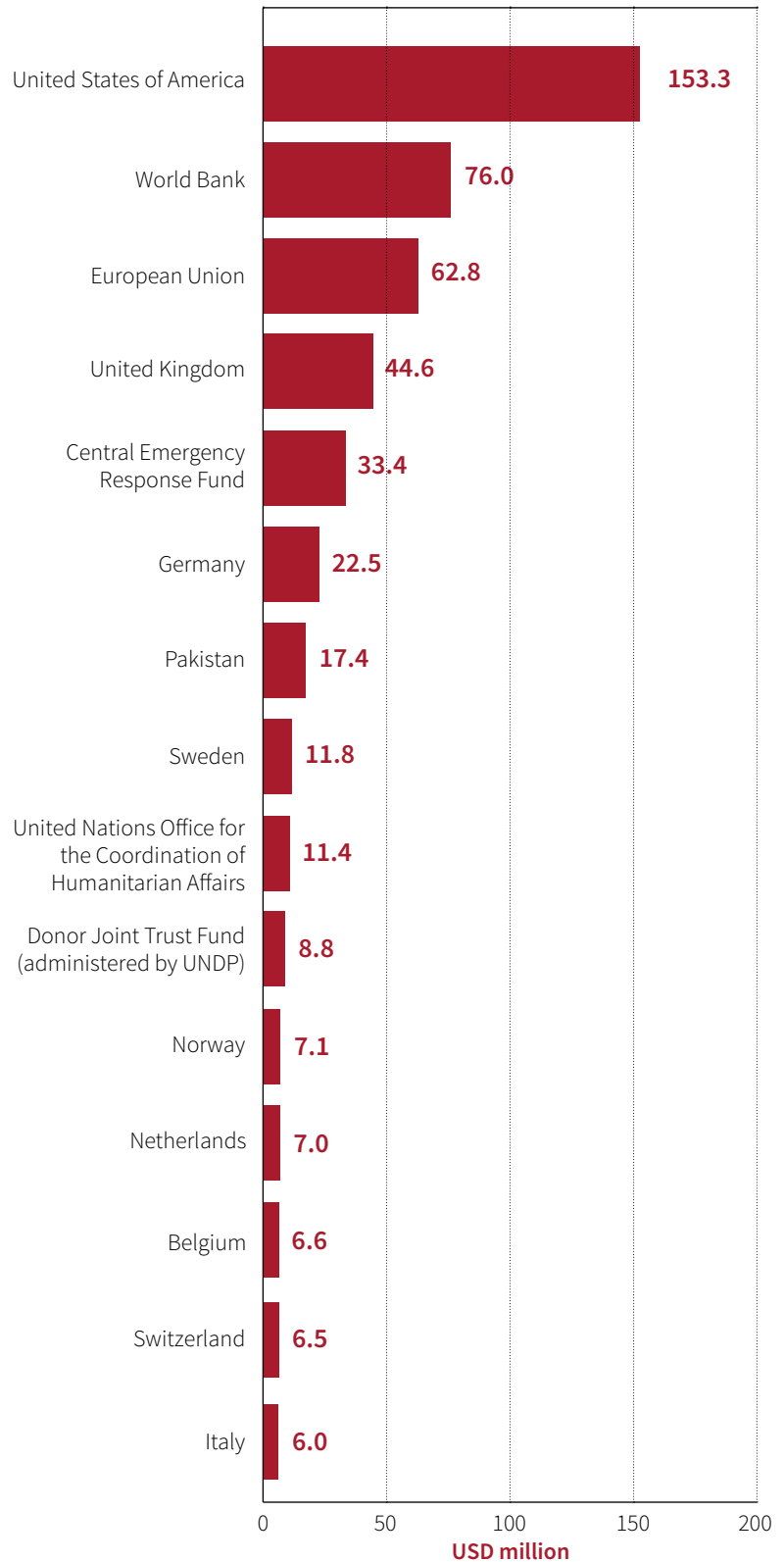
Top 15

resource partners in 2017



This increase is due to

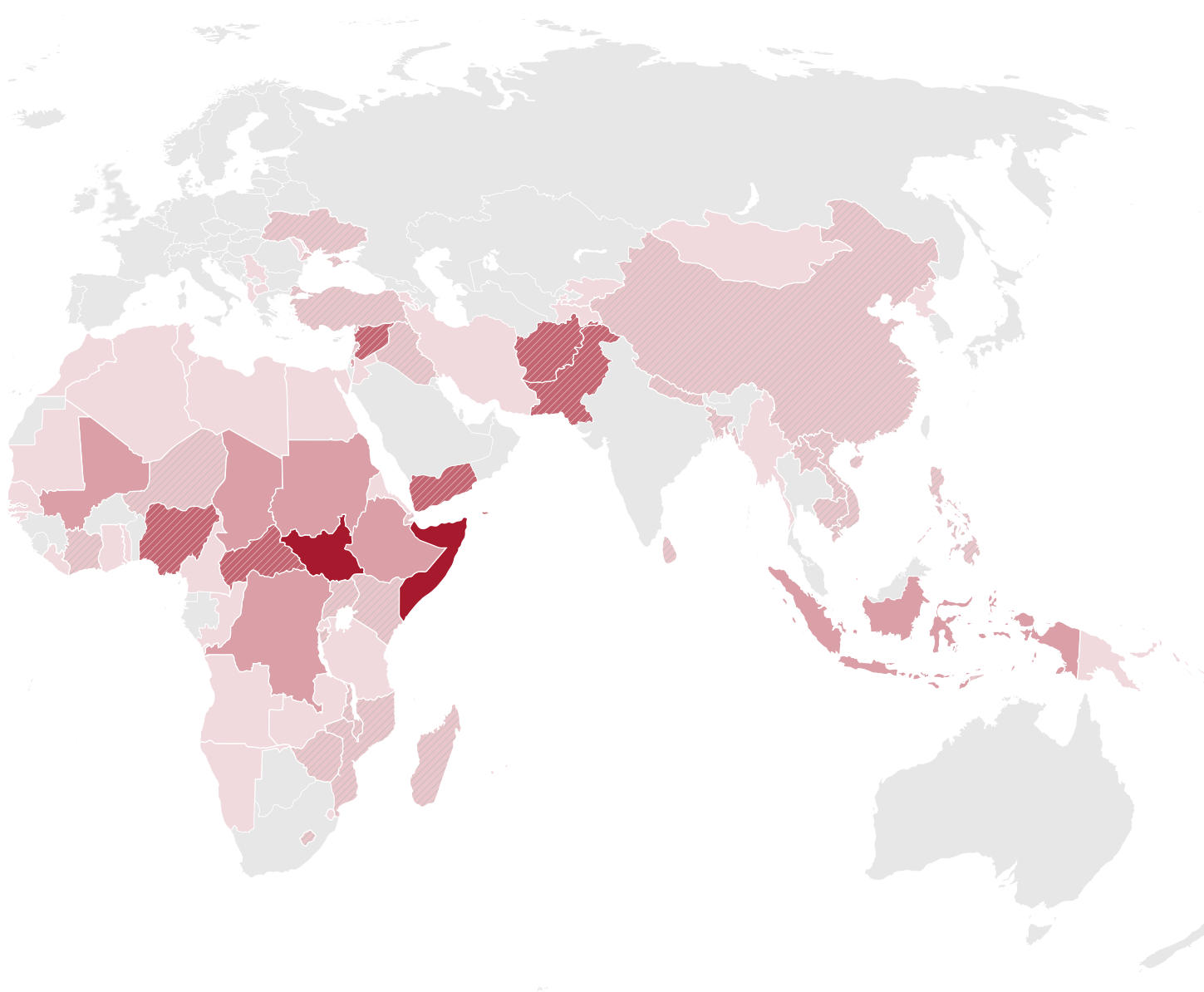
- continued strong support from bilateral resource partners
- FAO's active engagement in pool funding mechanisms
- the introduction of new resource partners, including the World Bank



Funds spent in 2017 by country

for resilience programmes, including emergencies

(as of 20 December 2017)



Source: FAO, Emergency and Rehabilitation Division.



Sound, evidence-based decision-making

The humanitarian and resilience work of the Food and Agriculture Organization of the United Nations (FAO) is informed and guided by **sound, neutral and timely food security analysis**, mainly through the **Integrated Food Security Phase Classification (IPC)** and the **Cadre Harmonisé (CH)**.

The IPC is a set of standardized tools that provide a common currency for **classifying the severity and magnitude of food insecurity**. Through a consensus-building approach, the IPC provides scientific, evidence-based data and analysis on shifts in countries' food security situation, thus removing any political association from declarations of famine. The CH is a standardized framework for **food security analysis** developed in the Sahel with the support of the Permanent Interstate Committee against Drought in the Sahel and which incorporates key elements of the IPC analytical approach.

FAO is strengthening and spreading the use of the IPC and CH analyses in countries at risk of food insecurity. **The IPC, CH and their related products have been critical in raising global awareness of the risk of famine** and in mobilizing more than USD 2 billion for the international response to major food crises in northeastern Nigeria, Somalia, South Sudan and Yemen.

FAO ensures that **humanitarian and development partners have a common understanding of the situation**. This includes strengthening efforts in sharing data related to vulnerability, undertaking joint assessments and analysis of needs, and joint planning and programming with partners.

In this framework, FAO coordinates with major humanitarian and development partners to produce the annual **Global Report on Food Crises**, which is based on IPC and CH analyses. Prepared under the umbrella of the Food Security Information Network, the report provides neutral, transparent and consensus-based food security analysis to inform annual planning and resource allocation decisions. This analysis aims to generate global consensus around the severity and magnitude of food crises and promote coordination in shaping higher-level policy processes along the humanitarian-development-peace nexus.

IPC and CH analyses also inform the FAO-led quarterly **Global Early Warning – Early Action** reports as well as the joint FAO-World Food Programme reporting to the **United Nations Security Council** to raise awareness among world leaders of the threat of food insecurity and its links with conflict.

Humanity is at a critical juncture, with an unprecedented level of humanitarian needs driven largely by protracted crises. With the **humanitarian system increasingly strained by the volume of needs, the communication of sound, timely information and analysis is crucial** to guide planning and resource allocation.

Resilience analysis

In a food insecure family with low resilience, even small changes can be devastating. Working with partners, FAO pioneered the resilience measurement through the development of the **Resilience Index and Measurement Analysis (RIMA)**. RIMA is a quantitative approach that **enables rigorous analysis of how families cope with shocks and stressors**. It examines resilience and its components, including access to services, adaptive capacity, assets and social safety nets. Comparisons can be made between different types of families (for example, male-headed versus female-headed or urban versus rural) in a given country or area. Resilience analysis using **RIMA provides the necessary evidence to more effectively design, deliver, monitor and evaluate assistance to vulnerable populations**, based on what they need most.

The key challenge in 2017 was to ensure country and regional ownership of the RIMA process, informing and guiding national and regional decision-making. For example, in Uganda FAO worked closely with the Government to set up a Resilience Measurement Unit within national structures, which means the Government now has its own capacity to measure resilience dynamics on the ground, resilience measurement is harmonized across partners, and both the Government and its partners have a clear indication of the needs and location of the most vulnerable populations.

The Government of Uganda is initiating the process of using RIMA to understand the needs of refugees arriving from South Sudan and develop durable solutions that will strengthen their resilience and that of their host communities.

Coordinating the food security response in emergencies

At the start of 2017, more than **108 million people in emergency situations were severely food insecure**. Of these, 78.6 million people were targeted through Humanitarian Response Plans. In the global Food Security Cluster's main operations – in Iraq, Nigeria, Somalia, South Sudan, the Syrian Arab Republic and Yemen – partners jointly supported around 25 million people through food assistance and more than 10 million through livelihoods assistance. Almost one-third were reached through cash and voucher programmes.

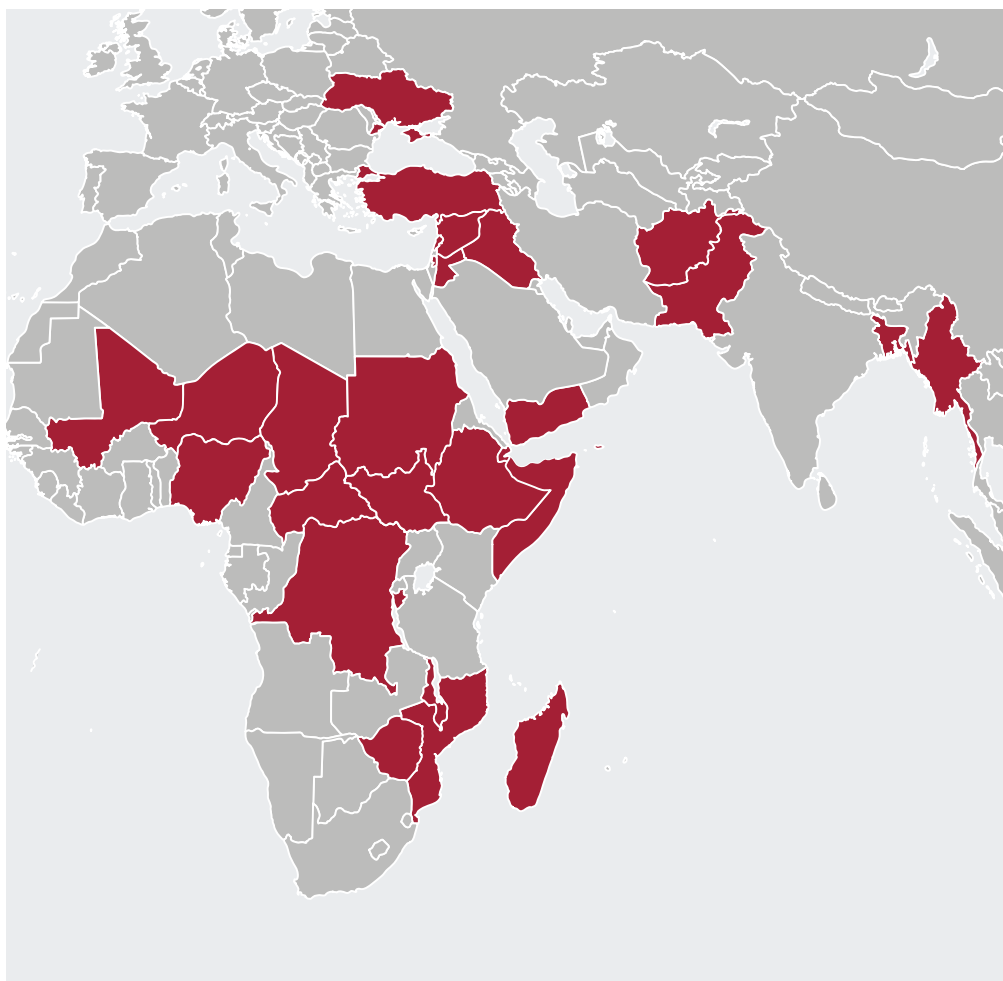
Food security coordination structures

To save lives and livelihoods and to ensure the dignity of people affected by humanitarian crises, **Food Security Clusters/Sectors coordinate the food security response in emergencies**.

The global Food Security Cluster is co-led by FAO and the World Food Programme. It supports some 30 in-country Food Security Clusters/Sectors.

Country-level Food Security Clusters/Sectors coordinate the food security response during a humanitarian crisis by ensuring that the Cluster Lead Agencies FAO and the World Food Programme, other United Nations

Countries with
food security
coordination structures



agencies and international organizations, non-governmental organizations, civil society, resource partners and government representatives **work hand in hand to reach the people in need**. The objective is **to reach as many people as possible** with the funding available.

In 2017, the **global Food Security Cluster** convened more than 1 500 partners at country level, among which more than half are national partners, **to assist 78.6 million food insecure people**.

Coordination of the food security response is cost-effective – it is achieved using just 30 cents per USD 100 of resource partner funding to support its country-level coordination teams.

In 2017, the global Food Security Cluster and the IPC Global Support Unit continued to strengthen their collaboration. The IPC is one of the main tools for Food Security Clusters/Sectors at country level to inform food security response plans. In many countries where IPC is used, the analysis provided is integrated in the Humanitarian Needs Overview and in the Humanitarian Response Plan.





Fighting famine

At the start of 2017, more than 108 million people worldwide were experiencing severe hunger, a third of whom were from four countries – Nigeria, Somalia, South Sudan and Yemen. In February, famine was officially declared in two counties of South Sudan, and 10 million people across the four countries faced the threat of famine.

FAO responded swiftly to rapidly increase local food production, protect and enhance nutrition, and ultimately save lives.

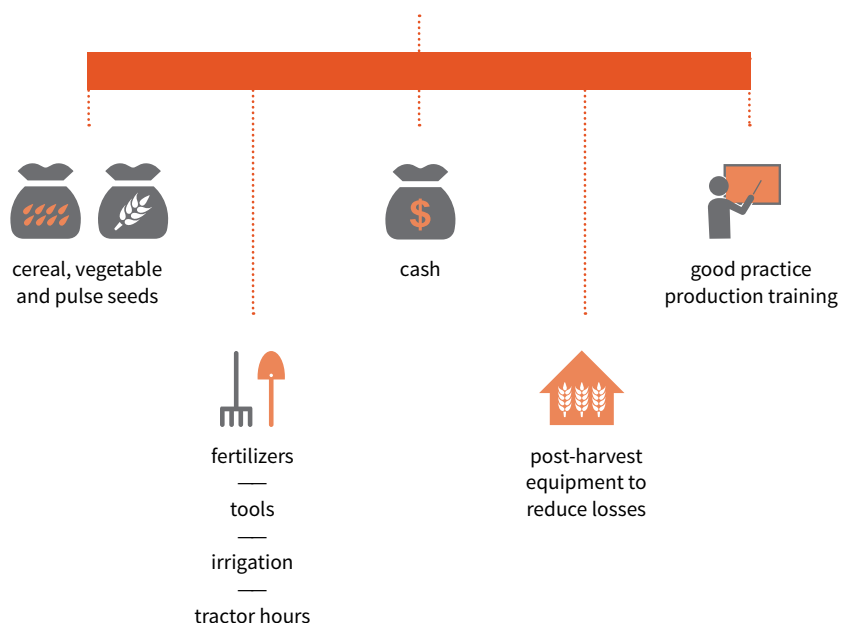


Rapidly increasing nutritious food production

Investing in food production as soon as a crisis hits provides people with the **means to feed their families, earn an income** and return to a sense of normalcy. When farmers can grow cereals, pulses and vegetables, families and communities see increased dietary diversity and improved food consumption and incomes. Ultimately, **nutrition and food security improve**. Markets are rejuvenated, with women – often the main growers of vegetables – benefiting from trade. **Rapid investment in agriculture in emergencies saves lives**, promotes recovery, reduces dependency on food assistance and **increases self-reliance**.



6 million people in Nigeria, Somalia, South Sudan and Yemen harvested crops



“FAO is helping affected communities to quickly meet their food needs through their own production, and ultimately contribute to building their resilience to future crises”

Suffyan Koroma, FAO Representative in Nigeria



©FAO/Sonia-Nguyen

Enabling one million people facing severe hunger in northeastern Nigeria to grow their own food

After receiving crop and vegetable seeds and fertilizer, **1 million people** in northeastern Nigeria's Adamawa, Borno and Yobe states **produced enough food to last well into 2018.**

With FAO's support, **returnees, host communities and internally displaced people** produced enough cereals and pulses for six months' consumption, and each family earned on average USD 80 from selling vegetables. A quarter of the families were headed by women.

Early in 2017, when assessments showed displaced and host communities had access to land, **FAO rapidly scaled up agricultural assistance.** This enabled people to plant in time for the rainy season and **produce food to sustain their families.** Had farmers missed this critical period, nutritional outcomes would have worsened, particularly for children.

FAO and the World Food Programme worked together to meet immediate food needs while ensuring a future harvest. The World Food Programme provided food rations to families who received FAO's agricultural support, so that people would plant the seeds rather than sell, barter or eat them.

One of those who received seeds and fertilizers from FAO was Malam Mohammed, a farmer from Ngalda village in Yobe, who was enthusiastic about the harvest. "Each family in my village helps about five or six displaced people. They depend on our assistance. Good harvest brings joy to all of us. It reduces the pressure and makes us stronger," he said.

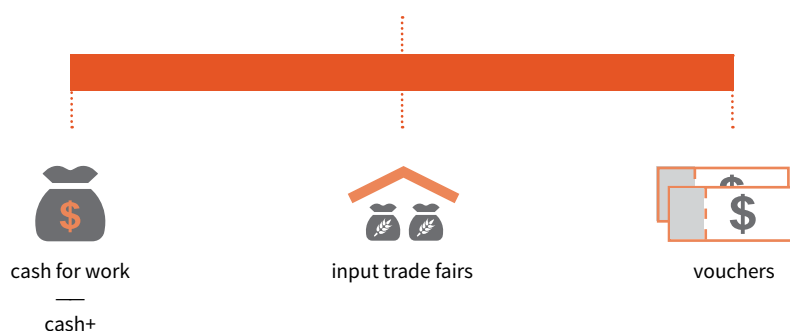
Providing purchasing power for food and livelihoods

Cash is critical when responding to crises or shocks. When assets are damaged or depleted, **cash enables farmers and pastoralists to meet their most pressing needs**, including food, agricultural inputs, goods and services.

When cash is provided alongside livelihood inputs and training, known as cash+, people can meet immediate needs while at the same time restoring or maintaining their livelihoods, to improve their food security situation. **Cash stimulates local markets** and reduces the adoption of negative coping mechanisms, such as selling productive assets and skipping or reducing meals. During lean seasons, many families need cash to avoid migration and resume production.



1 million people in Nigeria, Somalia, South Sudan and Yemen received cash transfers



“FAO is helping the most food insecure rural families meet their immediate food needs with cash transfers, while giving them the means to continue farming their land and producing the food they need to survive”

Daniele Donati, FAO Representative *a.i.* in Somalia and Deputy Director of Emergencies



Securing a good harvest despite ongoing drought in Somalia

Almost 230 000 people who were facing emergency and crisis levels of food insecurity in the first half of 2017 were able to **secure a good harvest despite ongoing drought**. FAO provided quality local seeds, land preparation or irrigation support, training, safe storage equipment and cash to families in Somalia's southern breadbasket, and in Somaliland.

Despite poor *Gu* season (March to May) rains on average these **maize- and sorghum-growing families yielded 43 percent more** than families who did not receive support (e.g. **enough sorghum to feed each family for two years**). They had better access to food, dietary diversity and larger livestock holdings than other families.

The **cash+** package meant families could buy food to meet immediate needs while growing food over the longer term. **Families received monthly unconditional cash transfers for three months** – the time it takes to plant and harvest a staple crop. The support coincided with the lean season, when food stocks become increasingly scarce until new crops are harvested.

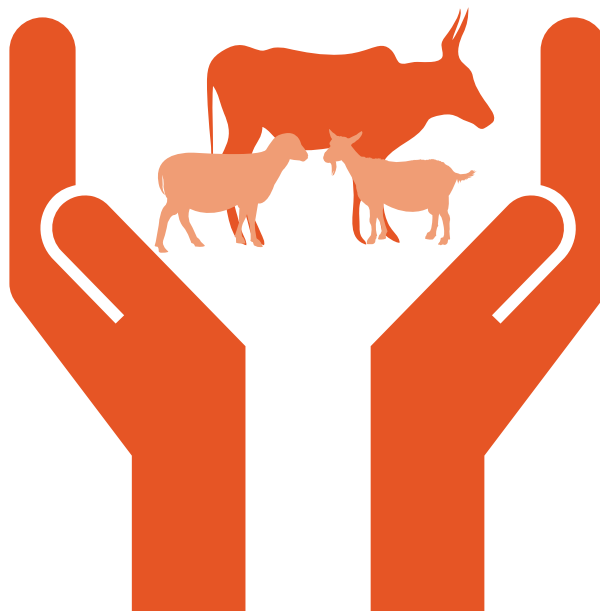
By the end of the three-month programme, farmers harvested maize and sorghum (staple crops), cowpea (a source of protein) and vegetables (sources of vitamins and minerals).

A massive humanitarian response in rural areas held back famine in 2017. However, **6.2 million Somalis remain food insecure**.

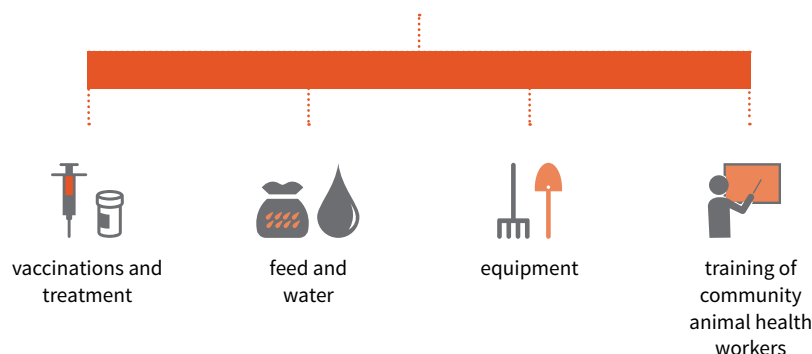
Protecting livestock, feeding children

For livestock-dependent families, **milk is the main source of nutrition for their children.**

When crises hit, and herds cannot reach grazing lands and water points, livestock suffer. Animals lose weight and become more susceptible to disease – the risk of which rises when livestock are confined to small, overgrazed and crowded spaces, which is often the case in conflict areas. Field evidence shows a link between the wellbeing of livestock and the nutrition status of children – **when access to quality animal feed is low, milk production drops and the nutrition status of children declines.** Moreover, if animals are emaciated they are not only unable to produce enough milk, they sell for low prices at market, constraining a family's ability to earn income and meet their food needs. If livestock die, families can lose their livelihoods, ultimately resulting in displacement and destitution.



43 million livestock protected in Nigeria, Somalia, South Sudan and Yemen



“Pastoralists’ ability to recover from a crisis depends on the survival of their animals – a family’s main source of food and income”

Salah Hajj Hassan, FAO Representative in Yemen



Yemeni dairy farmers are producing more milk to feed their children and community

In Yemen, where 17 million people (60 percent of the population) are severely food insecure and malnutrition rates are high, **FAO is helping to protect dairy farmers' herds and enable them to produce more nutritious milk to feed their children and communities.**

Currently, milk production in Yemen meets just one-third of the demand. To reduce reliance on the expensive imported powdered and ultra-pasteurized milk on which many depend – especially children and pregnant and breastfeeding women – FAO **assisted rural communities to safeguard their livestock** by providing and improving animal health services, distributing feed and enhancing access to water. Livestock health improved, resulting in enhanced milk production.

Energy-rich feed has been key to increasing the availability of locally produced milk and dairy products. Concentrated feed and multinutrient blocks were distributed in four governorates. As a result, **milk production increased by up to 1.5 litres per cow every day.** Feed blocks present nutritional and economic advantages: one USD 4 feed block is sufficient to supplement one milking cow for three to four weeks. The resulting increased milk production of up to 25 litres is valued at USD 15. The sale of surplus milk **increased families' income and improved nutrition for the community.**

FAO **improved dairy processing** in five governorates by providing farmers, including many women, with modern equipment and training. Improving the quality of milk products resulted in prices rising by 13 percent, translating into better income for the producers.

Responding rapidly in conflict hotspots

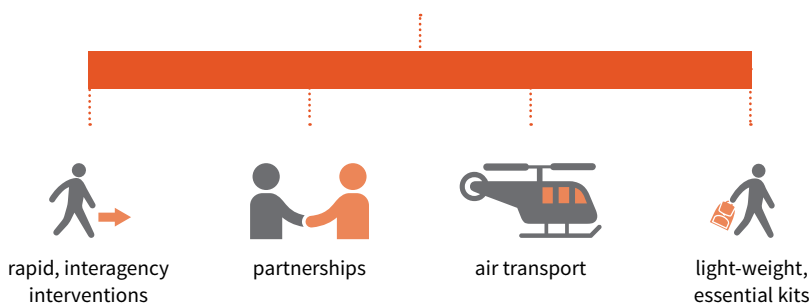
Saving lives during and after a crisis relies on the speed of the humanitarian response

and the ability to access affected populations with tailored support. As most people lose everything in the flight to safety, the humanitarian community must pull together and offer quick relief. Interagency rapid response missions draw on the **strengths of each partner to provide comprehensive assistance** and deliver support in a better coordinated and more efficient way. Families arriving in new locations after escaping violence and those remaining in areas because they were unable to escape may have lost all means of growing food, accessing a functioning market or earning an income from agriculture.

Emergency livelihoods assistance as part of these joint rapid response missions is critical to **enable people to quickly become self-sufficient again and dramatically improve their diet.**



Rapid response reached 220 000 people in South Sudan



“Up to 90 percent of South Sudan’s population depends on farming, fishing or herding for food and income”

Serge Tissot, FAO Representative in South Sudan



©FAO/Albert Gonzalez Farran

South Sudanese trapped or displaced by fighting received livelihoods support

FAO's emergency livelihood response programme in South Sudan **assisted more than 4 million people in 2017**. In an effort to reach those communities trapped by or seeking refuge from the conflict in hard-to-reach areas, FAO partnered with other humanitarian agencies to provide immediate, lifesaving support. Through the interagency **rapid response mechanism**, FAO swiftly provided assistance to enable some of the most at-risk South Sudanese to **access food**.

When fighting hits, families are forced to flee to remote areas. There, their access to food is extremely limited. In addition, the areas where they seek shelter are often difficult to reach by road due to damaged infrastructure and insecurity, meaning the only way to provide assistance is by air. FAO maintains **stocks of rapid response kits ready to deploy at a moment's notice**.

Rapid response kits contain **fast-maturing vegetable seeds and fishing equipment**. Displaced families are immediately able to catch fish and rapidly grow food, to assure food availability and ultimately **boost food security and nutrition**. At the same time, partners in the rapid response mechanism, including the World Food Programme and the United Nations Children's Fund, provided food, safe drinking water, shelter supplies and medicines.

More than 4 million South Sudanese have been displaced since mid-December 2013, around half of whom are sheltering in neighbouring countries. Continued violence, a deteriorating economy and climatic shocks are intensifying impacts of the crisis, hindering agricultural production and disrupting livelihoods.



Working in protracted crises

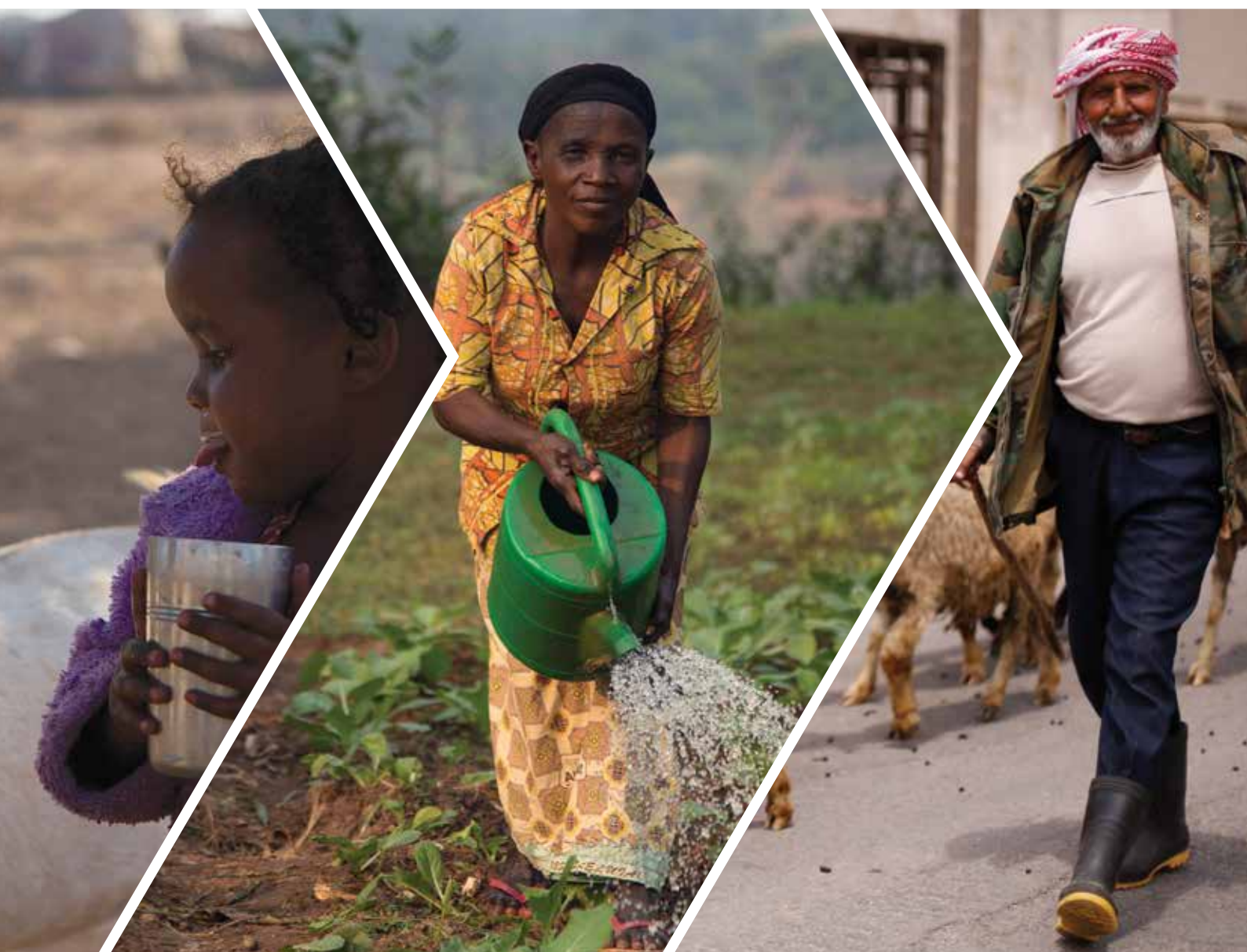
Protracted crises – often caused by concurrent and reinforcing human-induced crises and natural disasters – are the new normal. People living in these contexts are among the most vulnerable to severe hunger and are at the most risk of being “left behind”.

The number of conflicts has risen in the past decade, particularly in countries already facing high levels of food insecurity, with much of the violence affecting rural areas and negatively impacting food production and availability. Conflict plays a significant role in ten out of the 13 major food crises in the world.

As conflicts become more complex and intractable, they are contributing to an increase in forced, and often lengthy displacement. **Conflict is a key driver of hunger, exacerbated by climate-related shocks.**

The *State of Food Security and Nutrition in the World 2017* report shows that **60 percent of hungry people live in countries affected by conflict.**

FAO has considerable expertise in working in conflict-affected situations, from **providing livelihoods support, to saving lives, to using agricultural livelihoods** as an entry point to engage local communities in contributing to peace.

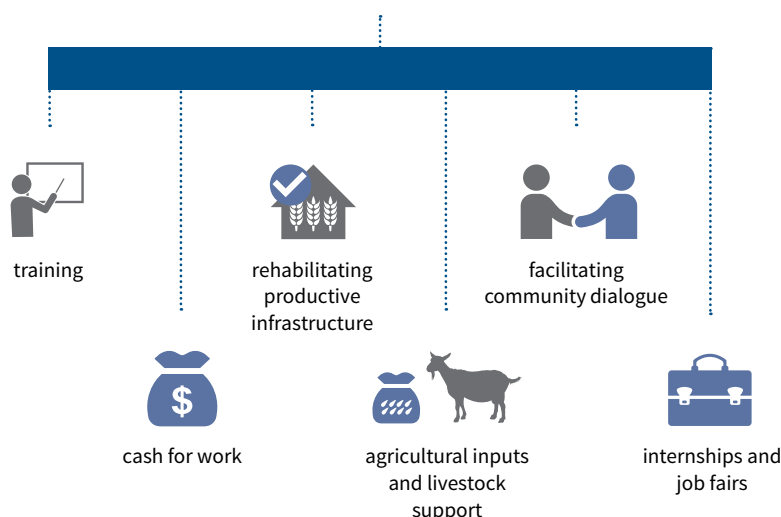


Supporting people in contexts of forced displacement

Forced displacement is closely associated with protracted crises, and **the number of people fleeing their homes due to conflict, hunger and climate-driven disasters continues to rise**. Not everybody can or wants to leave – **more than 80 percent of people in conflict situations do not flee**. Assisting people who decide to remain when it is safe to do so is at the core of FAO's livelihoods support in protracted crises. In contexts of forced displacement, **FAO supports displaced and host populations to increase their access to and the availability of food**.



Displaced people built new livelihoods



“New skills mean displaced families can support themselves where they are and have options for earning an income when they return home” Fadel El-Zubi, FAO Representative in Iraq



©FAO/Junior D. Kannah

Saving lives through rapid food production in the Democratic Republic of the Congo

With 4.1 million people displaced, the Democratic Republic of the Congo faced Africa's most severe internal displacement crisis – **more than 75 percent are women and children**. Violence and intercommunal tensions in areas previously considered stable caused the sharp deterioration of food security throughout 2017, with 7.7 million people now severely food insecure – a 30 percent increase in just one year. The situation is further exacerbated by limited dietary diversity, lack of livelihood opportunities and plant diseases affecting cassava, maize and banana – crops that are people's main sources of food and income.

FAO helped protect the livelihoods of 249 000 displaced families by providing short-cycle seeds and agricultural inputs. With the support provided, **families were able to cover at least two farming seasons and establish food stocks**. As productive assets are often burnt or looted, providing inputs to improve agricultural production is an effective way for displaced families to **grow their own nutritious food and generate income, restoring their livelihoods and protecting dignity**.

FAO further supported 15 500 families to **form farmers' groups**, with a focus on supporting women's leadership, strengthening skills on sustainable agricultural and environmental practices through **farmer field schools** and quality seed multiplication activities. FAO also established **vegetable gardens** in schools and **women's associations**.

FAO is working with the World Food Programme to ensure **people can rapidly resume food production as soon as security conditions improve**. The response links emergency food assistance (food or cash transfers) with the distribution of agricultural inputs.



©FAO/Barkin Bulbul

Investing in job growth for conflict-affected Syrians

Seven years of conflict has displaced 6.3 million Syrians within the country and forced another 5.4 million to seek refuge, mostly in neighbouring countries including Egypt, Iraq, Jordan, Lebanon and Turkey.

In Iraq, 97 percent of the 247 000 Syrian refugees live in communities or camps in northern Iraq. FAO provided training and equipment for **greenhouse vegetable production** for refugees in two camps in Dohuk and Erbil governorates. The **income from vegetable sales enables these families to buy extra food** and other necessities. The support also means that camp residents and people from surrounding communities can now purchase vegetables throughout the year, enhancing their nutritional intake.

In Turkey, which hosts more than 3.2 million registered Syrians, FAO provided refugees and members of their host communities with **training on agricultural production and conservation methods**. Participants received hands-on professional experience at Turkish companies and participated in job fairs where they explored long-term employment opportunities. Originally from the Syrian province of Jarabulus, Kefe is doing work-training at a dried fruit packaging factory in Gazientep, which is providing her with a real hope for her future, “I’ve learned many new things in this factory,” she said. “I can work right away, I am not anxious about it.” By increasing workers’ employability, the support will boost household incomes among both refugees and their host communities, increase the quality of food products, and improve agricultural productivity thanks to a more skilled labour force.



©FAO/Cengiz Yari

Creating alternative livelihoods for farming families in Iraq

In 2017, conflict in Iraq caused new displacements, while other people returned home as areas became safe. At the end of 2017, 2.6 million people remained displaced, and 3.2 million people had returned home since January 2014.

FAO worked with affected communities, focusing on elderly people, people with a disability and families headed by women, to **increase access to fresh foods, boost incomes and build skills**. Activities both immediately and sustainably improved food security, nutrition, income generation and livelihoods.

FAO supported 2 400 people from 150 villages with backyard poultry production – distributing hens, poultry feeding and drinking equipment, and feed. This enabled **each family to produce eggs and poultry meat** for their own consumption and for sale. Further support was provided to conflict-affected families in the form of training, tools and equipment for bee-keeping for honey production, and dairy and fruit processing.

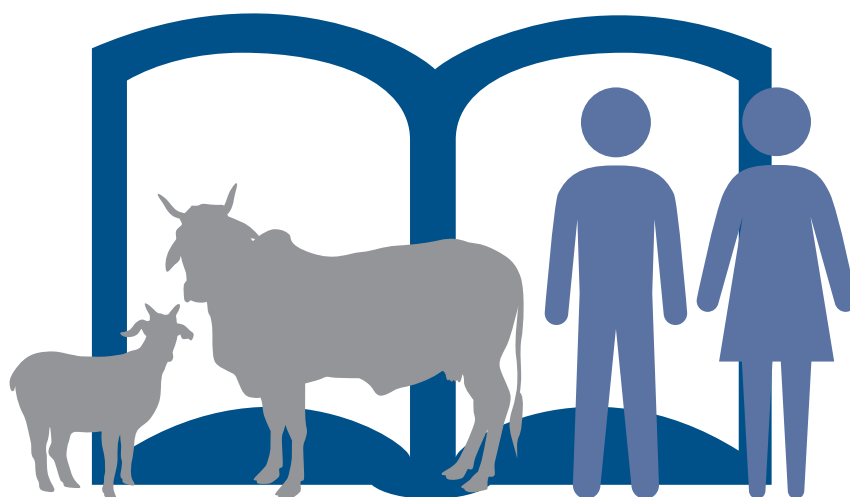
FAO's cash-for-work programmes provided a valuable source of employment as vulnerable people were paid to clear debris along Ninewa governorate's Al Jazeera **irrigation canals**. The canals **provide irrigation water to 250 000 ha of farmland**. Cash-for-work programmes were also organized in Kirkuk, Anbar and Salah al Din governorates.

In Ninewa governorate, FAO supported livestock-producing families with animal feed, and commenced an **animal health campaign to vaccinate 1 million livestock**.

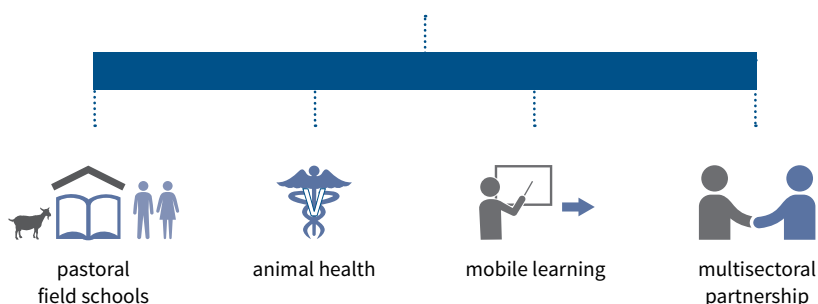
Increasing the resilience of pastoralists

Pastoralists produce food in some of the world's harshest environments. Worldwide, **1.3 billion people rely on livestock for their livelihoods and food security**. Yet, pastoralists are among the world's most marginalized and vulnerable populations. **Half of the 800 million people who live on less than USD 1.9/day depend on livestock**. FAO has the technical skills and experience to support pastoralists to increase their resilience – from providing **emergency feed and water** and **protecting livestock against disease**, to developing new technologies for more rapid and efficient feed distribution. **Investing in skills is key.**

While income-generating opportunities exist in the areas through which pastoralists travel, without basic literacy and numeracy skills they are less able to competitively market their livestock and sell meat, milk and dairy products.



Education improved pastoral livelihoods



“FAO’s educational model is adapted to pastoralists’ lifestyle, providing mobile and context-specific support”

Mary Lero, Advisor to the FAO Representative in South Sudan



©FAO/Albert Gonzalez Farran

Pastoralists in South Sudan are learning on the move

As transhumance communities, **pastoral families** in Eastern and Western Lakes States **reside in cattle camps and migrate to different areas throughout the year to graze and water their livestock**. Children and young people lack access to basic education, while adults receive no support to improve their livelihoods.

FAO partnered with UNESCO and South Sudan's ministries of education, livestock and agriculture to **strengthen the resilience of pastoral communities**. Considering the importance of livestock to pastoralists' lives, livelihoods, well-being and nutrition, **an innovative education and livelihoods curriculum was developed** for adults, young people and children. Based on the pastoral field school methodology, the approach focuses on strengthening practical skills and knowledge, reinforced by collaborative learning by doing.

To enable herders to obtain greater benefits from their resources, FAO is providing **learning opportunities for communities as they move**. This empowers pastoralists to have better control over their marketing chains, including numeracy skills to count and record cash earned and improve their negotiation skills. Pastoralists also learn about **food safety** standards to improve the **hygienic handling and processing of milk**, and how to better regulate their **animals' health**.

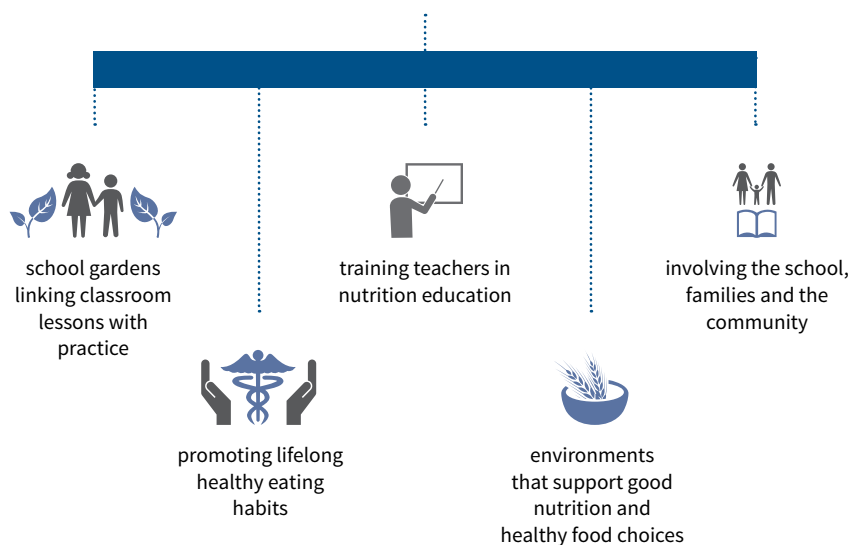
Young people follow a formal school curriculum using an **accelerated learning approach**, integrated with topics on **livestock management**. Emphasis is placed on livelihoods diversification to take up business opportunities, and technology to help expand students' perspectives beyond life in the cattle camp.

Protecting and improving nutrition

While malnutrition is one of the biggest challenges to development and human wellbeing in many countries, **rates of malnutrition are significantly higher in countries experiencing protracted crises**. Reduced access to food often results in changes in diet (reduced consumption of vegetables, fruits and animal-sourced foods), food preparation and food allocation within families. Evidence suggests food production alone has little impact on dietary practices unless it is backed by nutrition education. **It is critical to couple food production support with education**, particularly during protracted crises. Food production alongside nutrition education enables people to feed their families and the greater community.



Children grew nutritious food for themselves and their families



“A bright future starts with good nutrition. It is a person’s first defence against common diseases and important for children to kick-start active and healthy lives”

Adam Yao, FAO Representative *a.i.* in the Syrian Arab Republic



©FAO/Ghazal Hazim

Improving nutrition among Syrian children through education

Thousands of Syrian **school children participated in food and nutrition education** that used gardens to teach them about the importance of eating fruit and vegetables as part of a healthy diet.

Primary-school students in the Syrian Arab Republic learned about nutrition while planting and growing nutritious produce, which they ate at school and took home to share with their families. To facilitate this type of hands-on learning and foster a nutrition- and health-friendly environment, 300 teachers were trained in 17 schools, including in conflict-affected Aleppo, Hama, Homs, Idleb and Rural Damascus. **Each school cultivated a garden, equipped with water tanks and irrigation systems.**

“At school, they taught us about cabbages, peppers, tomatoes, eggplants, lettuce and a lot of other foods. They also taught us the food pyramid and all about vitamins and how we benefit from them,” said Bilasan, a fifth grader from Bahaa Eddin Sajer Primary School in Rural Damascus governorate.

Schools provide opportunities for children to acquire important life skills, and **FAO works with partners** such as the United Nations Children’s Fund and the World Food Programme to improve children’s nutrition and help them to develop and grow. The benefits of these gardens extend beyond the classrooms, influencing children’s families and communities.

Contributing to sustaining peace

The negative impacts of conflict on food security are well documented and clear. While there might not be a direct causal relationship between food insecurity and conflict, hunger can be a trigger for other issues, such as economic or political marginalization, and natural resource access and use.

Food insecurity may also sustain conflict. If post-conflict recovery is slow and food insecurity remains high, this can help to reignite conflicts. Given that **agriculture is the main livelihood of 80 percent of people affected by conflict, food security interventions and policies play an important role in contributing to and sustaining peace.** FAO's efforts to both save lives and create longer-term resilience are important contributions to peace and stability.



Communities shared natural resources peacefully



“Supporting livelihoods and equipping communities with skills to manage shared natural resources has the potential to mitigate conflict, increase income and improve food security”

Marco De Gaetano, FAO Natural Resource Management Officer in South Sudan



Mitigating conflict around natural resources in Abyei (South Sudan/the Sudan)

Between 2015 and 2017, FAO worked with tribal communities in the Abyei Administrative Area to **reduce the risk of resource-based conflicts and strengthen resilience** through dialogue and negotiation. The area is a contested zone on the border between South Sudan and the Sudan.

While both the Dinka Ngok (affiliated with South Sudan) and the Missiriya (affiliated with the Sudan) tribes had long shared grazing land, pastureland and water in the area peacefully, conflicts between the two communities over natural resources became more frequent in recent years.

One concern both tribes share is the **health of their livestock** – a crucial **source of livelihoods and the main asset of many families**. FAO's livestock vaccination campaigns served as an entry point to engage the communities in **dialogue on better ways to share land and water**. This contributed to an **official peace agreement** between the tribes, signed in March 2016. They have since successfully worked to diffuse tension and live together harmoniously. The peace agreement also led to the **establishment of a shared market** in the heart of the demilitarized zone, facilitating trade and livelihoods, and leading to food price decreases.

FAO's agricultural livelihoods support for livestock, vegetable and fisheries production started in 2015 in each of the communities. It culminated in 2016–2017 in cross-community engagement.

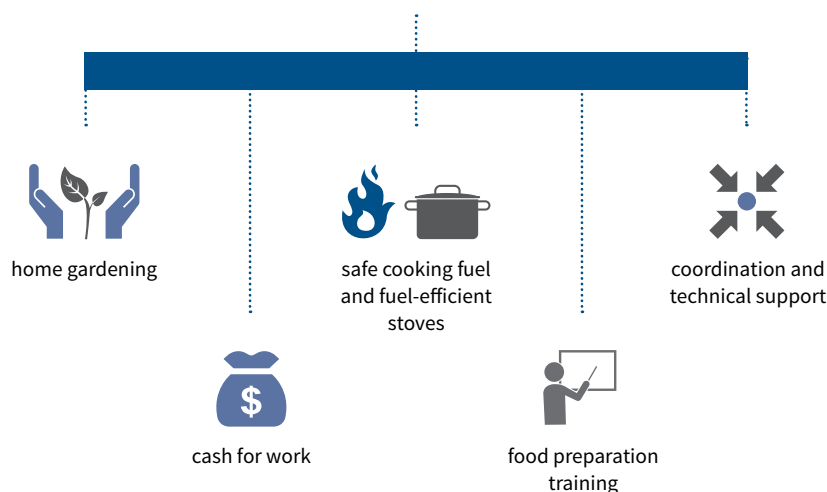
In 2017, a third and final **vaccination campaign protected 118 000 cattle** against haemorrhagic septicaemia, black leg and anthrax, and **215 600 small ruminants** against *peste des petits ruminants*, contagious caprine pleuropneumonia, and sheep and goat pox.

Facilitating access to energy

Access to cooking fuel and other energy sources is often constrained during crises. As around 80 percent of the food required by humans needs to be cooked, **hunger is exacerbated when vulnerable people have limited access to cooking fuel**. Inability to cook or adequately prepare food exposes people to malnutrition. In a context of displacement, the **collection of firewood can lead to deforestation** around refugee camps and leave women and girls in particular vulnerable to risks including **gender-based violence**. This brings loss of forest cover, increased vulnerability to natural hazards and the impacts of climate change, and environmental degradation. Refugees generally stay in areas that were characterized as underdeveloped, under-served and environmentally fragile prior to their arrival. This places extra pressure on already-impooverished host communities.



Alternative cooking fuel solutions provided in refugee crises



“With access to safe cooking fuel, people can properly prepare and cook food, which enhances nutrition and prevents illness”

David Doolan, FAO Representative in Bangladesh



Enhancing sustainable solutions to refugees' and host communities' energy needs in Bangladesh

The rapid massive influx of new arrivals to Bangladesh's Cox's Bazar from Myanmar after violence erupted on 25 August 2017 increased competition over scarce resources. The lack of access to safe cooking fuel threatens the health and nutrition of refugees and local communities.

Firewood collection has stripped local forests. Refugees – mainly women and children – walk for up to 5 km to collect wood, making them vulnerable to risks including gender-based violence. On average a family needs 4 kg of firewood each day to prepare food on an open fire. Cooking with firewood creates smoke, and women – who cook for their families inside their shelters – suffer from smoke-related health issues.

As part of the Safe Access to Fuel and Energy initiative, FAO and partners identified **alternative fuels to decrease cooking time and exposure to smoke**. These include compressed rice husk, liquid propane gas, low-cost eco-friendly briquettes and kerosene. FAO is coordinating the distribution of **fuel-efficient stoves**. These solutions are reducing pressure on forest resources and providing a **safe and secure way for people to cook their food**.

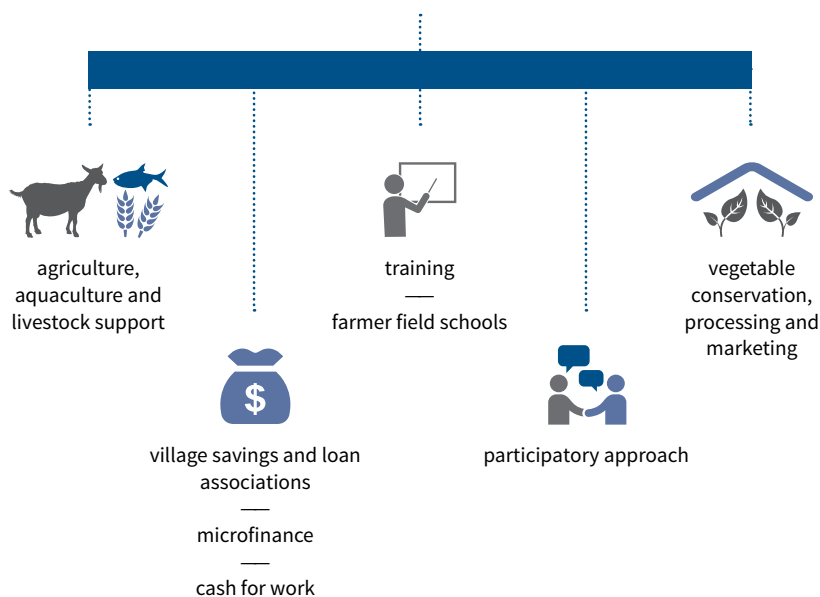
FAO and the Office of the United Nations High Commissioner for Refugees have established an **energy and environment technical working group**. The group coordinates the selection and equitable provision of alternative energy sources, stoves and other technologies. It works with the Government to plan for large-scale reforestation and landslide mitigation activities to restore habitats and diversity.

Strengthening resilience through integrated support, known as “*caisses de résilience*”



FAO’s community-centred, ***caisses de résilience*** approach incorporates financial, social and technical activities to build resilient agriculture-based livelihoods, tailored to the specific context. Through a mix of interventions, including support to **savings and loans, provision of inputs and training**, the approach helps rural families to **accumulate, diversify and protect assets**. This combination equips rural communities with new skills and knowledge, providing them with **opportunities to diversify their livelihoods** and **increase their assets**, thereby improving communities’ **capacity to cope with shocks**.

Vulnerable families accumulated, diversified and protected their assets



“With a loan of USD 145, a mother purchased seeds and agricultural tools, and grew vegetables to feed her family”

Jean-Alexandre Scaglia, FAO Representative in the Central African Republic



Enhancing resilience of crisis-affected families in the Central African Republic

Employing the *caisses de résilience* approach in the Central African Republic, FAO helped to **strengthen the social cohesion of vulnerable communities**, while improving their food production capacity.

Almost 50 000 families were assisted through the creation of community groups and establishment of **village savings and loan associations** in 2 000 villages. Each village savings and loan association received kits for improved rotating savings and credit funds. Microcredit enabled members to **invest in income-generating activities and restore small businesses**.

FAO provided **agricultural inputs** (crop and vegetable seeds and tools), **processing equipment** (cassava mills and groundnut decorticators) and **livestock** (goats, pigs and poultry). FAO also provided training on **good livestock and agricultural practices**. Participants in the **cash-for-work programme** earned about USD 30 per family.

Thanks to the support provided, members of the village savings and loans associations strengthened their technical capacities for agricultural production, and their financial capacities to generate income and **restore their livelihoods**.

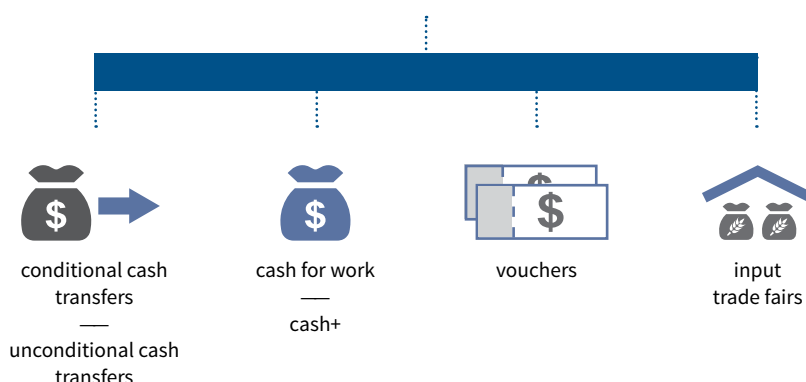
They identified common challenges, sought solutions and took collective action to improve their living conditions. This participatory approach contributes to behavioural change, improves access to information for rural populations and strengthens organizational capacities.

Investing in shock-responsive social protection

Given the increasing complexity of crises, people without substantial or diversified resources are likely to be hit hardest. Shocks can exacerbate pre-existing economic and social vulnerabilities, and people may adopt negative coping mechanisms. **Social protection** has been recognized as a critical strategy to **reduce poverty, enhance resilience and enable development**. Shock-responsive social protection mechanisms contribute to **protecting lives and livelihoods in contexts of extreme fragility**. FAO supports government-led social protection systems, including cash-based interventions (**cash transfers, cash+ and vouchers**), to strengthen resilience.



More than 2 million people received USD 42 million through cash transfers



“By providing cash+ support to vulnerable families, we give them the means to meet urgent needs in a crisis to diversify their source of income, and accumulate productive assets”

Coumba Sow, Subregional Resilience Coordinator for West Africa/Sahel



Improving the resilience of vulnerable families in Mali and Mauritania

Millions of vulnerable families living across the Sahel are exposed to recurrent shocks, exacerbated by climate change, which undermine their fragile food security and nutrition situation.

To inform the design of **shock-responsive social protection systems** that address widespread vulnerabilities, FAO developed **a package of cash and livelihoods support for families** in Mali and Mauritania. The majority of the families were **headed by women**. Families received either multiple **unconditional cash transfers** or a combination of goats, animal feed and cash, known as **cash+**. They were trained on **good livestock breeding practices and human nutrition**.

Rigorous impact evaluation conducted one year after the intervention shows that the **income of all participating families increased** (by 22 percent on average in Mauritania) while **food insecurity decreased** (by 11 percent in Mauritania and 5 percent in Mali). Use of negative coping mechanisms, like the sale of land, child labour and begging, reduced. In addition, **a significant number of women** in both countries **have engaged in income-generating activities**.

Families that received cash+ support saw greater benefits than those receiving just cash. Their food security improved, as they were able to meet their families' needs while diversifying their livelihoods. **Women's and young children's dietary diversity increased** in both groups. Significant improvements were also noticed in practices that **benefit household health and nutrition**, including hand washing before preparing food and exclusive breastfeeding for the first six months.

Recent FAO studies analysed how this cash+ package could be scaled up at a national level in both countries to **support government social protection efforts**.



Preparing for and responding to natural hazards

In recent years, **natural disasters have increased in intensity, frequency and scale**, with significant costs to local economies, livelihoods and lives. Disasters such as floods, tropical storms and droughts cause loss of life, damage to property and the environment, destruction of livelihoods and disruption of services.

Disasters directly impact food security by destroying agricultural infrastructure and assets.

They reduce production, affect prices and interrupt access to markets, trade and food supply. They reduce incomes, deplete savings and erode livelihoods, **leaving people even more vulnerable to future shocks.**

FAO's resilience agenda focuses on reducing people's vulnerability through risk prevention and reduction. When an emergency does hit, **FAO focuses on recovery and rehabilitation to increase the resilience of livelihoods in the future.**



Linking early warning to early action

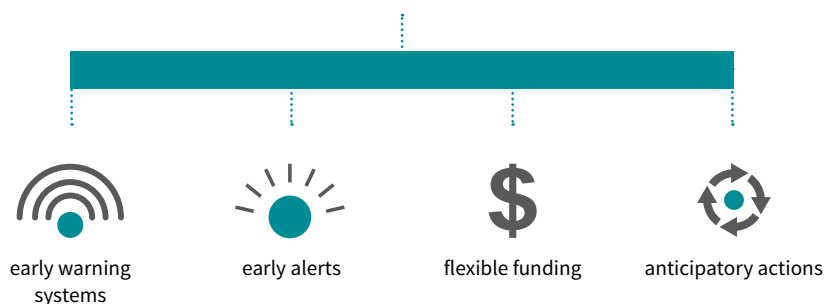
In recent years, **natural disasters have continued to increase in intensity, frequency and scale**, with significant costs to local economies, livelihoods and lives. As humanitarian needs and costs have escalated across the globe, it has become more and more critical to **shift the focus from response to prevention and mitigation**.

This requires not only maintaining, improving and advocating for **early warning systems**, but translating that information and analysis into **early response**. This is especially vital for **small-scale farmers and livestock owners** – for them, heeding **early warning signals can mean the difference between a crisis and a catastrophe**.

Detecting risks and acting before a disaster has happened or reached its peak cannot only **safeguard assets and livelihoods**, but protect longer-term development gains and contribute to enhancing food security and income generation.



Early signs of drought were acted on to save livestock in Ethiopia, Kenya and Somalia



“Early action saves lives and livelihoods, and eases pressure on strained humanitarian budgets”

Dunja Dujanovic, FAO Early Warning – Early Action Technical Officer



©FAO/Michael Tewelde

Saving the livestock of drought-hit pastoralists in the Horn of Africa

In 2017, FAO used **early warning information to prompt early action** in Ethiopia, Kenya and Somalia, **easing the impact of drought on pastoralists** who were struggling to save their livestock.

When it became clear that the Horn of Africa's secondary rain season would fail, herders across the region were already migrating vast distances in search of water and feed for their increasingly thin, diseased and sometimes dying animals.

In response, FAO provided thousands of vulnerable families with **livestock feed, water and veterinary treatment**. This was achieved using a new **flexible funding** modality established under the Special Fund for Emergency and Rehabilitation Activities that releases resources after analysis of a range of forecasting triggers, **putting tailored plans into action before a crisis hits**.

At the peak of the drought, the livestock assisted by FAO had not only survived, but were thriving. **Milk production increased**, nearly tripling in quantity in northern Kenya – 86 percent of which was kept for families' own consumption, and more than half of which **fed children under five years of age**.

As a part of its initiative to **link early warning to early action**, FAO works with national governments and partners from the development, humanitarian and scientific communities to **detect, monitor, prevent and mitigate risks facing food security and agriculture**. This results in **FAO's quarterly global early warning monitoring report**, which scales emerging risks by likelihood and potential impact, and identifies appropriate actions.

Protecting livestock assets against drought

Drought can have devastating impacts on pastoralists' food security, nutrition and income. Pasture and water become increasingly scarce, forcing pastoralists to migrate further distances in search of nourishment for their animals. Driven by the sole objective of **keeping as many livestock alive as possible**, migrations can become abnormal and transboundary, sometimes displacing entire families. Livestock become increasingly weak and susceptible to diseases. They produce less meat and milk, upon which pastoralists rely for income and the nutrition of their children. Emaciated animals starve or die, having significant implications for **families' ability to withstand and recover from drought**.



Buying livestock from drought-affected pastoralists saved herds and fed families



“Protecting livestock protects pastoralists’ livelihoods, food security and nutrition” Fatouma Seid, FAO Representative in Ethiopia



Assisting Ethiopian pastoralists to cope with recurrent drought

As a result of protracted drought, food insecurity has increased and malnutrition rates are staggering in pastoral areas of southern and southeastern Ethiopia. Livestock production was extremely low in 2017, and herd sizes diminished significantly due to widespread livestock deaths. Thousands of pastoralist families with few or no remaining animals settled close to villages in makeshift camps.

In response, **FAO supported de-stocking by purchasing cattle, sheep and goats** that were unlikely to survive and reproduce for a fair price. This quickly **boosted pastoralists' income**, and reduced pressure on limited resources – with the weak animals sold off, the limited feed remaining could be prioritized to save a family's core breeding stock. With livestock too weak to make the trek to markets in bigger towns, **FAO brought the market to their doorstep**.

After an animal health inspection, the purchased animals became available for immediate local slaughter. The meat was distributed to vulnerable families, including displaced people. **Families headed by women, the elderly and people with disabilities were prioritized.** For many, this was the **first time they had access to animal protein in months**. Some of the meat was eaten immediately, and the rest processed or stored for future consumption.

While many livestock sellers noted they would spend the cash received on food, several reported they would **invest in productive assets** such as animal feed or donkeys, which are critical for transporting water across long distances and reduce the burden on women to carry out this task.

Investing in disaster preparedness

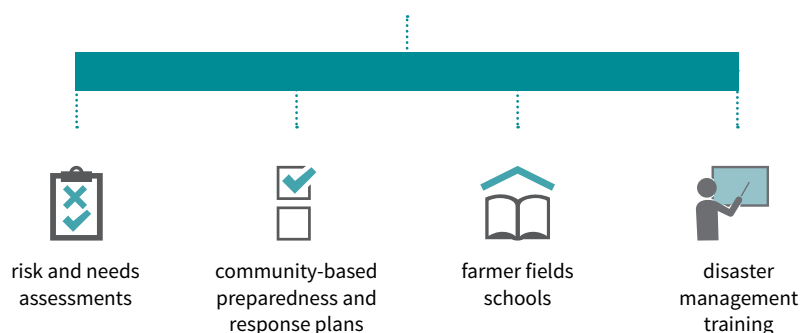
Natural disasters test communities' resilience. They damage social services, markets and agricultural enterprises. The devastation directly impacts livelihoods and the food security of smallholder farmers, pastoralists, fishers and forest-dependent communities.

Helping communities to prevent and prepare for predictable

shocks is one of the foundations of resilient livelihoods. A recent FAO study shows that on average the economic benefits from **improved farm-level disaster risk reduction good practices** are about 2.5 times higher than the usual practices adopted by farmers, livestock owners and fishers. **Identifying, monitoring and prioritizing disaster risks** affecting agriculture, food security, nutrition and food safety is paramount to **ensuring sound threat-specific emergency preparedness** and **informing long-term resilience programming**.



At-risk communities developed their own disaster preparedness and response plans



“Aid efforts remain inadequate without proactive risk management, early action and investment to enhance resilience”

Minà Dowlatchahi, FAO Representative in Pakistan



©FAO/Farooq Naeem

Strengthening resilience in the face of natural disasters and shocks in Pakistan

Pakistan is particularly vulnerable to **frequent floods and droughts**. **Agriculture is the sector most affected** by these hazards, with poor smallholder farming, pastoral and fishing communities suffering most.

Over the last decade, more than 80 percent of the country's 124 districts were hit by natural disasters, affecting 33 million people. Flooding causes an estimated annual economic impact of between 3 and 4 percent of the federal budget.

FAO, as part of a consortium including United Nations agencies, non-governmental organizations and government departments, **worked with disaster-prone communities** in southern Punjab and northern Sindh provinces to assess communities' risks and needs. Crisis-affected populations articulated the support they needed to anticipate, cope with, adapt to and recover from shocks and stresses. As a result, **200 villages developed community-based preparedness and response plans**, in line with the Government's National Disaster Management Plan, for cross-sectoral, multi-hazard resilience strengthening.

Communities established 20 **farmer field schools, prioritizing women's involvement**, which aim to improve participants' skills through hands-on group learning. The farmers developed curricula with academics and the Government, and started **observing, analysing and trying out new ideas on their own farms**.

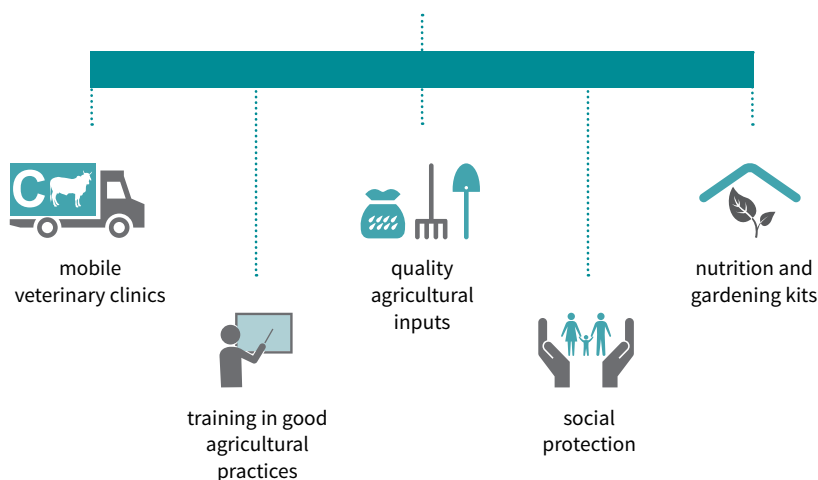
To support the implementation of the **National Disaster Risk Reduction Policy**, FAO provided training to disaster managers. This included how to conduct hazard livelihoods and vulnerability assessments, and develop community-based disaster risk management plans.

Strengthening resilience from the onset of a crisis

Between 60 and 80 percent of those hit by crises are rural families that rely on agriculture-based livelihoods. Sudden changes in the prices of staple foods – for instance, caused by drought or exacerbated by seasonal fluctuations – can lead to a dramatic rise in food insecurity. With limited incomes, **vulnerable families** are typically unable to afford a balanced diet, and are often **unable to meet their minimum food needs**. Where malnutrition is chronic and dietary diversity is poor, the impact of a shock can be disastrous. Social safety nets are not always enough to address the economic dimension of food insecurity. The inclusion of targeted agricultural support in **social protection** programming can sustainably **improve access to food among the poorest families**. Assisting people to **strengthen and diversify their livelihoods** means they can **better withstand shocks**.



Resilience good practices strengthened livelihoods and improved food security



“Supporting families and communities to develop and diversify livelihoods strengthens their resilience to future shocks”

Etienne Juvenon du Vachat, FAO Resilience Expert



Supporting livestock health and improving dairy production in Haiti

In Haiti, **access to veterinary services is vital**, as livestock production is a main source of income. However, these services are generally expensive or simply unavailable in rural areas. In October 2016, the situation was aggravated by Hurricane Matthew, which caused widespread damage to the livestock sector in the country's southwest.

In 2017, **FAO mobile veterinary clinics** diagnosed, treated and gave preventive care to 21 000 livestock of 7 000 hurricane- and drought-affected families in southern Haiti (in South and Grand'Anse departments).

Each mobile clinic comprised a FAO veterinarian and a FAO-trained Ministry of Agriculture technician, who conducted **animal health assessments** and provided **preventive care and treatment**. They were assisted by trained local veterinary agents, and each clinic was stocked with antibiotics, deworming medication, multivitamins and equipment.

FAO established three **permanent veterinary pharmacies**, managed by the associations of producers and of veterinary agents, and supervised by ministry technicians. Although veterinary clinics will continue in 2018, livestock owners will pay for services to build a revolving fund for the pharmacies.

Improved availability of and access to veterinary services contributed to **rehabilitating dairy production**. The milk produced by healthy livestock and delivered to the Torbeck dairy farm increased from 950 litres in November 2016 to 3 600 gallons in August 2017 – generating a monthly income of USD 158 for each milk producer.



Complementing social protection benefits in Lesotho

In 2015–2016, southern Africa experienced the worst drought in 35 years, caused by El Niño, resulting in poor local crop production and high levels of food insecurity. While the 2016 winter season was critical to resuming agricultural production, even more important was the main agricultural season to ensure a good harvest in April 2017.

FAO's emergency response was key to **alleviating drought impacts** in Lesotho, a country already affected by high levels of poverty, HIV/AIDS and undernutrition. To improve the food security and nutrition of the most vulnerable, **FAO partnered with the Government and the World Food Programme to complement existing social protection mechanisms** (cash transfers) and **food assistance with home gardening inputs**.

FAO provided equipment, inputs and training on **home gardening and nutrition**. Using locally available materials, families built keyhole gardens – a **conservation agriculture technique to optimize scarce water resources and enrich soil**. Assistance was provided to poor families with orphans and vulnerable children that receive cash transfers under the Government's Child Grant Programme, or families that were receiving food or cash assistance from the World Food Programme in areas where the Government's social protection programme is not active.

Just eight weeks after receiving the gardening and nutrition kits, families started **harvesting vegetables**. This improved vulnerable **families' access to fresh foods**, improved their nutritional status and diversified their diet. With the vegetables they produced, **families saved money** that would likely otherwise have been spent on buying food.



Strengthening the resilience of indigenous communities in Bangladesh

Two thousand indigenous families in Bangladesh's Chittagong Hill Tracts received training and agricultural livelihoods packages to **improve poultry, vegetable and rice production**. The families live in one of the poorest areas of the country, with low household incomes and poor nutritional status.

Traditionally, the region's farmers depend solely on subsistence farming for their livelihoods. This includes a technique of shifting cultivation called *jum*, which provides their main staple, the *jum* rice, and other crops. Farmers have limited capacity to resist chronic and seasonal shocks and stresses, such as pest or disease attacks, natural disasters or localized conflict. When shocks compromise *jum* rice production, farmers struggle to stock enough food to last over the dry season.

FAO worked with families to support the sustainable intensification of *jum* production – **growing more with less**, by using improved inputs – and to **diversify rural livelihoods** through **introducing vegetable and poultry production**.

Families now have additional sources of livelihoods, which make them **less vulnerable to shocks and stresses**. They **increased food stocks** from improved rice and vegetable production, and **earned more income** from poultry production. New recipes capitalized on the nutritional value of locally produced food.

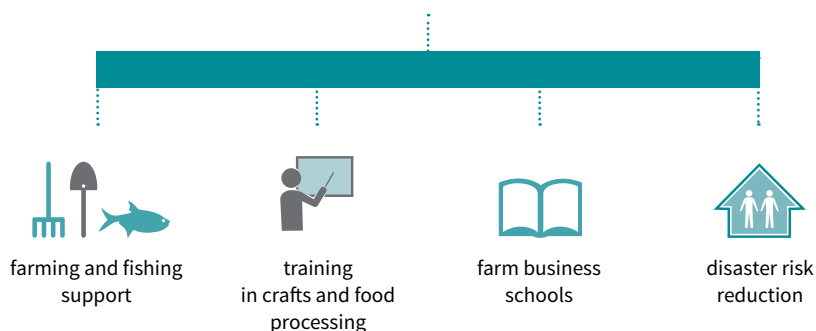
In May, this **resilience good practice** was applied as part of FAO's emergency response to Cyclone Mora, flash floods and landslides, where 2 350 families received similar rice, vegetable and poultry packages and training to **strengthen their livelihoods and food security**.

Supporting recovery, strengthening resilience

Natural hazards can cause the loss of productive assets such as seeds, livestock and fishing gear. **FAO helps disaster-affected families produce their own food and rebuild their lives and livelihoods as quickly as possible** while strengthening their resilience. When agriculture-based response is delayed, communities suffer further losses, prolonging their reliance on food assistance. **Collective efforts of partners**, including affected communities, governments and resource partners, **are key to faster recovery**. Enhancing local and national capacity avoids or reduces the adverse effects of shocks, and **strengthens community resilience**.



Typhoon-affected farmers and fishers resumed agricultural production



“Disaster risk reduction and climate change adaptation are essential to strengthen the resilience of farming and fishing families to future shocks”

José Luis Fernandez, FAO Representative in the Philippines



Restoring the livelihoods and food supply of farming and fishing families in the Philippines

In 2017, rural families in the Philippines struggled to regain their livelihoods after a succession of strong typhoons, drought and conflict decimated crops, farm animals and productive assets. Missing the imminent planting season would have meant that agriculture-dependent families would have gone without income for at least three months – relying solely on food assistance.

Through FAO's timely post-disaster support, **160 000 affected people were able to farm and fish again**. This included 27 660 families in conflict-affected areas on the island of Mindanao and 4 320 families in rice-producing Central Luzon provinces who lost their crops to typhoons Sarika and Haima, which hit three days apart. The two typhoons struck 31 provinces in seven regions, resulting in USD 233 million in production losses to the agriculture sector.

To **increase incomes and help sustain peace** and development in Mindanao, FAO implemented **climate-smart farm business schools** and trained communities, including **women's cooperatives**, on value-added technologies and alternative off-farm livelihoods, such as crafts production and food processing.

FAO's support enabled **affected farmers and fishers to re-establish their livelihoods**, income and food supply, many of whom were in debt from the previous cropping cycle. They gained knowledge and skills on farm-level disaster risk reduction and management, drought management, resilient rice-based farming systems and climate change adaptation, which makes them **more resilient to future shocks**.



Responding to food chain crises

Fast-spreading insidious **transboundary animal and plant pests and diseases represent a threat to livelihoods worldwide**. The risk of their uncontrolled spread could compromise the food security of millions of people globally and jeopardize the economies of communities and countries.

Most food chain crises are preventable with the right investments and appropriate forecasting systems. This is why prevention – including surveillance, early detection, early warning and rapid response – is the main objective of FAO's Food Chain Crisis – Emergency Prevention System. Animal and plant pests and diseases can spread rapidly around the globe and, if not properly tackled, can turn into major emergencies that seriously affect food security, human health and social stability, especially for the world's poorest people.

FAO's continued support to monitor and control pest infestations and disease outbreaks with national and regional partners is **critical to mitigating the threat of food chain crises**.

FAO follows the **One Health** approach: connecting the health of people, animals and the environment. FAO partners with the World Organisation for Animal Health and the World Health Organization to address the multiple factors influencing health at the **human-animal-ecosystem interface**, through cross-disciplinary collaboration from local to global levels.

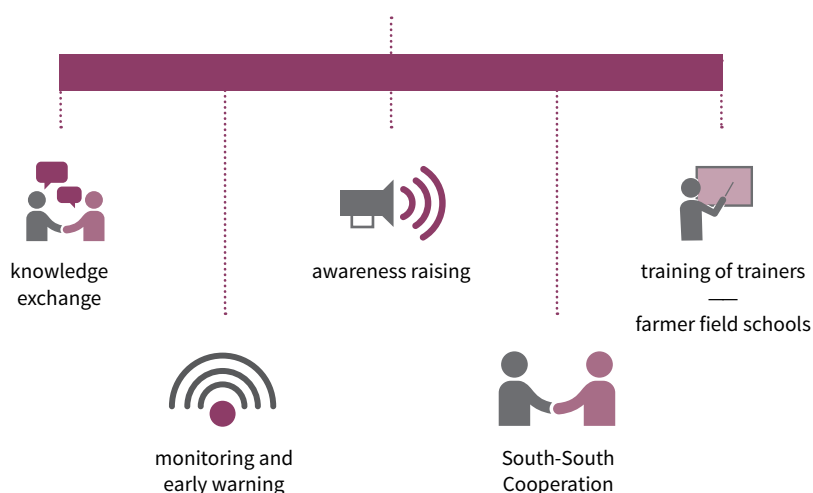


Managing the fall armyworm, protecting smallholders' crops

For smallholder farmers in Africa, good crop yields ensure food for their families as well as an income for household needs, education for children and health. A **new threat to crop production across Africa is the fall armyworm**, an insect pest, first detected on the continent in early 2016. It has since quickly spread across sub-Saharan Africa. Left unmanaged, the fall armyworm can be detrimental to crops and cause significant yield loss if unmanaged. **Maize is the crop most affected**, while others are also vulnerable. There are tens of millions of smallholder maize farming families across Africa – growing more than 90 percent of the 37 million ha of maize produced annually in the region. To secure harvests and ensure food security, **smallholder farmers need help to sustainably manage this new pest in Africa.**



Community-based approach established to sustainably manage the fall armyworm in Africa



“If farmers are able to identify and manage the fall armyworm early enough, yield loss can be reduced with minimal environmental impact”

Mona Chaya, FAO Senior Coordinator, Food Chain Crisis



©FAO/Tamiru Legesse

Sustainably managing the fall armyworm in Africa through farmer field schools

In 2017, FAO was at the forefront of **supporting countries** to tackle the **fall armyworm**, to reduce the risk of food insecurity among millions of Africans who depend on maize and other crops for their livelihoods.

FAO's **technical expertise** and ability to leverage its broad technical networks helped guide the response as the pest spread to new areas across the continent. To **control the fall armyworm**, farmers need to understand how to identify it and its biology and ecology. They need to monitor it and determine the risk level in the context of their production systems and take appropriate preventive and responsive actions, based on their assessments.

Through **South-South Cooperation**, FAO gathered experts from around the world – especially from the Americas, where both maize and the fall armyworm are native. Advice and recommendations from technical experts – including researchers and farmer field school master trainers – informed the development of materials for the benefit of smallholder farming families. FAO designed curricula for its **farmer field schools** and training guides on **integrated pest management for the fall armyworm on maize in Africa**. FAO trained master trainers across Africa, setting the scene to roll out thousands of farmer field schools in 2018 – with the ultimate goal of reaching farmers in even the most remote areas. FAO also developed a **technical guide for the fall armyworm response**.

FAO worked with countries to determine **recommendations for farmers' actions**, including the use of effective safe pesticides, particularly biopesticides, that pose little risk to health and the environment. To enhance monitoring of the pest at the community level, FAO developed **simple mobile apps for farmers' use**.

Strengthening capacity to combat zoonotic diseases

The most **damaging epidemics and pandemics** of recent decades – avian influenza, severe acute respiratory syndrome, Ebola and Middle East respiratory syndrome – **have had an animal source**.

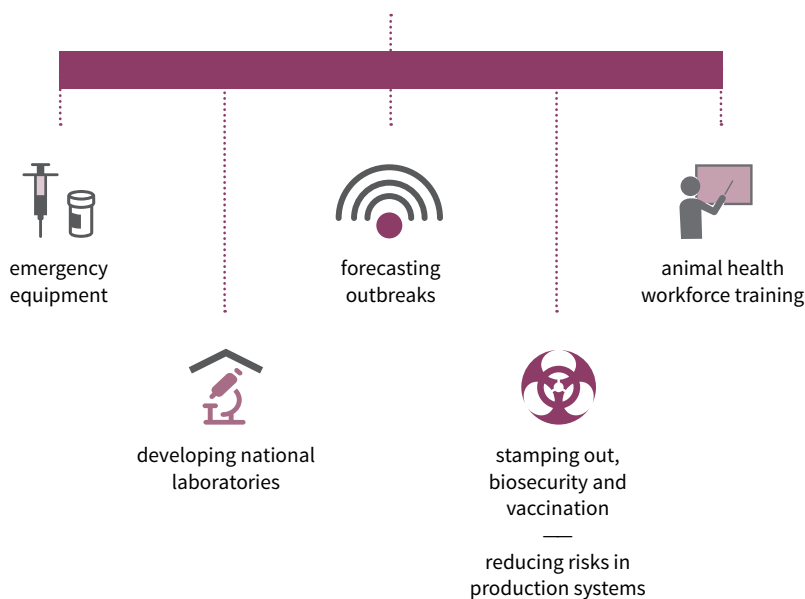
These diseases have taken the lives of thousands of humans and animals, and cost the global economy tens of billions of dollars.

In developing countries, where **animals provide an important source of income and nutrition for families**, zoonotic diseases can lead to long-term devastation.

By **building national capacity to prevent, detect and respond to animal disease** emergence, FAO is supporting rural farming families to **protect their health, their livelihoods, and maintain food security and nutrition**. Reducing the risk of diseases spilling over into humans and stopping pandemic threats at source is only possible with strengthened animal health capacities in developing countries.



Animal health capacity increased in more than 30 countries



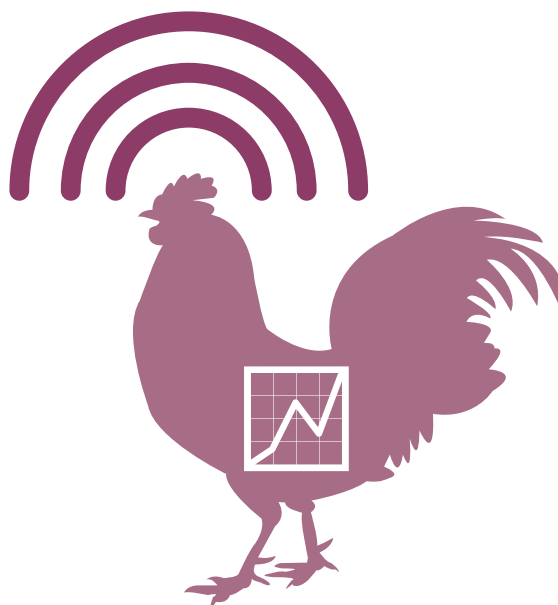
“Through early detection, control and prevention of animal diseases – including those that can infect humans – farmers protect their livelihoods and communities, and contribute to global health security” Juan Lubroth, FAO Chief Veterinary Officer

Forecasting disease emergence

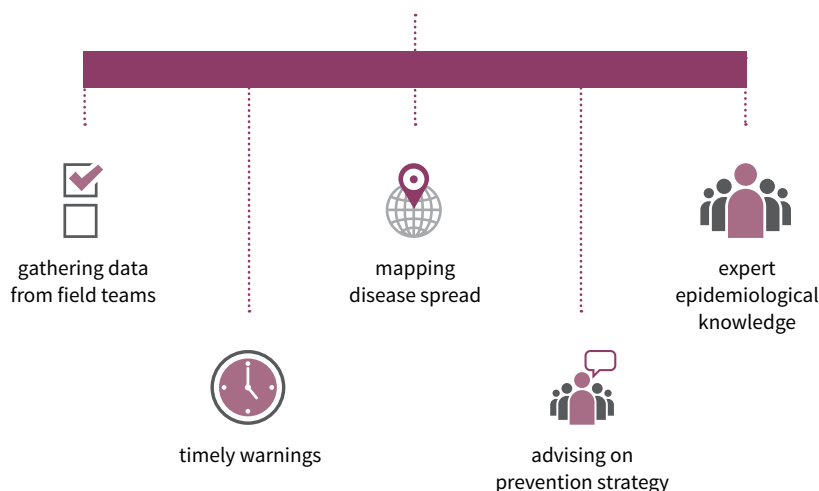
FAO is uniquely placed to **forecast disease outbreaks worldwide.**

Teams from FAO's Emergency Centre for Transboundary Animal Diseases in 26 countries gather information to **map disease spread**, model possible scenarios, and forecast new emergence. This allows for improved regional, national and local planning to **prevent disease spread or mitigate its impact.**

Animal health workers and policy makers capitalize on expert guidance to better understand risks and implement necessary precautions. Prescient and **timely early warnings allow for targeted prevention measures, faster detection**, and more **effective control** of introduced diseases. This **protects animals and the people that rely on them**, and ultimately helps to reduce pandemic threats from zoonotic diseases.



Global modelling helped to pre-empt disease outbreaks



“Forecasting where and when disease is likely to hit next allows us to prepare and to stop it in its tracks”

Sophie Von Dobschuetz, FAO Global Surveillance Coordinator



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Forecasting the spread of avian influenza from Asia

In September 2016, **FAO issued a warning** to countries west and south of Russia's Tyva Republic, where a highly pathogenic strain of avian influenza had been detected. The virus had been found in wild birds visiting a lake on a major migratory path.

FAO advised relevant governments to increase surveillance

for 6 to 12 months. Clear recommendations were made to report and investigate all dead birds, ensure means of laboratory testing, and increase biosecurity measures, including separating poultry from wild birds. FAO also provided best practice guidelines for hunters and consumers.

FAO convened a **global webinar** in November 2016, during which 30 countries discussed the latest outbreaks, forecasts and expert recommendations. This **triggered preparatory actions throughout 2017 and increased understanding of the situation's complexity**, which assisted governments communicating with stakeholders and the media.

Governments and animal health workers were ready when the virus appeared in December 2016 and early 2017, in the areas where FAO had forecasted. For example, Sierra Leone's livestock division revised its avian influenza preparedness and response plans, and Senegal's veterinary services carried out testing of migratory birds in national parks. In Belgium, a veterinarian raised the alarm when she identified the country's first case in a pet bird, and Sweden enforced biosecurity measures in its poultry industry.

FAO continues to monitor and analyse this ongoing situation. Regular updates and recommendations, as well as technical assistance are provided to stakeholders in order to **stay one step ahead of this evolving threat**.

Developing national laboratory capacity

Improving national animal health workforces and laboratories' diagnostic capacity in countries where diseases are likely to emerge means that **outbreaks can be detected, investigated and responded to much more quickly.**

When laboratory technicians in developing countries have the right equipment and facilities, and are trained to detect a virus, the **disease can then be tracked and contained more effectively.**

The updated information on circulating viruses enables **national contingency plans** to be made more appropriate and effective.

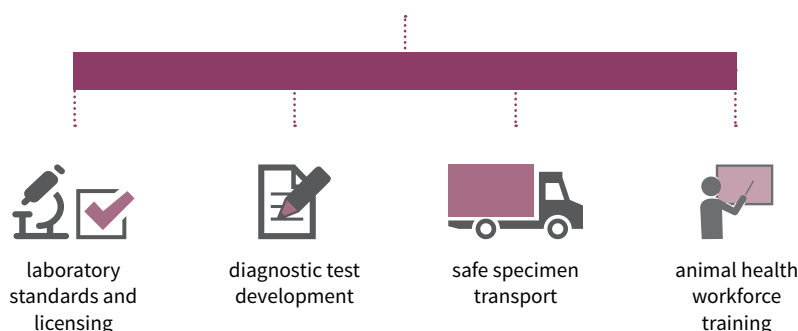
Detecting and responding to diseases among livestock and wild animal populations quickly is essential to **preventing disease spread and minimizing losses.**

This **improves food security and rural livelihoods, and reduces the risk of spill over into humans.**

This ultimately could avoid an epidemic or pandemic, which could have vast impacts on public health, economies and resilience.



Disease detection improved across Asia



“Building animal health workforces and laboratory capacity to detect avian influenza viruses across Asia is essential to understand the continually evolving virus distribution and to update government partners about health risks”

Wantanee Kalpravidh, FAO Regional Manager – Asia, Emergency Centre for Transboundary Animal Diseases



©FAO/Hkun Lat

Detecting a high-risk strain of avian influenza for the first time in Myanmar

Animal health workers in Myanmar detected a strain of avian influenza virus in poultry, which had not been detected in the country before. The virus, influenza A(H5N6), **presents a risk both to poultry and to humans.** Spill over of infection of this sub-type has caused human deaths in China. Detection was made possible by a long-term programme of workforce training and laboratory development implemented by FAO.

Animal health workers collected more than 9 000 duck, chicken and environmental samples from live bird markets in border townships, where unregulated poultry importation occurs. National laboratories then ran new diagnostic tests, following FAO protocol, which are designed to detect a range of avian influenza sub-types. The laboratories followed the FAO guidelines and staff had been trained and proficiency tested by FAO, ensuring testing was carried out safely and accurately.

In response to the detection of this strain of avian influenza virus in 1.3 percent of the samples, **an early warning was issued to farmers and veterinary services to remain vigilant.** According to the **One Health** approach, the human health sector was also alerted to the potential disease threat. National avian influenza control contingency plans were revised to include the sub-type. The **detection of this virus had global significance**, as data from Myanmar was shared with the World Health Organization and informed international vaccine composition meetings.

Through FAO's work with national laboratories, **steady improvement in disease detection capability** is being achieved across Asia.

Providing expertise and equipment to combat disease

Areas where zoonotic diseases often emerge are rarely well equipped to respond to outbreaks.

Specialized items such as personal protective equipment, sample shipping containers, and diagnostic laboratory consumables and reagents, are **essential to prevent the national, regional and international spread of animal diseases**. However, due to the unavailability of these specialized items, expertise or trained personnel, response to disease outbreak is often delayed or ineffective. Inability to diagnose the disease quickly or track its spread, and inadequate biosecurity standards, often mean that an outbreak that could have swiftly been controlled can become endemic. As well as the cost to food security, livelihoods and the economy, the failure to contain a disease increases the risk of **spill over into humans**.



Disease outbreaks rapidly controlled in 11 countries



“Delivering the right equipment at the right time, directly to the source of disease outbreak, prevents the national, regional and international spread of animal diseases”

Subhash Morzaria, FAO Senior Animal Health Adviser



Stopping avian influenza at source in the Democratic Republic of the Congo

Cases of highly pathogenic avian influenza were confirmed in the Democratic Republic of the Congo in June 2017. Rapid deployment of specialist equipment and resources from FAO's emergency equipment stockpile was **instrumental in bringing the outbreak under control** and reducing its impact.

Providing diagnostic tests allowed animal health workers to **accurately identify disease samples** in both the laboratory and the field, aiding **faster outbreak investigation**. Supplying personal protective kits ensured biosafety, helping to prevent accidental infection or disease spread. Providing logistical and technical support from trained professionals ensured biosecurity, effective action and coordination.

This **early response to the outbreak resulted in rapid elimination of the disease** in the poultry population and contained the outbreak in small areas. Avian influenza has a high mortality rate, so limiting the number of infected birds will have averted huge production losses, protecting the livelihoods of poor farmers as well as national food security.

Spread of the disease into neighbouring countries was prevented, the **risk of spill over into humans was reduced**, and FAO's development work in the country continued.

In the Democratic Republic of the Congo and across Africa, FAO contributes to **national control and eradication plans**, helps to develop qualitative risk assessments for avian influenza viruses and provides specialist training. In 2017, **FAO trained more than 300 animal health workers in 14 African countries** in biosafety and biosecurity, disease control measures, outbreak investigation and diagnosis, and crisis communication.



Saving lives, building more resilient livelihoods

The humanitarian-development-peace nexus is a comprehensive and coherent approach that combines the joint efforts of the development and humanitarian communities, bound by a commitment to build and sustain the conditions for peace, security and respect for human rights

Humanitarian responses to crises have saved countless lives in 2017 and helped **restore the livelihoods of millions of people**, but have not always succeeded in addressing underlying vulnerabilities. On the contrary, IPC/CH analyses conducted throughout the year show that the **number of people facing severe hunger continued to rise in 2017**.

Across the United Nations system, agencies including FAO are working together to combine the efforts of the development and humanitarian communities, bound by a **commitment to build and sustain the conditions for peace, security and respect for human rights**.

Emphasizing stronger collaboration and with a focus on achieving collective outcomes, this **new way of working** is critical to address the vulnerability and risks facing communities in crisis-prone countries.

As a dual-mandated agency, **FAO has a unique role to play across the humanitarian-development-peace nexus**, particularly through its resilience programme. Treating the root causes of hunger and malnutrition and **investing in resilient livelihoods** will have a lasting impact on vulnerable populations and ultimately bring millions of the world's poorest and most vulnerable back from the brink of starvation.

Humanitarian action rooted in a resilience building approach

Crises undermine rural livelihoods and erode people's capacity to cope with the next shock. **FAO's emergency interventions are therefore embedded within a resilience approach** which seeks to set people back on the path towards recovery while meeting their immediate needs. People with resilient livelihoods are better prepared for and can better

cope with shocks. They have greater and more diverse sources of income, their families are better fed and nourished and their need for humanitarian assistance is reduced.

FAO helps vulnerable families to reduce the impact of shocks on their livelihoods and food security – for example, by introducing drought-tolerant or short-cycle seeds, or training livestock-owning communities to prepare micronutrient blocks or restore pasturelands to improve the quality of feed available for their animals. Working with communities, partners and governments, FAO builds local capacity to identify, monitor and prioritize risks affecting agriculture, food security, nutrition and food safety. If communities understand the risks, they are better able to plan and prepare for future shocks.

When disasters occur, **FAO coordinates and undertakes emergency needs assessments** to better understand the impacts on local livelihoods and food insecurity and facilitate an evidence-based response to crises. In 2017, FAO participated in needs assessments in countries including Barbuda, Cuba, Dominica, the Dominican Republic, Haiti, Iraq, Jordan, Lebanon, Lesotho, Libya, Sierra Leone, the Syrian Arab Republic and Turkey. These included seed security assessments, agricultural damage and loss assessments, fall armyworm impact assessments and sector needs assessments in conflict settings.

During a crisis, FAO's priority is to ensure affected families have enough food by **helping them to produce their own food and rebuild their lives and livelihoods** as quickly as possible, while strengthening their resilience.

Multi-year funding facilitates effective programming

Multi-year planning and funding lowers administrative costs and encourages more responsive programming, particularly in contexts where humanitarian needs are protracted. Predictable funding also strengthens programming, enabling more forward-looking planning, the development of longer-term strategic partnerships and, most importantly, longer-term relationships with communities.

FAO is well suited to deliver multi-year programmes, given its experience in implementing long-running, complex development programmes. All of the Organization's country-level planning involves multi-year timeframes with a view to linking emergency interventions to development work.

In 2017, FAO, together with the United Nations Office for the Coordination of Humanitarian Affairs and the Norwegian Refugee Council, commissioned a study on how multi-year humanitarian financing can enable greater efficiency and effectiveness of humanitarian assistance. Through the study, investments and enabling conditions for multi-year funding to live up to its potential were identified and a set of recommendations were provided to guide the international community.

Across the world, FAO is implementing initiatives that increase gender-sensitive programming and the resilience of livelihoods in a gender-equitable way. The FAO-Dimitra Clubs, Junior Farmer Field and Life Schools, the Safe Access to Fuel and Energy initiative and *caisses de résilience* interventions are all examples of approaches critical for strengthening women's economic and social empowerment.

Partnering to enhance resilience

Greater coordination among all actors is crucial to enhance resilience to food crises. FAO is a leading member of the Global Network against Food Crises, which seeks to strengthen coordination, in particular among humanitarian and development stakeholders, and increase high-level political engagement in implementing durable solutions to food crises.

FAO is working closely with other United Nations agencies, including the International Fund for Agricultural Development, the World Food Programme and the United Nations Children's Fund, to enhance **joint programming and implementation**.

Since March 2017, through a major resilience programme funded by the Government of Canada, the three Rome-based Agencies (FAO, International Fund for Agricultural Development and the World Food Programme) are working together in the Democratic Republic of the Congo, the Niger and Somalia, each providing their unique expertise to ultimately enable vulnerable families to be better prepared for and more resilient in the face of threats to their food security.

Leaving no one behind

Within the framework of **FAO's resilience agenda, accountability to affected populations** ensures that the Organization's efforts are needs based, focused, appropriate and successful in making **communities more resilient to shocks**. By enabling and promoting two-way communication, participation and feedback, FAO recognizes the key role affected people play in their own recovery and development, which is fundamental for lasting results.

In line with the spirit of leaving no one behind, and following its endorsement of the *Charter for the Inclusion of Persons Living with Disabilities in Humanitarian Response*, FAO is identifying the needs of persons living with disability in disadvantaged rural areas, through resilience building and development efforts.

FAO works to **incorporate a gender dimension into its resilience programmes**, noting that closing the gender gap in agricultural inputs alone could increase food security and nutrition. The publication *Gender-responsive disaster risk reduction in the agriculture sector – Guidance for policy-makers and practitioners* was developed to support planning and policies in agriculture to better address gender issues.

Given the increasing protection issues faced by women in many crises, FAO also developed guidelines on protection from gender-based violence in food security and agriculture interventions to strengthen capacity in designing and implementing food security and nutrition interventions that contribute to gender-based violence prevention and mitigation, and promote the protection of vulnerable individuals.



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Stronger, more effective support in 2018

In the face of enormous challenges, **agriculture remains the backbone of rural livelihoods**. Maintaining food production and rebuilding the agriculture sector are crucial to prevent loss of life from severe hunger and to **provide a pathway towards resilience in the midst of humanitarian crises and beyond**.

In light of the growing evidence of the impact of conflict on food security, in 2018, FAO is developing a deliberate focus on **protracted crisis contexts**, while continuing to respond to the other two major types of shocks – **natural hazards and food chain crises**. It is precisely those that are living in protracted crisis contexts that are most at risk of being left behind.

Humanity stands at a critical juncture with an unprecedented level of humanitarian needs driven largely by protracted crises. Stronger and more frequent shocks are disproportionately impacting the world's most vulnerable and food insecure populations, particularly women and children. **It is not just cost-effective and feasible to invest in building resilience in the midst of crisis. It is essential.**

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